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Factors affecting attitudes towards individuals with schizophrenia: Perceptions of Mexican American college students

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FACTORS AFFECTING ATTITUDES TOWARDS INDIVIDUALS WITH SCHIZOPHRENIA: PERCEPTIONS OF MEXICAN AMERICAN COLLEGE STUDENTS

A Dissertation

by

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ABSTRACT

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This study is designed to examine the effects of acculturation and level of familiarity on stigma of Mexican American college students towards individuals with schizophrenia along the border of Texas and Mexico (N = 223). The area has a history of high levels of disparity in regards to the utilization of mental health services. Data was collected by surveying Mexican American college students through a convenience sample at two separate post-secondary southwestern Hispanic-Serving Institutions (HSIs) along a border community. The instrumentation for the study was composed of a demographic questionnaire, The Acculturation Scale for Mexican-Americans-II (Cuéllar, Arnold, & Maldonaldo, 1995), The Attribution Questionnaire (AQ-27) (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003), and The Level of Familiarity Scale (Corrigan, Edwards, Green, Diwan, & Penn, 2001). Consistent with previous findings, results from one-way ANOVAs found acculturation and level of familiarity related to lower scores for attributes associated with stigma of individuals with schizophrenia. Regression analysis found predictability for attributes from factors that included acculturation, level of familiarity, gender, age and work status. There was no correlation found between acculturation level and level of familiarity for the population surveyed.

Keywords: stigma, acculturation, schizophrenia, Mexican Americans, college students

DEDICATION

This dissertation is dedicated first and foremost to my parents Roger and Velma Cortez for their constant love and support. From a very young age they told my brother Anthony and I that we should never be afraid to try to accomplish our goals. A heartfelt thank-you to my parents for all their sacrifices, small and big, that was done to create a brighter future for my brother and me. Thank-you for believing in me when at times I did not, I love you Daddy and Moobear.

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This dissertation is also dedicated to all the little girls in the world that have big dreams. Dreams do come true. Sometimes they are dreams you did not even realize you had. Dreams take a lot of hard work and dedication, but I promise the sky is the limit. Do not ever let anyone discourage your desire to be pioneers. Do not let anyone ever dull your sparkle.

Lastly, to all the people that experience a mental illness, you need not feel ashamed for who you are. Never let the hypocrisies of society hold you in a cage of self-hatred and fear. The plight to reduce stigma is gaining momentum through advocacy, education and an unbridled desire to change the norms that have become plaice. Change is a coming.

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CHAPTER I

INTRODUCTION

Statement of the Problem

A national report has found that 1 in 5 Americans ages 18 or older experienced mental illness in the past year (Substance Abuse and Mental Health Services Administration, 2012). This statistic translates to 45.9 million Americans. Mental health is a serious issue in the United States as it affects many people. Mental illness can manifest itself in varying levels of severity. Additionally, the impact of mental illness encompasses not only the individuals living with their conditions; it also impacts families, the workplace, mental health workers, social services, and the community in varying levels (Byrne, 1997). Furthermore, the factor of stigma has the most negative impact on the individuals with schizophrenia, a severe mental illness and has been shown to further hamper help-seeking behaviors that are necessary to assist in positive recovery outcomes for the individuals (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). As a result of the stigma that individuals face in society, there is a reluctance to seek the mental health assistance that they require, a lack of treatment and/or medication compliance, and a loss of self-esteem; this often leads to dysfunctional coping strategies (Corrigan, 2004a).

Overview of Schizophrenia

Schizophrenia is a severe, chronic mental illness that affects the brain and thinking processes of individuals affected. *The Diagnostic and Statistical Manual of Mental Disorders*

(4th ed.; *DSM–IV-TR*; American Psychiatric Association, 2000) defined schizophrenia as follows:

> Schizophrenia is a mental disorder involving a range of cognitive and emotional dysfunctions that include perception, inferential thinking, language and communication, behavioral monitoring, affect, fluency and productivity of thought and speech, hedonic capacity, volition and drive, and attention. The diagnosis involves the recognition of a constellation of signs and symptoms associated with impaired occupational or social functioning: and no one symptom is pathognomonic of the disorder (p. 250).

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; *DSM–5*; American Psychiatric Association, 2013) has made significant adjustments to the definition of schizophrenia to assist in the improvement of detection at an early intervention stage. Individuals with schizophrenia will display symptoms of delusions, hallucinations, disorganized speech and behavior, and other symptoms that cause social and/or occupational dysfunction. In order for a diagnosis, an individual must have symptoms present for six months and at least one month of active symptoms. The symptoms threshold has been made more extensive in the *DSM–5* with the requirement changing from one symptom to two symptoms. In addition, there has been an elimination of the diagnostic criteria and the removal of the identification of subtypes due to their unhelpful nature to clinicians as symptoms can change and overlap. As with many other mental illnesses and disabilities, the condition continues to be seen as being present at varying levels of severity and with varying signs and symptoms unique to each individual person (Corrigan, 2004b; National Institute of Health [NIH], 2010).

The global prevalence of schizophrenia, a severe and chronic mental illness, is massive (Bhugra, 2005). The prevalence of schizophrenia rates is dependent on the data collection tools used to gather information, the definition of the prevalence construct used, and whether or not

the dividing denominator is the whole population or a portion of the population (Saha, Chant, Welhman, & McGrath, 2005). Four of the main types of prevalence gathering methods for schizophrenia rates are point prevalence, period prevalence, lifetime prevalence, and lifetime morbid rates. According to Bhugra (2005) the four types of prevalence methods are defined as:

1. *Point prevalence*: The proportion of individuals who manifest a disorder at a given point in time.
2. *Period prevalence*: The proportion of individuals who manifest a disorder over a specific period of time (e.g., over one year).
3. *Lifetime prevalence*: The proportion of individuals in the population who have ever manifested a disorder, who are alive on a given day.
4. *Lifetime morbid risk*: The probability of a person developing the disorder during a specified period of their life or up to a specified age (lifetime morbid risk differs from lifetime prevalence in that it attempts to include the entire lifetime of a birth cohort both past and future, and includes those deceased at the time of the survey).

According to a literature review of 132 core studies by Saha et al. (2005), worldwide prevalence rates for schizophrenia was found to be 4.6 out of 1,000 for point prevalence, 3.3 out of 1,000 for period prevalence, 4.0 for lifetime prevalence, and 7.2 for lifetime morbid risk. Due to the various types of data collection tools for gathering prevalence of schizophrenia, there are various reporting of the incidence rates; however, the fact that schizophrenia is a serious mental illness is still clear. The Center for Disease Control (2011), has found that schizophrenia has a world-wide prevalence estimated to range between 0.5% and 1% with the average age of onset to be 21 for men and 27 for women (Andreasen & Black, 2006). This number translates to as

many as 51 million people worldwide over the age of 18 will manifest symptoms of schizophrenia (National Institute of Mental Health [NIMH], 2005).

In the United States, approximately 1.1 percent of the adult population has schizophrenia (NIMH, 2005; U.S. Department of Health and Human Services, 1999). Findings in the 2005 National Comorbidity Survey-Replication by Kessler, Chiu, Demler, and Walters (2005b), reports an estimated 2.4 million Americans will be affected by schizophrenia in varying levels of severity yearly. The rate of incidence for the United States is about 100,000 people being diagnosed with schizophrenia per year (Nemade & Mark, 2009). A study by Lewis and Lieberman (2000) found that prevalence of schizophrenia is two times that of Alzheimer's, five times that of multiple sclerosis, six times insulin-dependent diabetes, and sixty times that of persons diagnosed with muscular dystrophy.

Saha et al. (2005) stated that no significant differences in the prevalence rate in regards to gender (male vs. female) or living location (urban, rural, and mixed sites) were found. Yet, there was a higher rate of prevalence for homeless and migrating populations (Bagley, 1971; Bhugra et al., 1997; Birchwood et al., 1992; Harrison et al., 1997). While schizophrenia prevalence rates are lower for developing countries (Saha et al., 2005) schizophrenia is one of the top 10 disabilities in developed countries making it an important topic and area for research studies (Mueser & Jeste, 2008).

The highest amount of economic burden for society is during the time when an individual is first diagnosed with schizophrenia. According to McEvoy (2007), the cost of schizophrenia in the United States for 2002 was estimated to be at or around $62.7 billion. It is estimated that in excess of $22.7 billion are expenses related to direct health care cost. Direct health care costs include the following breakdown: $7 billion for outpatient care, $5 billion in prescription drugs,

$2.8 billion for inpatient care, and $8 billion in long-term care costs. Yearly, the United States health care budget uses funds to offset additional costs incurred by individuals with schizophrenia. These costs are unrelated to healthcare. The total direct non-health care excess costs including cost of living were estimated to be $7.6 billion in 2002. Total indirect costs were estimated at $32.4 billion for individuals with schizophrenia for services such as unemployment and daily living assistance.

Schizophrenia is reported to cause a great deal of significant impairments for the individuals after diagnosis. One significant impairment, in particular, is the challenge of individuals with schizophrenia is to successfully maintain employment. It is estimated that less than 20% of individuals with schizophrenia are able to find and maintain paid employment (Knapp & Razzouk, 2008). Additional significant impairments of individuals with schizophrenia can include the lack of daily living skills. Individuals with schizophrenia may have difficulty taking care of themselves and most often require professional assistance. The cost of daily living continues to increase through the third year of episodes with a need of increased monitoring services based on severity of symptoms throughout the lifetime of the patient (Nicholl, Akhras, Diels, & Schadrack, 2012). Studies show while it is estimated that 60% of adults with schizophrenia seek health care there is an increased cost related to schizophrenia for individuals that are unstable and/or not seeking treatment.

Schizophrenia Stigma

There is no group more stigmatized in society than that of individuals with mental illness (Stuart, 2008). Stigma is defined as "a mark of shame or discredit; an identifying mark or characteristic" (Merriam-Webster's online dictionary, n.d.). Stigma is demonstrated when an

individual avoids particular individuals, groups, and/or activities in an effort to minimize feelings of discomfort and is often caused by avoidance and misconceptions.

According to Finkelstein, Lapshin, and Wasserman (2008), "stigma is a negative label that people frequently attach to groups or persons who differ from social norms in some respect, such as race, appearance, physical, or mental health" (p. 208). While there are many causes of stigma, discrimination is mostly identified as the reason for the denial of civil rights and the negative treatment of individuals with mental illness (Falk, 2001). Culture is another factor that can impact the level of stigmatization with a condition being severely stigmatized in one culture and completely accepted in another (Room, Rehm, Trotter, Paglia, & Ustun, 2000). Stigma of mental illness has been identified as one of the most challenging components of mental health treatment and outcomes (Hinshaw & Cicchetti, 2000). Society's views of stigma towards individuals with mental illness continues to cause additional barriers that have negative impacts on the usage of mental health services thus further hampering their ability to be productive members of society.

Stigma towards individuals with mental illness causes two distinct forms of harm to societies which are direct effects and social rejection (Feldman & Crandall, 2007). The first form of harm to society is as a direct effect of the mental illness such as the "cognitive, affective, and behavioral difficulties that limit one's ability to function effectively" (p. 138). The second harm is the more encompassing and impacts the people living with mental illness as well as all of society. The social rejection that individuals with mental illness experience is destructive and the focus of research due to the negative compounding effects "social rejection, interpersonal disruption, and fractured identity that comes from the stigma of mental illness" (p. 138). Stigma of mental illness can also cause additional negative disruptions in a person's life such as family

relationships (Lefley, 1989), employment discrimination (Farina, Felner, & Boudreau, 1973), and life satisfaction (Rosenfield, 1997). Kessler et al. (1996) estimates that two thirds of individuals with mental illness do not seek treatment. A reason for this low number seeking treatment is the amount of stigma they experience making positive outcomes unlikely (Robertson & Donnermeyer, 1997; Sirey et al., 2001; Davison, 1976). Research amongst individuals with schizophrenia shows that stigma and the prejudice they experience is more harmful that the actual condition and symptoms (Hocking, 2003).

Mexican American Population

According to the 2010 United States Census Bureau report, there is a total population of 308.7 million people in the United States. In 2009, The U.S. Census Bureau reported that the Hispanic population is the largest growing ethnic group in the United States. The Hispanic population increased from 35.3 million (13 %) in 2000 to 50.5 million (16 %) in 2012 (U.S. Census Bureau, 2010). The growth of the Hispanic population accounts for more than half of the total U.S. population increase between the years of 2000 and 2010 (U.S. Census Bureau, 2010). The rate of increase of the Hispanic population is estimated to be at a 48% increase since 2000 (Motel & Patten, 2013).

The Hispanic population is categorized by origins and different ethnic backgrounds such as Puerto Rican or Mexican and is further categorized as either native or non-native born (Motel & Patten, 2013). Most research categorizes Hispanics into one singular group instead of the recommended grouping based on the specific Latino/ethnic groups (Prieto, McNeil, Walls, & Gomez, 2001). Different Latino/ethnic groups can have varying characteristics such as linguistic, socioeconomic, and educational differences that can only be generalized to different groups. In 2000, the U.S. Census Bureau first asked for participants to respond to a Hispanic

origin question as part of the survey **(**Ruggles et al., 2011a). The directions by the U.S. Census Bureau first prompts the identification of people by Hispanic/Spanish/Latino origins and then asked for further clarification based on country of origin as defined as ancestry, lineage, heritage, nationality group, or country of birth **(**Ruggles et al., 2011b).

Mexicans Americans are defined as individuals who are Hispanics of a Mexican origin by tracing family ancestry to Mexico or through Mexican immigration. In 2011, the U.S. Mexican American population has been reported as 33.5 million (Brown & Patten, 2013). Native born Hispanics are on the rise with 64% being born in the United States and 36% being foreign born. Sixty-five percent of the U.S. Hispanic population identifies as Mexican American origin with an estimated total of 33.5 million (Motel & Patten, 2013.).

Not only is the Hispanic population the fastest growing, it is also the youngest ethnic group in the United States with a median age of 27. This is younger in comparison to the U.S. population's median age of 37 (Brown & Patten, 2013; Motel & Patten, 2013). However, the Mexican American sub-group is reported as having a younger median age of 25. Nearly half of all Hispanics live in either California or Texas with Texas having the highest concentrated population of 9.8 million Hispanics (19% of all Hispanics in the U.S.) (Motel & Patten, 2013). According to the U.S. Census Bureau, as of June 27, 2013, the estimated population for Texas is 26,059,203 with a 38.2% Hispanic population (U.S. Census Bureau, 2013).

Mexican Americans and Schizophrenia

The 2010 U.S. Census shows that the nation's Hispanic community, already the largest minority, is the fastest-growing population in the United States (Ennis, Rios-Vargas & Albert, 2011). Due to the continued growth and young generations of the Mexican American population, it is important to understand how Mexican Americans are impacted by important

issues such as mental illness (Prieto, McNeil, Walls & Gomez, 2001). Over the last two decades there has been an increase in the research of Mexican Americans, especially in the area of mental illness. However, there is a significant lack of research findings on mental health issues in regards to the specific needs of Mexican Americans.

Highly populated Mexican American communities, such as border communities, have an issue with the underreporting of mental illness rates (Perkins et al., 2011). The prevalence rate for mental illnesses such as schizophrenia has been reported as being lower in the border communities than the rest of Texas. Due to the close proximity of the border communities to Mexico there are additional discrepancies in prevalence rates between Hispanics born in the U.S. and those born in Mexico (U.S. Department of Health and Human Services, 1999). The low prevalence rate of schizophrenia may be attributable to many sociological factors of a border community such as: the lack of health seeking behavior, lack of treatment, lack of documentation, and unique cultural characteristics that are unique to areas such as the border communities (Perkins et al., 2011).

While there are many factors that influence Mexican Americans to not seek mental health services, the factors of social stigma, culture and acculturation are influential in areas such as the border communities where there is mixture of two cultures (Barrera, Gonzalez, & Jordan, 2013). There is a direct relation between cultural views and rate of identification and treatment of schizophrenia in developed countries (Bhugra, 2005; Saha, et al., 2005). Understanding the influence of stigma and acculturation on Mexican Americans perceptions of schizophrenia can assist in using culturally appropriate education, assessments and treatment.

Mexican Americans' stigmatization of schizophrenia. There has been an increase in the amount of research pertaining to mental health conditions amongst Mexican Americans

(Stein & Susser, 1981). Mental illness is non-discriminatory in the individuals that it impacts and there is no clear delineation between racial/ethnic groups and the odds of increase chance of attaining a mental illness (Burnam et al., 1987). Yet, studies indicate there is a higher rate of schizophrenia amongst individuals that are of migrant status and ethnic minority (Bourque, van der Ven, & Malla, 2011).

Historically, there have been various studies on the factors and causes for the underutilization of mental health services by Mexican Americans dating back to the mid to late 70's (Acosta, 1979; Barrera, 1978; Keefe, 1979; Padilla, Ruiz, & Alvarez, 1975). There are many different variations of the causes and reasons for the low utilization. Mexican Americans, in of themselves, are a unique population of people with many different characteristics and experiences that create the cultural background of this particular group of people. The factors that influence Mexican Americans' attitudes towards mental health services range from the differences in their definitions and perceptions of mental illness to the impact of their cultural roots and levels of acculturation.

Bourque, van der Ven, and Malla (2011) further supports the idea that second-generation individuals are more prone to risk for being diagnosed with schizophrenia in comparison to the general population; thus, providing the platform for causes stemming from social aspects instead of simply migration events and the experiences of immigration. Health amongst recent immigrants is shown to decline due to the "assumption that immigrant protective factors from their home countries are slowly lost" (Broesch & Hadley, 2012, p. 375). Thus, an increase in the rate of psychotic symptoms has been shown to increase for immigrants as they move from Mexico to the United States. There are many reasons for the increase in psychotic symptoms such as becoming increasingly acculturated to the mainstream culture, loss of speaking their

native Spanish language, and the increased level of social isolation from their ethnic community (Lewis-Fernández et al., 2009).

The underutilization of mental health services has been attributed to specific values that are at the core of the Mexican American culture such as *machismo, folk illness, familism, fatalism*, and *personalismo* that influence Mexican Americans views of mental health and mental health services (Cuéllar, Arnold, & Maldonaldo, 1995). Additional terms important in the cultural constructs of Mexican Americans include *simpatía* and *respeto* (respect) (Marin & Marín, 1991). The terms are defined as the following:

Familism - "a cultural value that involves individuals' strong identification with and attachment to their nuclear and extended families, and strong feelings of loyalty, reciprocity, and solidarity among members of the same family" (Marin & Marín, 1991, p. 13).

Fatalism - belief that one has no control over one's destiny (Unger et al., 2002).

Machismo - male qualities of "masculinity, male dominance, sexual prowess, physical strength, and honor" (Unger et al, 2002, p. 260).

Respeto - refers to the personal quality of showing respect for others based on age, gender, and authority (Antshel, 2002).

Simpatía - "a permanent personal quality where an individual is perceived as likable, attractive, fun to be with, and easy going" (Triandis, Marin, Lisansky, & Betancourt, 1984, p. 1363).

The impact of culture on the views towards mental illness was examined in a previous study by Chu et al. (2010), whom sought to understand mental illness and health services along ethno-racial lines. The participants of the study included 25 individuals with a mental illness from African American, Latino, and Euro-American and were completed over 18 months. There were significant differences amongst the three ethnicities. Specifically, Latino participants

emphasized non-medical explanations of behavioral, emotional, and cognitive issues. Additionally, Latinos tended to be critical of services for individuals with mental illness. In terms of stigma for Latinos, terms that were commonly used in their culture such as "nervios" did not have a high amount of stigma attached to the phrase. Yet, terms that were more clinical in nature were described as being damaging to the social interaction. This study showed that there are differences in the interpretations and definitions of mental illness along cultural lines.

Not all over reporting issues concerning mental illness and ethnic minorities are attributable to the lack of cultural insight by mental health professionals. Additionally, the cultural knowledge of mental health care members can be a significant issue at hand. Cultural explanations appear to view mental illness as a traditional form of coping with other life stresses for Hispanics. Culturally speaking, coping mechanisms are considered normal and part of the healing cycle and can be manifestations, created by an individual's reaction to trauma, dissociation, and anxiety (Strauss, Harrow, Grossman, & Rosen, 2010). Mental health professionals may not always seek to explore how the symptoms that are presenting themselves are culturally dynamic and part of the cultural understanding of the individuals at hand (Tranulis, Park, Delano, & Good, 2009).

For Mexican Americans there are additional aspects of the cultural group that account for additional support during times of stressful life experiences. According to the cultural buffer hypothesis, particular characteristics of the Mexican American family provide support during stressful times that include: the closeness of family in traditional Hispanic families (Hovey, 2000) and religious practices and spirituality assists with moments of stress (Wills, Yaeger, & Sandy, 2003). Studies also show that Mexican Americans tend to have lower levels of risky behaviors commonly seen in the American culture such as alcohol use, smoking, and sexual

exploration (Aranda, Castaneda, Lee, & Sobel, 2001; Bacallao & Smokowski, 2007; Campos et al., 2008). The lower levels of risky behaviors assist Mexican American individuals with daily life stressors including poverty and acculturative stress.

Previous research has found that in southwest border communities, there is an increased risk for schizophrenia for Mexican Americans (Bourque, van der Ven, & Malla, 2011). The underutilization of mental health services in the LRGV is a contributing factor to the low reporting of schizophrenia prevalence. The LRGV has specific factors amongst the community that cause additional risk to being diagnosed with schizophrenia such as migration, low socioeconomic status, lack of resources, and negative life experiences as well as a multitude of social injustices. Research by Bourque, van der Ven, & Malla (2011), points to the possible connection of naturally occurring causes that might increase the likelihood of psychotic symptoms; for example, the correlation between potential vitamin D deficiencies and darker-skinned individuals who have migrated north.

It is important to note that researchers such as Lewis-Fernández et al. (2009) have pointed out that psychiatrists' may have had the potential to misunderstand the cultural salience of psychotic symptoms and thus have an increase in the rates of ethnic minorities that are being diagnosed as having a severe mental illness such as schizophrenia. The lack of multicultural experience and knowledge has further created generations of people that do not have trust in the healthcare system. Over reporting and erroneously labeling Mexican Americans and other ethnic minorities as mentally ill is an error in viewing their cultural experiences and can further explain why the population as a whole may not utilize mental health services. Research has continuously shown that there are disparities in the prevalence of mental llnesses amongst Mexican Americans in comparison with that of their white counterparts (Aponte, Rivers, & Wohl, 1995; Barrera,

Gonzalez & Jordan, 2013; Canales & Roberts, 1987; Hayward, Miles, Crimmins & Yang. 2000; Karno et al., 1987; Kirby & Kaneda, 2005; Link & Phelan, 2000; Quadagno, 1994; Sampson, 2000; U.S. Department of Health and Human Services, 1999; Vargas & Koss-Chioino, 1992; Vahia, et al., 2013; Williams, 2001). Despite the disparities there is historically a trend of Mexican Americans underutilizing mental health services in comparison to other ethnicities (Chang, Natsuaki & Chen, 2013; Cuéllar & Schnee, 1987; Cuéllar, Arnold, & Gonzalez, 1995; Cuéllar, Arnold, & Maldonado, 1995; Harris, Edlund, & Larson, 2005; Wells, Klap, Koike, & Sherbourne, 2001). The underutilization of mental health services of Mexican American adults has been widely reported in the research. Despite many Mexican Americans having an official medical diagnosis, there continues to be a lack of utilization of mental health services (Chang, Natsuaki & Chen, 2013; Hough et al., 1987). There are studies that attempt to show that Mexican Americans utilize mental health services as often or even more so than the general public; however, a study by Snowden (2007) found that these reports were flawed methodologically and show a statistically flawed representation of Mexican Americans usage of mental health services.

Research by Perkins et al. (2013) has addressed the use of sociological factors to explain rates of schizophrenia in the LRGV. Such sociological factors include the lack of health seeking behavior, lack of treatment, lack of documentation, and cultural aspects as unique characteristics of this community. Low health seeking behavior can be attributed to the language barrier as well as lack of educational experiences of Mexican Americans. There is one-third of Mexican Americans that report speaking English less than very well (Brown & Patten, 2013). The lack of English language skills makes communication with mental health workers difficult. Educational attainment is also lower for Hispanics than the general U.S. population with Mexican Americans

having lower levels of education than the rest of the Hispanic population overall as well as less than the entire U.S. population. Bachelor degree attainment is lower for Mexican Americans of which 10% of individuals 25 and older earn their bachelor degree in comparison to 13% amongst all U.S. Hispanics and 29% among the entire U.S. population.

Due to a low educational attainment rate, the median household income of Mexican Americans is lower than the national average. The median income for native born Hispanics is $39,000 and is this is the same as non-native born (Motel & Patten, 2013). Due to lower incomes, Hispanics face a higher poverty rate which is reported at 26% compared to the U.S. total poverty rate of 16% as well as being identified as more than likely to receive food stamps. The Lower Rio Grande Valley (LRGV) has the lowest median Hispanic household income of the top 60 metropolitan areas in the U.S. reported at $28,600. Brownsville, Texas, which has the 29th largest Hispanic population in the U.S., has the highest rate of poverty among all Hispanics (40%) and Hispanic children (51%).

Mexican Americans are not only at higher risk of poverty, but also at a higher risk of lacking health insurance which also deters Mexican Americans from seeking mental health services. Additionally, it is significant to note that Hispanics have the highest uninsured rates of any racial or ethnic group within the United States (DeNavas-Walt, Proctor & Smith, 2011). In 2009, the U.S. Census Bureau reported the rates of insurance coverage among Hispanic subgroups are shown in Table 1.

Table 1

Insurance Coverage of Hispanic Subgroups

Hispanic Subgroup	Private Insurance	Public Insurance	No Health Insurance
Mexicans	40%	30%	34%
Puerto Ricans	52%	40%	15%

Cubans	52%	32%	23%

Source: U.S. Census Bureau (2009)

Border Communities and Schizophrenia

One southwestern border community is the Lower Rio Grande Valley (LRGV) which is largely populated with Hispanics located along the Mexico and Texas border; it includes the counties of Cameron, Hidalgo, and Willacy. The Brownsville-Harlingen-San Benito area of Texas is ranked as having the 29th largest Hispanic populated metropolitan area (Motel & Patten, 2012). According to the U.S. Census Bureau, as of June 27 2013, the estimated population for the Lower Rio Grande Valley is 1,234,830 (U.S. Census Bureau, 2013). Hidalgo County with has the highest percentage of Hispanics reported as 90.9% followed by Cameron County at 88.4% and Willacy County at 87.3% (U.S. Census Bureau, 2013).

According to the Texas Department of Mental Health and Mental Retardation (TDMHMR, 2001), the prevalence of schizophrenia in the LRGV is estimated to be less than one percent of the adult population. Perkins et al. (2011) found that the Hispanic population in the LRGV tends to have low reported numbers of schizophrenia due to specific characteristics of the area.

> It is expected that the numbers of mental health disorders are greatly under-reported especially because of the large Hispanic population and the lower socioeconomic status of the population in the LRGV. As indicated previously, prevalence rates for Hispanics are probably similar to Whites but help-seeking behavior is decidedly different so Hispanics are less likely to be represented in TDMHMR statistics….. Overall, it is difficult to determine the true extent of the mental health problems in the LRGV due to a lack of documentation of need (p. 97).

The discrepancies in reported cases of schizophrenia in the LRGV could be due to many factors not yet fully explored such as impact of the impact level of acculturation as two cultures living on the same border creates. Acculturation may serve as an important factor and a missing link for determining the source and level of stigma in the field of schizophrenia research specifically in regards to Mexican Americans. After a review of the literature, it is apparent that there is a significant lack of research focused on the specific impacts that acculturation may have on Mexican American beliefs, perceptions, and levels of stigma towards individuals diagnosed with schizophrenia.

Statement of the Purpose

Due to the growth of the Mexican American population and the underreporting of mental illness amongst Mexican Americans in the LRGV it is important to conduct research on the unique characteristics of residents in border town communities (Barrera, Gonzalez & Jordan, 2013). A review of the literature indicated there are studies that focus on the Hispanic population as a whole, but not focusing on border communities in particular. There is also a significant lack of research studies focused on residents in the LRGV. The aim of this study is to better understand the factors that influence the perceptions and stigma of schizophrenia amongst Mexican Americans along the U.S./Mexico border. Specifically, this study seeks to add to the current body of knowledge by focusing on findings of the specific impact factors such as acculturation, level of familiarity, educational level, socioeconomic status, age, and gender have on Mexican Americans' level of stigma and attitudes towards individuals diagnosed with schizophrenia within a border community.

Definitions and Terms

The following terms and definitions will be used at part of the research study:

Acculturation- the process of change members of a minority group experience as they move towards the adoption of the majority group's culture (Mena, Padilla, & Maldonado, 1987).

Assimilation- "the state of being assimilated; people of different backgrounds come to see themselves as part of a larger national family" (http://wordnetweb.princeton.edu/perl/webwn?s=assimilation).

Attribution- the causes, reasons or explanations for mental illness that focus on relationships between controllability, responsibility beliefs, affective responses, and discriminatory and helping behavior (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003).

Culture- "as information – norms, values, and beliefs – that is acquired from others and is capable of affecting behavior" (Broesch & Hadley, 2012).

Level of Familiarity- the level of familiarity and social distance with individuals with a mental illness; in particular, schizophrenia (Corrigan, Markowitz, et al., 2003).

Mental Illness- are commonly defined as medical conditions that disrupt a person's thinking, feeling, mood, ability to relate to others, and daily functioning (National Alliance on Mental Illness [NAMI], n. d.).

Public Stigma- occurs when members of the general public endorse stereotypes and act on discriminatory behaviors such as refusing to hire someone because of mental illness (Larson & Corrigan, 2008).

Schizophrenia- is characterized by delusions, hallucinations, disorganized speech and behavior, and other symptoms that cause social or occupational dysfunction. For a diagnosis, symptoms must have been present for six months and include at least one month of active symptoms (American Psychological Association [APA], 2013)

CHAPTER II

REVIEW OF THE LITERATURE

Operationalizing Stigma

The construct of stigma has been undergoing important changes in the definition, causes, characteristics, and methods of stigma reduction since the original research by Erving Goffman in the 1960's. The modern concept of stigma has been an extension of Goffman's work (1963) and views stigma as a process that is based on the process of social construction of a person's identity. Goffman defined stigma as an attribute which is deeply discrediting to the person. The person who becomes associated with a stigmatized condition or criteria flawed goes through stages of stigma and shift between ''normal'' to a ''discredited'' or "discreditable'' social status. Once stigmatized, the person is 'marked' with a label of being a deviant and undesirable. In Goffman's Stigma: Notes on the Management of Spoiled Identity (1963) the disturbing interactions between those individuals that are stigmatized and unstigmatized is explored. According to Goffman, individuals that do not have a stigmatized condition will avoid interaction with those whom do. Goffman described this uneasiness as being caused by the person's fears of unstable behavior and failure of a stigmatized person to follow the most basic of social rules and norms.

The construct of stigma includes both psychological and social components. However, the analysis of the psychological impact of stigma on individuals with mental illness has been the most useful in current research (Kleinman & Hall-Clifford, 2009). In the field of stigma

research, Corrigan (2004a) differentiates between public stigma (stigma held by the general public) and self-stigma (the internalization of public stigma). Social stigma is comprised of three key concepts that influence the perceptions of society towards individuals with mental illness. According to Corrigan (2004b), the following are key concepts in the study of social stigma:

1. Stereotype - Negative belief about a group (i.e., dangerousness, incompetence, character weakness)
2. Prejudice - Agreement with belief and/or negative emotional reaction (i.e., anger/fear)
3. Discrimination – Behavior response to prejudice (i.e., avoidance of work and housing opportunities, without help)

Stigma and Mental Illness

The stigma and stereotypes against individuals with schizophrenia has been shown to be harmful and have deleterious effects not only for a person to seek assistance but also in regards to the success of the intervention and treatment. Wahl (1999) surveyed 1,301 mental health consumers and randomly selected 100 participants to be interviewed. The consumers were asked questions about their experience with stigma; it was found that there were many sources of the stigma. Stigma was felt by the consumers not only from the public but also from their family and coworkers which resulted in feelings of discouragement, hurt, and low self-esteem.

Doherty (1975) argued that the use of labels with individuals with mental illness increased the amount of stigma an individual experienced. In such cases, the harm to the individual with mental illness occurs when the stigmatized term “mentally ill” is used as an acceptable term by patients and/or mental health workers. Samples of 43 short-term inpatients

participated in the empirical longitudinal study and were found to have three patterns towards the stigmatized label including acceptance, rejection, or denial.

Commentary on stigma such as the one by Dincin (1993) highlighted the stigma that mental health professionals' themselves exhibited towards individuals with mental illness. The notion that mental health professionals had a tendency to have higher levels of stigma towards mental illness than the general public was expressed as a concern. Recently, additional stigma research has been completed with health professionals and nursing staff (Balhara, Majumder, & Lal, 2011). Participants from a medical and training institute included nursing students, nurses and doctor trainees were asked to complete the self-rated Attribution Questionnaire-27 (AQ-27). An ANOVA analysis determined that negative attributes towards individuals with mental illness were found amongst all three groups of mental health professionals. The commentary served to prompt attention to the level of stigma in the mental health professional community.

Perceived stigma has been reported by those diagnosed with a mental illness as the cause of varying levels of reluctance to disclose their diagnosis. A study by Pandya, Bresee, Duckworth, Gay and Fitzpatrick (2011) focused on the experience of disclosure on a convenience sample of 258 adults diagnosed with schizophrenia. Disclosure of their diagnosis was examined along various lines of social contexts through the use of an online survey. The results indicated that due to stigma participants felt more comfortable in sharing their diagnosis with those that have a vested interest in their recovery process such as doctors, parents, and friends. Those who reported fewer symptoms and better response to interventions were, overall, more open with their diagnosis. Participants reported after disclosure better treatment from parents; yet, others indicated poorer medical treatment after disclosure of their diagnosis of

schizophrenia. Lastly, there was reluctance of the participants to be willing to share their diagnosis with employers for fear of losing their jobs.

The effects of disclosure for the purposes of employment were further researched by Farina and Felner (1973) which also showed stigma and discrimination towards mental illness. A case study of one man's experience with 32 job interviews and the formulation of his curriculum vitae (CV) were investigated to see if the label of mental illness had an impact on the outcome. The participant explained a 9 month period left blank on his CV as either traveling or a stay in a mental health facility. In interviews where he indicated the leave was due to being in a mental health facility, the behavior of the interviewer was noted as being less friendly as well as resulted in fewer job offers in comparison to the travelling explanation. Manning and White (1995) found negative attitudes towards hiring persons with a mental illness from survey research of 120 personnel directors. Employers were more likely to hire a person with depression than an individual with schizophrenia and 28% would never hire a person with a mental illness. The research supported the notion that individuals with schizophrenia feel and recognize that society has various levels of stigmatizing attitudes towards their conditions and that each individual experience various along social contexts.

Corrigan, Watson and Ottati (2003) analyzed the hypotheses that are most cited as the cause of negativity towards individuals with mental illness in stigma research. Cognitive assumptions were found to negatively attribute the characteristics of dangerous and blameful to individuals with mental illness. The following three hypotheses were found as valid: (1) the presumption that mental illness stigma results as a "normal response" of the society towards a particular group of individuals whom are considered dangerous and blameworthy, (2)'kernel of truth' exists in the stigmatizing attitudes towards individuals with mental illness, and (3) mental

illness stigma is a form of psychological justification. The final hypothesis was found to have the most justification and explained the political and economic differences between the minority group of individuals with mental illness and the majority group of those without a mental illness. Additional research of stigma is needed for unified and focused interventions to promote a change of attitudes towards individuals with schizophrenia.

Influence of the Media on Stigma

The stigma and negative attitudes towards individuals with schizophrenia is preempted by the formulation and perception that is portrayed through media. The role of the media often has a negatively skewed view of people that experience mental illness. Stereotypes towards individuals with mental illness are often exhibited in the media in four main forms according to Hayward and Bright (1997). The media depiction of individuals with mental illness are as follows: that they are dangerous individuals; the person with the mental illness is to blame for their situation; the mental health illness is chronic in nature without a chance of positive prognosis; and often the person with a mental illness will demonstrate behaviors that do not follow social norms. The media often portrays such behavior amongst individuals with mental illness. Studies that included the analysis of the media sources in the United States, the United Kingdom and Australia have found that often reports of violent crimes committed by individuals with mental illness are exaggerated (Allen & Nairn, 1997; Barnes & Earnshaw, 1993; Philo, et al. 1994; Shain & Phillips, 1991).

According to Albert Bandura's social learning theory, people imitate behaviors that they observe such as through the media (Bandura, 1977). Many past studies show a link between exposure to media (e. g., advertisement, television, internet, and video games) and discrimination

and prejudice (Coverdale, Nairn, & Claasen, 2002; Cutliffe & Hannigan, 2001; Knifton & Quinn, 2008; Parle, 2012; Rose, 1998; Wahl, 1995).

Mental illness has been negatively portrayed in the media for many years despite efforts and attempts to change such discriminating behaviors. In particular to schizophrenia, the negative connotations for individuals with schizophrenia can be seen in the language (e.g., "psycho" and "crazy"), negative terms, labels and through popular beliefs which are compounded in media portrayals (Wahl, 1992). Public stigma and stereotyping of individuals with schizophrenia is transferred from the media into the interactions society has on a daily basis (Wahl, 1995).

An example of the media's negative portrayal was discussed by Byrne (2000) in the editorial on the portrayal of the lead character in the movie "Me, Myself and Irene" as an example. The National Alliance on Mental Illness (NAMI) found this movie to be a prime example of promoting pre-existing stigmas towards schizophrenia. Specifically, the movie depicts schizophrenia in two negative ways which includes: schizophrenia being erroneously portrayed as being a split personality and that it is inherently violent.

Particular "target" groups such as healthcare providers, employers and media are pivotal in the influence of discrimination and stigmatization towards individuals with mental illness (Corrigan, 2004b). Through analysis of media, such as film, it has been found that misconceptions of individuals with mental illness are frequently reinforced. For example, individuals with mental illness are portrayed as being homicidal and as people who should be feared (Farina, 1998); rebellious (Hyler, Gabbard, & Schneider, 1991) and tend to act and think in childlike ways (Wahl, 1995). Corrigan (2000) found that the media further reinforces the public belief that mental illness is controllable by the person with the disorder. Wahl (1995)

further described how the media portrays mental illness in humorous and disrespectful elements.

Past research by Penn, Chamberlain and Muesser (2003) has framed the effects of documentary films on schizophrenia stigma. Using a random assignment design, 163 undergraduates were assigned groups with various documentaries that included one with persons diagnosed with schizophrenia. The participants were given the Social Distance Scale, the Dangerousness Scale, the Affective Reaction Scale, and the Attribution Scale to measure stigma levels. Findings showed that documentaries can be used to illicit positive regard towards schizophrenia. Viewers of the schizophrenia documentary had lower levels of blame and responsibility attributes for individuals with schizophrenia. Importantly, past experience with mental illness in combination with a psycho-educational documentary had a positive influence on the participants' ratings of individuals with schizophrenia.

The effects of the media are vital to ascertain whether the presence or absence of race as a factor gives rise to negative attitudes and behaviors towards individuals with schizophrenia. Lenert, Ziegler, Lee, Unfred, and Mahmoud (2000) used race as a factor in a study of media for education and learning purposes. A convenience sample comprised of a combination of patients with schizophrenia, family members of patients, and health professionals were surveyed to determine if differences in attitudes and behaviors towards individuals with schizophrenia were influenced by race and/or gender. The findings suggested race and gender of patients or actors in documentaries influence the attitudes and behaviors towards an individual with schizophrenia, including treatment outcomes. Media, especially documentaries, have been shown to promote positive aspects of characteristics and treatment outcomes of individuals with schizophrenia; however, the negative perspective is currently promoted to a greater extent through various media sources.

Attributes Associated with Schizophrenia Stigma

In general, severe mental illness elicits attitudes and beliefs associated with discomfort which, in turn, influences stigma; this leads to the social exclusion of the individuals with mental illness, in particular schizophrenia. In the past decade, there has been an increase of research in the area of attitudes toward individuals with schizophrenia and stigma (Corrigan, Larson, Sells, Niessen, & Watson, 2007; Corrigan, Watson, & Barr, 2006; Larson & Corrigan, 2008; Marie & Miles, 2008; Thornicroft, Rose, Kassam, & Sartorius, 2007). The increase of information such as assumptions and the misconceptions of schizophrenia are necessary for the dissolution of stigma. A study focused on the internalizing stigma by individuals with schizophrenia by Ritsher and Phelan (2004) suggested that depression from alienation increases barriers and prevents help-seeking behaviors.

According to Corrigan, Lurie, Goldman, Slopen, Medasani, and Phelan (2005) contact, or familiarity, decreases mental illness stigma. Attributes of stigma were identified by Corrigan, Markowitz, et al. (2003) as responsibility for illness, pity, anger, danger, fear, help, coercion, segregation, and avoidance. Attributes have been measured using Corrigan's Attribution Questionnaire (AQ-27) scale to assess a person's rating of stereotypes commonly associated with schizophrenia. A great deal of research has been focused on attributions towards mental illness and has found that the greater amount of exposure to members of a stigmatized group, the more favorable the attitudes will be towards them (Penn, et al., 1994; de Sousa, Marques, Curral, & Queirós, 2012). Hayward and Bright (1997) found attributes that are most commonly associated with stigma towards individuals with schizophrenia including individual responsibility, social interaction, and dangerousness.

Subsequently, Brown (2008) incorporated the Attribution Questionnaire (AQ) and assessed participants' attributes towards individuals with schizophrenia. The attribution factors of fear, dangerousness, help, interaction, and negative emotions provided the most reliable attributes that contribute to the continued stigma of individuals with schizophrenia. Such accurate measurements of attitudes, beliefs and attributes towards individuals with schizophrenia provide a complex understanding of stigma in society. The increased knowledge can contribute to the development of programs and interventions aimed at reducing stigma.

Individual Responsibility

Corrigan's (2004b) research of stigma towards schizophrenia has suggested that a common misconception of individuals with schizophrenia is they do not have the ability to care for themselves. Furthermore, schizophrenia research has suggested, without a caretaker of higher authority, individuals are unable to assist and make major decisions on their own behalf. The way society sees and stigmatizes schizophrenia is historically influenced to believe the person is responsible for their condition and attainment of their disability. Indeed, individuals with schizophrenia are found to often face alienation due to the misconception and blame for their condition.

The attribution of responsibility was first discussed by Weiner, Perry, and Magnusson (1988) as a result of a broad study of college students' beliefs and attitudes towards various socially stigmatized groups. The research established that particular group's illicit more stigmas depending on the cause of the disability and/or stigmatized condition. Empathetic behavior was not found for individuals that experience mental health issues. Rather, the individual was seen as being responsible for their condition. Rather than feeling pity towards the individuals with mental illness, the respondents felt anger towards the people for not preventing their condition.

The level of personal responsibility was seen as being greater towards individuals with a severe mental illness such as schizophrenia.

Corrigan, River, et al. (1999) continued to determine that controllability continues to be a factor in schizophrenia stigma. Based on results from the Psychiatric Disability Attribution Questionnaire (PDAQ), a 36 item measure of attribution, a sample of 152 community college students ranked the factor of controllability the highest. An additional study by Corrigan et al., (2000) measured the stigma towards the attribution of responsibility as a result of personal responsibility or environmental issues. The study found that the participants rated mental disabilities more negatively in comparison to the physical disabilities. The results demonstrated a preconceived notion that individuals with mental illness are in control of their behavior, thus not requiring professional mental health intervention and/or services.

Furthermore, Corrigan et al., (2002) explained the stigmatizing attitudes and belief that individuals with schizophrenia were not only able to control their illness but they were also responsible for their condition. An anti-stigma program with 213 community college students measured the willingness to assist individuals with mental illness. The Attribution Questionnaire (AQ) and the Social Distance Scale were administered and perceived dangerousness was found to be the main cause of stigma. However, education through the anti-stigma program did not provide long-term results for participants.

A recent study by Obonsawin, McLindsay and Hunter (2013) found factors related to responsibility included emotions such as pity and anger in addition to controllability of mental illness. A between groups design was used with three vignettes with varying degrees of controllability. An ANOVA analysis determined as the factors of controllability, pity and anger increased the willingness to assist an individual with a mental illness decreased.

Stereotypes and stigma also affect family members, caregivers, and other people with close relationships with individuals with schizophrenia. The responsibility and role of care of individuals with schizophrenia was the focus of a survey research project by Lachaux, Caroli, and Masse (in press). The results showed common aspects between patients' families, care providers, and patients which lent to the stereotype that an individual with schizophrenia cannot be responsible for caring for themselves. If individuals with schizophrenia do not have support from those surrounding them they may be more prone to symptoms of schizophrenia and thus additional stigma and alienation. Thus, the attributions that surround stigma towards schizophrenia are an important area of research to improve rates of acquiring mental health issues and positive outcomes.

Perceived Dangerousness and Violence

One of the most common attribution and misconceptions of individuals with mental illness is that they are dangerous and should be avoided (Corrigan, 2004b). In the literature this misconception of fear is a particular area of interest amongst mental illness research. The element of fear is attributable to the stereotype the public has towards people with mental illness which expects a level of violence (Hayward & Bright, 1997). The constructs of peril and dangerousness are two of the dimensions that are used in the literature when discussing mental illness (Feldman & Crandall, 2007). Phelan and Link (1998) found that from the 1950's to the 1990's there has been an increase of the perception in people with mental illness as being dangerous and violent in American society.

The construct of dangerousness describes the common fear people feel as a result of the increase of perceived threats (Feldman & Crandall, 2007). Dangerousness is associated with a need for greater social distance from an individual with mental illness because it elicits fear

(Corrigan et al., 2003). The fear that the public has is adverse to reducing stigma due to an increase in social distance to the mentally ill; it serves as a way to protect themselves from a group of people society deems dangerous and violent (Link, Cullen, Frank, & Wozniak, 1987).

Past research has framed the utilization of social distance scales and attribution questionnaires to determine the level of stigma based on perceived dangerousness. Penn, et al. (1994) studied the attribute of dangerousness amongst 329 undergraduates with the use of vignettes describing a person with a mental illness. A lack of previous contact and higher knowledge of symptomology alone were related to the belief that individuals with schizophrenia are dangerous. An additional study by Boisvert and Faust (1999) determined there was a relationship between social distance and the attribution of violence and schizophrenia for undergraduate students and mental health professionals. Penn, Kommana, Mansfield, and Link (1999) used the Dangerousness Scale and surveyed 182 undergraduates for perceived dangerousness of individuals with mental illness based on level of contact. Once again, previous contact and knowledge of actual rates of violent behavior resulted in lower perceptions of danger for individuals with schizophrenia. These findings suggest the that level of the contact and discrediting stereotypes is vital for the process of reducing stigma towards individuals with schizophrenia.

The sense of fear is due to the misconception that individuals with schizophrenia are prone to exhibiting violence towards others; the truth is they are more prone to hurting themselves or withdrawing from social interaction (Walsh, Buchanan, & Fahy, 2002). The Center for Disease Control (CDC) has linked schizophrenia to a high risk of suicide attempts with 1 out of 10 committing suicide (Andreasen & Black, 2006). This rate of suicide is much higher when compared with the national statistics of 12 out of 100,000 people per year in 2009

(Kochanek, Xu, Murphy, Minino, & Kung, 2011). With such high prevalence and risk for self-harming behavior, individuals with schizophrenia are still commonly thought to be socially unacceptable, aggressive, a group of people with a lack of knowledge and information rather than a group of people in need of services, and a cause needing an array of awareness promotions (Corrigan, 2004b; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Corrigan, Green, Lundin, Kubiak,& Penn, 2001; Corrigan, River, et al., 2001; Holmes, Corrigan, Williams, Canar, & Kubiak, 1999; Penn & Nowlin-Drummond, 2001).

Society is discriminatory towards people with mental illness due to this fear of their dangerous and aggressive behavior (Corrigan, Edwards, et al., 2001; Crandall & Reser, 2005). Despite evidence that shows violence by individuals with schizophrenia is low, there continues to be discrepancies in reports. Douglas, Guy, and Hart (2009) explained inconsistencies of violence and schizophrenia as being dependent on confounding factors such as gender, age, low social economic status, and comorbidity of substance use and/or antisocial personality. Angermeyer (2000) reinforced evidence that violent crimes committed by individuals with schizophrenia or other severe mental disorder are inaccurately portrayed as being high. There is no clear evidence that there is an increase of violence committed by individuals with schizophrenia. Risk for being violently attacked by a stranger is lower for individuals with severe mental illness than that of people that are mentally healthy. Researchers are continuously looking for factors that can assist to identify interventions to decrease the stigma of violence amongst individuals with severe mental illness such as schizophrenia.

Changing Stigma towards Individuals with Schizophrenia

According to a report on mental health by the U.S. Surgeon General, the single factor that has the most impact on mental health is stigma (USDHHS, 1999). In an effort to understand

stigma, research has identified effective modes of changing the misconceptions and stereotypes associated with negative beliefs towards individuals with mental illness. Related to the problem of stigma, it is important to consider diverse concepts used to define causes and possible influences to decrease stigma. Due to the detrimental effects of stigma on individuals with severe mental illness, there has been an increase in research related to promote stigma reduction programs (Corrigan, Kosyluk, & Rüsch, 2013; Corrigan, 2004a; Corrigan, River, et al., 2001; Pinfold, Thornicroft, Huxley, & Farmer, 2005). At its core such research has demonstrated that some techniques are more successful at providing positive and effective results in reducing stigma. Such activities have included positive media campaigns that facilitate the promotion of positive characteristics (Vaughan & Hansen, 2004), psycho-educational opportunities for mental health professionals (Pinfold et al., 2005), and computer-assisted education (O'Kearney, Gibson, Christensen, & Griffiths, 2006). These different concepts reflect several types of interventions based on various motivations of individuals.

While numerous and creative interventions have been implemented to combat stigma, most programs fall into three categories. Rüsch et al. (2005) completed a review of relevant literature on reduction programs aimed at reducing public mental illness stigma and identified the main approaches to change as: education, contact, and protest.

Education

In an attempt to reduce stigmatization of individuals with schizophrenia, education programs often incorporate cognitive aspects and provide information to contradict negative stereotypes. The approach attempts to replace negative attitudes and replace them with factual information (Corrigan, Morris, Michaels, Rafacz & Rüsch, 2012). Overtime, research has shown that some educational programs are successful at bringing about significant changes in stigma

levels (Corrigan, River, et al., 2001; Keane, 1991; Morrison, 1980; Penn et al., 1994). The positive aspects of educational programs include the ability for them to be used in various environments, with large groups of people, and their broad reach (Corrigan et al., 2012). Additionally, education strategies allow the usage of a variety of media sources such as public service announcements, books, flyers, documentaries, and blogs, to name a few (Finkelstein, Lapshin, & Wasserman, 2008; SAMHSA, n. d.).

Success has been found with the use of educational programs for the reduction of stigma towards individuals with mental illness (Keane 1990; Penn et al., 1994, 1999). One study by Corrigan, et at., (2001) demonstrated the effectiveness of education through the use of a three minute video featuring an individual with mental illness. Community college students were assigned to a treatment group to watch the video or the control group with no intervention being employed. The Psychiatric Disability Attribution Questionnaire and the Life Story Memory Test were administered to the participants. The videos were successful in reducing stigmatizing attitudes amongst the participants. A related study by Boysen and Vogel (2008) found similar results from the use of an educational intervention on college students. However, this study incorporated the impact of pre-existing attitudes in relation to the controllability of the mental illness. Results indicated an educational approach can be effective when the complex nature of attitudes and information on causes of the mental illness are incorporated in an intervention program. Positive outcomes were also found by Holmes et al. (1999) in the measurement of level of contact and stigma of 83 students using a pre and post study research design. Short-term education programs aimed at reducing stigma towards mental illness were found to be effective in promoting positive attitudes.

Educational programs have also been found to be effective in assisting individuals with mental illness to disclose their condition. A study by Rüsch et al. (2014) examined the process that many people with mental illness experience when disclosing their diagnosis to family and friends. Most individuals with a mental illness fear the stigma and discrimination associated with their condition. The researchers employed a randomized, controlled trial and used a program called Coming out Proud (COP) with 100 participants with a diagnosed mental illness. The program was successful and encouraged positive coping skills, reduction of self-stigma, empowerment, and benefits of disclosure. Numerous research studies have noted personal accounts of self-stigmatization where shame is more impairing than the actual symptoms of the mental illness regardless of severity level (Pinfold, Huxley, et al., 2003); making programs such as Coming out Proud a positive intervention to decrease stigma-related stress associated with disclosure and acquisition of mental health services.

Organizations have also been created with the aim of reducing stigma through education. One such organization is the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) which was established in 1992 by Congress; it is a part of the U.S. Department of Health and Human Services. SAMHSA reported the budget for 2014 as $3.6 billion, an increase of $4 million above the 2012 budget. The organization is aimed at the improvement of the prevention, treatment and rehabilitative services in order to reduce illness, death, disability, and cost to society due to substance abuse and mental illnesses (SAMHSA, n.d.). SAMHSA focuses primarily on family education as a primary forum for promoting social change towards stigma (Corrigan, 2004b). Research shows empirical evidence that the use of public education programs, advocacy groups, and psycho-educational programs aimed to reduce stigma are

helpful and effective; however, there are limitations on the amount of lasting effect on attitudes over time (Corrigan, 2004b).

Despite the success that is found with educational interventions, researchers have also indicated that such interventions need to be examined based on content of the programs (Rüsch, Angermeyer, & Corrigan, 2005). Yet, this examination does not discredit the ability for change to occur; educational means should not be the sole intervention for changing stigma. Corrigan (2004b) has argued that studies do show change of stigmatizing attitudes due to educational interventions.

Contact

Allport's seminal research on the concept of contact is defined as, "close and pleasant interpersonal contact with people from different groups" as being "probably the best way to achieve social harmony" (Hogg & Abrams, 2007, p. 348). In line with Allport's concept, Corrigan, et. al. (2001) used meta-analyses and concluded that contact programs exceed the effectiveness of programs that use educational means. The ability for contact to have an increased level of promoting change of stigmatizing attitudes has been found effective with individuals with mental illness. Contact has been found to have an increased impact when participants interact with a person or group of persons that belong to a stigmatized group such as schizophrenia (Chinsky & Rappaport, 1970; Corrigan et al., 2002; Thornicroft et al., 2008).

In contact intervention, experience is used to change the attitudes from negative to more positive through interpersonal experiences. Similarly, Pinfold, Toulmin, et al. (2003) used an intervention program focused on increasing mental health literacy while dispelling negative stereotypes through the use of contact. The researchers surveyed 472 secondary school students and evaluated the participants' knowledge, attitudes, and behavioral interactions towards

individuals with mental illness. The results indicated the highest level of change was amongst individuals who indicated higher levels of personal contact with people with mental illness. In a meta-analysis review of over 700 studies, contact interventions were found to be successful in reducing a variety of stigmas (Tropp & Pettigrew, 2009).

Recently, Corrigan et al. (2014) completed an analysis of contact-based anti-stigma programs to determine if psycho-educational training would decrease the level of stigma towards individuals with schizophrenia. This particular study used previous results from qualitative research that found 32 items suggested for contact-based programs. Utilizing an online survey format, 100 participants were selected to participate. The results ranked the most important components of an anti-stigma program to be: face-to-face presentations, discussion, assessment based on goals; experienced staff; message of background stories; and evaluation and future follow-up. Continued research assists in tailoring programs to be as effective as possible.

Protest

Protest is an additional strategy used reduce stigma in the field of mental illness. Corrigan and Penn (1999) define protest as a stigma reduction strategy aimed to suppress stigmatizing attitudes towards individuals with mental illness. Protest strategies include advocacy activities, support groups and patient empowerment groups. Corrigan (2004a) defined the process of protest strategies as the use of focus being placed on the injustices of stigma toward individuals with mental illness. In recent years, there has been an increase in the number of public interest and advocacy groups that are invested in reducing the level of stigma and discrimination of individuals with mental illness. There are many organizations whose primary aim is to use protest as a major means to aid in the reduction of stigma towards individuals with mental illness in society.

The National Alliance on Mental Illness (NAMI) is a nation-wide group that has been active since 1979 and works to assist families and people impacted by mental illness. NAMI is active at the national and local levels promoting support and research such as public education and awareness activities such as conventions, charity races, and public announcements (The National Alliance on Mental Illness, n.d.). Other groups that promote the positive views of individuals with schizophrenia include the National Stigma Clearinghouse and the Resource Center to Address Discrimination and Stigma Associated with Mental Illness (Corrigan, 2004b).

There are key entities in society that can assist in the reduction of stigma towards individuals with schizophrenia; however, until there are changes in key sectors such as employers and the media, there is little possibility of lasting change (Corrigan, 2004b). Anti-stigma campaigns have used protest to curtail the damaging effects of the portrayal of individuals with schizophrenia in the media. One form of protest is target-specific which is aimed at altering the negative connotations of not only media portrayal but also healthcare policies. Studies such as Penn and Nowlin-Drummond (2001) reinforce the injustice and degree of political incorrectness that terms and labels promote.

A vignette study by Socall and Holgraves (1992) found different reactions towards individuals depending on the type of label associated with their behavior were psychiatric or medial. It was found that psychiatric labels tended to have a less favorable association and induced negative stereotypes. Negative labels further reinforce the stigmatizing and misconceptions towards individuals with schizophrenia. Penn et al. (1994) similarly used vignette research where participants were given three different stories that gave information about lives of individuals with schizophrenia. Participants were asked to describe their emotions and feelings towards the people in the vignettes. The use of psychological terms was associated

with less positive views related to individuals with schizophrenia. Participants expressed less fear with vignettes that described the individual with schizophrenia in more relatable and human terms and resulted in less stigmatizing views.

While educational, contact, and protest interventions have been shown to provide meaningful effects, they all have one limitation. Intervention programs which can be time-consuming and expensive cannot be done with large populations of people at a time. In order for the programs to run effectively, there needs to be individuals with schizophrenia that can serve as guides and be the focus of change. Thus, additional research into other factors that impact stigma is important.

Level of Familiarity & Social Distance

According to Corrigan, Edwards, et al. (2001), the level of familiarity or how intimate of a relationship a person has involving individuals with schizophrenia is determined as a result of contact and social proximity. In terms of contact, a low level of familiarity includes having watched a documentary about mental illness while a higher level of familiarity includes working or living with someone with a mental illness. Corrigan and Watson (2006) found more positive attitudes and fewer stigmas in studies where people have a higher level of familiarity with a person with a mental illness.

According to Alexander and Link (2003) people with firsthand experience with people with mental illness have a more accepting attitude towards individuals with mental illness. Huxley (1993) also found that people who had limited encounters with individuals with mental illness would highly stigmatize this population. Those with an increased amount of exposure to people with mental illness through experiences such as mental health facilities and treatment programs have lower levels of stigmatizing attitudes. In a similar study, Angermeyer and

Matschinger (1996) confirmed the relationship between personal experiences and lower levels of stigma. Structured interviews and vignettes were completed first in 1990 with 2,045 participants and again in 1993 with 4,237 participants. The participants rated their emotional responses and social distance in relation to the individual with schizophrenia from the vignette. Respondents with stronger personal experiences to mental illness reported an increased level of positive social responses, less desire for social distance, and lower levels of anxiety towards schizophrenia.

Likewise, Corrigan, Edwards, Green, Diwan & Penn (2001) found level of familiarity to be related to less stigmatizing attitudes and less instances of avoidance of individuals with a mental illness. Level of familiarity was measured by the completion of a Level of Contact Report and the Social Distance Scale. Hudes (2006) also found a relationship between level of familiarity with mental illness and attitudes towards an individual with schizophrenia. After the informational sessions, participants were administered the Knowledge Test (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999), the Attribution Questionnaire (Corrigan, Green, et al., 2001), the Level of Contact (LOC) Report (Holmes, et al, 1999), and a demographic questionnaire. Findings once again concluded that preexisting knowledge was correlated with less stigmatizing attitudes.

de Sousa, Marques, Curral, and Queirós (2012) used the AQ-27 in an exploratory study of 40 family members of individuals with schizophrenia. The level of stigma amongst family members and inner support systems of the individual with schizophrenia can lead to additional stigma and be harmful to the recovery and treatment process. Attributes with the highest scores included help, pity, and coercion. Contact with individuals with severe mental illness resulted in both positive and low levels of stigmatization amongst the sample. However, despite the increased level of familiarity, the participants reported high scores in coercion, pity and

segregation. The results call into question the influence of negative experiences on stigmatizing views when there is a high level of familiarity to mental illness.

Cultural Components

The Cultural Barrier Theory by Leong, Wagner, and Tata (1995) proposed that there are parts of Mexican American culture that prevents them from utilizing mental health services. However, more recent studies are starting to contradict cultural barrier theory as an explanation for the underutilization of mental health services by Mexican Americans (Chang, Natsuaki & Chen, 2013; Ramos-Sánchez & Atkinson, 2009). According to Rogler, Malgady, & Rodriguez (1989) some of the factors attributing to low usage of mental health services are low acculturation level and traditional Mexican values. Additionally, Mexican Americans may also use alternates to mental health services such as family or friend as well as the use of folk healers or other spiritual leaders (Zea, Quezada, & Belgrave, 1994). Therefore, it is important to study the impact of cultural factors such as acculturation and Mexican values has on the seeking and utilization of mental health services.

For Mexican Americans, transitioning between levels of acculturation has been found to have an impact on various health conditions. Mexican Americans who are recently changing from a more traditional cultural viewpoint to an increasingly modern style of living are associated with higher levels of health related issues (Bastida, Cuéllar, & Villas, 2001; Meyer, Patterson, & Dean, 2013; Sharkey, Dean, & Johnson, 2011; Zimmet, McCarty, & deCourten, 1997). A majority of mental health providers are of Anglo-Saxon origin which makes the process of seeking mental health services increasingly difficult for many Mexican Americans. Thus, Mexican Americans are most likely to not fully utilize mental health services and prefer to

seek assistance from family members and other important individuals such as priests (Prieto et al., 2001).

Ramos- Sánchez and Atkinson (2009) identified institutional barriers for Mexican Americans such as the lack of Spanish-speaking counselors, inadequate financial resources, location of mental health clinics outside of Latino/a communities, culturally irrelevant therapeutic approaches, and the lack of ethnically similar counselors. The low level of usage of mental health services can also be in part due the continuous identification of Mexican Americans with their indigenous culture as well as low levels of acculturation (Prieto et al., 2001). The level of acculturation of Mexican Americans also has a potentially negative and stressful impact on individuals and hampers the utilization of mental health services such as counseling where there continues to be a lack of availability of Hispanic and/or bilingual mental health providers.

Acculturative Stress

Acculturation is an important factor when measuring the mental health status of Mexican Americans (Rogler, Cortes & Malgady, 1991). Many studies have looked at the Mental Health Paradox that impacts many Mexican Americans. Horevitz & Organista's (2012) study found the following:

> The Mexican health paradox refers to initially favorable health and mental health outcomes among recent Mexican immigrants to the United States. The subsequent rapid decline in Mexican health outcomes has been attributed to the process of acculturation to U.S. culture. (p. 3).

At the start of a Mexican Americans time in the United States, this group of people seemed to be mostly immune to many of the effects of migration and poverty and have a lower mortality rate

than their white counterparts (Morales, Lara, Kington, Valdez, & Escarce, 2002). Acculturation to the United States culture could be a factor responsible for many health care issues for Mexican Americans (Abraido-Lanza, Armbrister, Florez, & Aguirre, 2006; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2004; Viruell-Fuentes, 2007).

The process of acculturation can increase the stress levels of immigrants especially in the areas of psychological distress from immigration, poverty, acculturation (Markides & Coreil, 1986; Rogler et al., 1989; Williams & Harris-Reid, 1999; Zsembik & Fennell, 2005), family and socioeconomic areas as well when attempting to socially belong (Cervantes, Padilla, Salgado de Snyder, 1991). Factors that contribute to the acculturative stress increase the need of mental health services while at the same time, there is evidence to suggest the under usage of services (Abreu & Sasaki, 2004; Keefe & Casas, 1978; Marín, Marin, Padilla, & De La Rocha, 1983; Mena et al., 1987; Reeves, 1986).

The levels of underutilization do not show a lack of need of mental health services but rather a higher proportion of underserviced minority groups such as Mexican Americans. Wu and Windle (1980) found the following:

> Members of ethnic minority groups are neither users of traditional psychotherapy nor purveyors of psychotherapy in anything like their proportion in the population…The pattern of usage should not be confused with levels of need or help-seeking for emotional problems. In general, ethnic minorities experience a higher proportion of poverty and social stressors typically regarded as antecedents of psychiatric and psychological disorders than Whites…Yet, in spite of the preponderance of these events in their lives, ethnic minorities are often underserved by high quality mental health resources (p. 552 553).

An increase of knowledge is needed about the impact of acculturation on Mexican Americans factors into the diagnosis, use and evaluation of the mental health care system (Prieto et al., 2001). The loss of Mexican culture from their country of origin and an increase in their generational status can assist in advancing their acculturation level (Ramos-Sánchez & Atkinson, 2009). The continuing increase in a loss of one's native culture leads to additional acculturative stress. There have been findings that relate acculturative stress to being more aligned to low usage of mental health services then the actual level of acculturation of an individual; yet, the latter is an issue needing additional research (Prieto et al., 2001).

In a study by Ramos-Sánchez and Atkinson (2009), the relationships between Mexican acculturation, cultural values, gender, and help-seeking intentions among Mexican American community college students suggested that as Mexican Americans become more acculturated the less favorable their attitudes are toward seeking help. The study suggests that Mexican Americans that recently immigrated, who are presumed to have a strong orientation toward the Mexican culture, responded with a stronger level of help seeking behavior than higher generation Mexican Americans (Ramos-Sánchez & Atkinson, 2009). The maintenance of one's culture of origin has a positive impact on the way some Mexican Americans may relate to mental health services. The cultural characteristic of respect towards authority figures has a positive impact on the receptiveness towards mental health services by less acculturated Mexican Americans (Gim, Atkinson, & Whiteley, 1990; Ramos-Sanchez et al., 1999; Ramos-Sánchez & Atkinson, 2009). A past study conducted by Parra (1985) completed phone interviews with 206 Mexicans and 118 Anglos employing an agree/disagree question format as well as a social distance scale. Results indicated there was little difference between the two groups with younger people and males being more tolerant of mental illness; however, acculturation was not used as a factor of study.

Institutional Barriers

Institutional barriers such as the availability and accessibility of mental health services impact Mexican American people. Factors of disparity include language barriers, socioeconomic factor and lack of health insurance. Particular institutional barriers are also causes of low utilization of mental health services by Mexican Americans. If an individual is less acculturated, they benefit from mental health professionals that practice cultural sensitivity. Mexican Americans whom are less acculturated will commonly be native Spanish speaking individuals without much familiarity with the English language and/or prefer to communicate in Spanish; thus, potentially creating difficulty with language and communication issues.

The language that an individual uses when in a clinical setting can alter the client's expression of emotions and feelings if not clearly understood by the clinician (Altarriba & Santiago-Rivera, 1994). For example, the individual's speaking their native Spanish language may tend to speak with additional affect and emotion which in turn would lead an Anglo clinician to relate the emotion to pathology rather than emotional expression. Newly acculturated Mexican American individuals that are using their newly acquired, non-native language may not express themselves in the same manner or as easily as in their native language. Due to language barriers, many newly acculturated individuals will experience a significant loss of verbal expression and the clinician may not have full communication due to this new language formation. This phenomenon has been documented both qualitatively from individuals in psychotherapy (Altarriba & Santiago-Rivera, 1994; Santiago-Rivera & Altarriba, 2002; Schrauf, 2000), and in laboratory studies (Anooshian & Hertel, 1994; Bond & Lai, 1986; Marian & Neisser, 2000). A study by Carmody (2005) used ethnicity as a factor in determining if the Beck Depression Inventory - Second Edition (BDI-II), a psychometric assessment, is acceptable for

use amongst ethnically diverse college students. A sample of 502 college students from diverse ethnic backgrounds such as African-American, Asian-American, Hispanic, Native-American, and White was administered the BDI-II. Researchers found that the BDI-II is an acceptable instrument for use on an ethnically diverse population after conducting a factor analyses. Students that identified themselves as White scored higher on items such as worthlessness and irritability. The ability to identify the particular needs of a culturally specific area assists in identifying the misconceptions between individuals with schizophrenia and the community studying the cultural aspects and their impact on identification, treatment and outcomes of individuals with schizophrenia (Lessenger, 1997) is important.

Additional issues that arise due to language acquisition are the usage of non-ethically sensitive instruments. A recent study by Lopez-Class, Castro, and Ramirez (2011) encourages not only using acculturation as a construct when examining mental health, but to use the acculturation construct to examine family and social influences, language, and identity over time. Level of acculturation was a factor in a study by Hosch et al. (1995) that reviewed the case file data of 100 male and 93 female Hispanics with schizophrenia. The patient's social support, treatment variables and factor of the therapist being Hispanic and speaking Spanish was analyzed. Findings revealed the older patients, higher level of family support, a Hispanic therapist, and/or a higher socioeconomic status are more likely to follow their medication regimen. There was also a relationship found between adherence to medication and the participants' level of acculturation. Velligan, True, Lefton, Moore, and Flores (1995) examined daily living cognitive functioning scores for 110 schizophrenic patients. The use of acculturation was a factor examined; however, there was no correlation found between the daily living functioning and acculturation level within the Mexican American group. Despite literary

cautions, there is a continuous use of mental health instruments that are not normed to Mexican Americans calling for a need of more ethnically sensitive assessments (Prieto et al., 2001).

The United States is heading to a major paradigm shift in the population and ethnic composition of the country that needs to be addressed due to the increase of the Mexican American population. The need for culturally appropriate assessments and mental health services are needed and necessary as the Mexican American population increases.

Acculturation

The acculturation phenomenon has become better understood during the twentieth century mainly due to research studies of Hispanics (Berry, 1980; Cuéllar, Arnold & Maldonado, 1995; Mendoza & Martinez, 1981; Mendoza, 1984; Mendoza, 1988). Acculturation is a construct seen as either being a process of a uni-dimensional direction spectrum (Gans, 1979; Gordon, 1964) or a bi-dimensional view of acculturation (Berry, 1980; Mendoza & Martinez, 1981; Ryder, Alden, & Paulhus, 2000). There are many definitions of acculturation with one of the most frequently cited definitions amongst researchers being:

> Acculturation is culture change that is initiated by the conjunction of two or more autonomous cultural systems. Acculturative change may be the consequence of direct cultural transmission; it may be derived from non-cultural causes, such as ecological or demographic modification induced by an impinging culture; it may be delayed, as with internal adjustments following upon the acceptance of alien traits or patterns; or it may be a reactive adaptation of traditional modes of life. (Barnett, 1954, p. 974)

However, there are many definitions and models of acculturation. For example, Chen, Unger, Cruz, and Johnson (1999) define acculturation as a "process by which an ethnic minority group takes on the norms, values, and culture of the mainstream group (e.g., the Caucasians in

the U.S.)." (p. 332). Lessenger (1997) defined acculturation as a three step tier which includes "acceptance, involving loss of the older culture; adaption, in which aspects of both cultures are combined; and reaction, wherein contra-accelerative movements arise" (p. 390).

According to Martin et al. (2007), "acculturation is defined as a process of culture learning and behavioral adaptation that takes place when individuals are exposed to a new culture" (p. 1290). An additional definition of acculturation is:

> …the process through which an individual's cultural models become increasingly divergent from the shared cultural models of their previous social group, and become increasingly similar to the cultural models held by members of the social group to which they have immigrated, through direct contact with members of this social group. (Broesch & Hadley, 2012, p. 376)

The definition of acculturation by Redfield, Linton and Herskovits (1936) is perhaps the most encompassing definition pertinent to this study:

> Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original patterns of either or both groups. (p. 149)

One acculturation theory created by Berry & Annis (1974) has been used to understand the process to which Mexican Americans acculturate by focusing on past experiences of minority groups. While the continuous influence of one group can affect the behavior and beliefs of another group, Berry noted that the more powerful group is the one in the position to have the most dominance on the smaller minority group. In fact, most commonly newcomers to a country will have no control over the acculturation strategy they choose (Berry, 1997). This lack of control over the process of acculturation can lead to a stress filled and conflicted state of

transition from the native country to the new residency. In addition, Berry and Kim (1988) suggest that individuals may lose important elements of their native culture that may not always be replaced by aspects from the new society.

Berry (2003) described the acculturation process as three main phases that consist of contact, conflict and adaption. Contact was described as the condition in which the majority and the minority group come together whether through immigration or refuge. Conflict was used to explain the tension between the majority and minority group as one attempts to be the dominate group until a compromise can be met. Lastly, Berry used the term adaption to describe the experiences that the minority group undergoes as they proceed through the various degrees of conflict. Berry used two questions, with "yes" and "no" answers, to determine the form of adaption that is being used by the ethnic minority group (See Table 2). Berry (1980) determined the forms of acculturation to have variations of adaptation which included the following four possibilities: assimilation, integration, rejection, and deculturation. Rejection and deculturation were later replaced with segregation and marginalization (Berry, 2003). The following are the two questions that Berry used for adaption:

1. Does the minority group attempt to retain its culture of origin?
2. Are positive relations possible between the minority and majority groups?

Table 2

Berry's Adaptation to Acculturation

Does the minority group attempt to retain its culture of origin?	Are positive relations possible between the minority and majority groups?	Type of adaptation being used.
No	Yes	Assimilation
Yes	Yes	Integration
Yes	No	Segregation
No	No	Marginalization

Source: Berry (2003).

Berry's acculturation model had both strengths and weaknesses. The capability of Berry's model is to recognize the very essence of multicultural societies and give the individuals a choice of how far into the acculturation process they seek to go (Padilla & Perez, 2003). In addition, Berry's model allows for the incorporation of the native language and the ability to go from the original culture group to the former group and vice versa. Berry's model did not fully encapsulate the process of acculturation for Mexican Americans which has "primarily involved voluntary immigration followed by domination, forced segregation and multiple forms of discrimination by the majority culture, as well as fairly high retention of Mexican culture" (Horevitz & Organista, 2013, p.13). Mexican Americans, especially amongst the Mexico-Texas border, tend to immigrate between the two countries often and the model by Berry does not fully incorporate this form of migration.

Mendoza and Martinez (1981) and Mendoza (1984) extended the work of Berry and proposed an inclusive model that delineates level of acculturation as well as acculturative types based on six premises.

1. Assessing acculturation involves measuring the interaction between at least two different cultures. Acculturation involves measuring the level of immersion to an alternate cultural customs and the retention of the native culture.
2. Four patterns of acculturation exist which include: *cultural resistance*, the active or passive acquisition or maintenance of cultural norms; *cultural shift*, substitution of alternate cultural norms for native norms; *cultural incorporation*, adaptation of cultural customs from alternate and native culture; *cultural transmutation*, mixture of native and alternate culture to create a unique third culture.

3. Acculturation is a multidimensional process that requires the measuring of more than one variable or a highly correlated cluster of variables.
4. Immigrants are multifaceted in their resistance towards various cultural activities resulting in a multifaceted profile, not a single acculturation score.
5. Acculturation is a dynamic process that changes due to social and psychological factors, time and exposure to the alternate culture.
6. Acculturation measures based on demographics (e.g., generation, SES, and educational level) are acceptable predictors of group trends not individual differences.

Cuéllar, Arnold & Maldonado (1995) presented the acculturation process as a multidimensional process similar to that of Mendoza and Martinez's (1981) and Berry (1980). One major criticism of past research of acculturation is the limited terms defining the acculturation process. Cuéllar et al. developed a process that has different levels of functioning that include affective, behavioral, and cognitive domains. The domains are defined as:

1. Behavioral domain- includes different types of behaviors (e.g. customs, foods, the music one chooses to listen or dance to, and verbal behavior or language) (Cuéllar, Arnold & Maldonado, 1995)
2. Affective domain- deals with emotions with cultural connections (e.g. the way a person feels about important aspects of identity, symbols that are loved or disliked, and the meaning one attaches to life itself) (Cuéllar, Arnold & Maldonado, 1995)
3. Cognitive domain-beliefs about male and female roles, ideas about the nature of illness, and fundamental values (Cuéllar, Arnold & Maldonado, 1995)

Acculturation impacts various parts of a person's identity and areas of functioning. The level of acculturation has significant impact on the behavioral, affective and cognitive aspects of

an individual (Cuéllar, Arnold & Maldonado, 1995). In recent years, there has been a significant shift in the view of acculturation in the Mexican American population; research has begun to study the cultural aspects of Mexican Americans in heterogeneity within the Mexican American cultural landscape (Padilla, 1995). Furthermore, acculturation has been seen as a way to study the variability of culture (Cuéllar, Arnold & Maldonado, 1995) as well as for finding similarities and correlations amongst different behaviors and health factors (Gonzalez & Cuéllar, 1983). Acculturation is a common variable when studying various behaviors and related factors such as values, beliefs and attitudes of Mexican Americans and other ethnicities (Marin, 1993).

Acculturation is a complex process that is now generally thought to be:

> A complex, multidimensional process that cannot be adequately described as linear movement from 'Mexican' to 'American,' but as involving multiple and distinct outcomes depending on individual, minority group-level, and minority-majority group relations and factors (Horevitz & Organista, 2013, p. 5).

There are a select few instruments that measure the complex construct of acculturation with a bi-dimensional scale that measures Mexican American and Anglo American culture as two separate entities (Cuéllar, Arnold & Maldonado, 1995; Marín & Gamba, 1996). Scales that measure bi-dimensional components of acculturation are important since Mexican Americans have generally had a different experience in their acculturation to the prominent culture of the United States.

Based on research by Cuéllar, Arnold & Maldonado (1995) that used a university student population in South Texas of Mexicans, Mexican Americans, and White non-Latinos, The Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) was designed to measure the construct of acculturation. The scale measures three main factors which include language,

ethnic identity, and ethnic interaction and represents five levels of generations. Cuéllar (2000) furthered his acculturation theory by describing the process as two different levels: the macro and the micro levels. The macro level includes the acculturation process in the large cultural sense which influences changes in cultural domains such as music and language. The micro level involves the cognitive and psychological factors that include domains such as values, behaviors and beliefs. Studies of various disorders have been completed using acculturation as a factor. A study by Cachelin, Phinney, Schug, & Striegel-Moore (2006) recruited 188 Mexican American women that were aged 18-48, not pregnant and were diagnosed with an eating disorder. The Acculturation Rating Scale for Mexican Americans–II (ARSMA-II) was used to assess the level of acculturation; findings showed orientation towards Anglo orientation was significantly associated with eating disorders.

An additional study by Cano & Castillo (2010) surveyed the acculturation level and distress symptoms amongst 214 Latina college students at two southern universities. Findings provided statistically significant predictors for distress and acculturation level with positive results. The Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) has also been used to assess acculturation, socioeconomic status, level, and the relationship to depression amongst first-year college students (Cuéllar & Roberts, 1997). Data derived from 1,271 Latino first-year college students found that assimilated Mexican Americans responded with significantly fewer symptoms of depression than less acculturated students.

According to Cuéllar, Roberts, Romero, and Leka (1999) there are several levels of change that an individual goes through during the acculturation process. Through the process, individuals will at times have more difficulty processing and adapting at the various levels. The level of stress is determinate on the level of dissonance between current values and those that are

part of the acculturation process. An individual can have a harder time adapting to certain changes during the acculturation process; for example, during changes in the value system an individual could encounter more stress. Cuéllar, Nyberg, Maldonado, & Roberts (1997) suggested that acculturation and ethnic identity are negatively related in terms of behaviors and attitude. The more an individual's acculturation level increases towards the majority culture the less they relate to the native culture.

The acculturative stress that individuals face can be decreased due to the cultural buffer hypothesis proposed by Hovey (2000). The cultural buffer hypothesis is based on research findings that suggests that particular aspects of traditional Latino culture, in particular the centrality of family, seem to buffer stressful life circumstances that lead to the poor health outcomes experienced by other groups of similarly low socioeconomic status. Current theories of acculturation criticize the cultural buffer theories that postulate that the Mexicans that come to the United States do so without any form of knowledge of the culture of the United States while keeping their own culture (Horevitz & Organista, 2013). These theories of acculturation continue to focus on the more typical characterizations of Mexican American cultural trends of traditional gender roles, the importance of family, the influence of religion and spirituality as opposed to the more modern categories of culture.

Hunt, Schneider & Comer (2004) delineated the modern culture to be one that stresses the importance of independence and being tolerable of risky behaviors such as promiscuousness and alcohol and drug abuse that are more prominent in the United States. This particular research study goes on to state that due to the technological advances of social media, networking and communication capabilities, borders are becoming obsolete and a new melting pot that is increasingly globalized is being created (Hunt, Schneider & Comer, 2004). Such

evidence is seen in studies such as Croyle (2007) and her study of self-reported self-harm amongst Hispanics. A sample of 255 non-Hispanic White and 187 Hispanic undergraduate students found the scale of Mexican orientation was negatively related to self-harm. The study suggests that less acculturation and a higher level of Mexican orientation could be a protective factor for self-harm and reducing the amount of stress in a person.

Due to the results of previous studies, there is a need for additional reseach on the influences and unique aspects of a multicultural area that is highly populated with Mexican Americans. Limited research has been focused on the study of acculturation as a valid and relevant factor in mental illness research. Finding factors that influence stigma of mental illness is important since an estimated 20% of the population in the United States will experience a diagnosable mental illness at some point in their lifetime (Kessler et al., 2005a). The discovery of factors that are relevant to a particular area, such as the LRGV, can promote stigma reduction and potentially increase the usage of mental health services.

CHAPTER III

METHODOLOGY

Proposal Focus of Research

This study is designed to examine the effects of acculturation on the level of stigma of Mexican American college students towards individuals with schizophrenia in the Lower Rio Grande Valley (LRGV) (N = 223). The LRGV, located on the border of Texas and Mexico, is an area that has a long history of high levels of disparity in regards to the utilization of mental health services. There is a lack of research studies focused on the unique characteristics and diverse culture that influences the level of stigma towards individuals with schizophrenia in a border town community. This study will explore how acculturation influences Mexican American college students' stigma and familiarity towards individuals with schizophrenia. Data was collected by surveying college students through a convenience sample at two separate southwestern Hispanic-Serving Institutions (HSIs) at the post-secondary level in the LRGV referred to as "Campus A" and "Campus B" for purposes of confidentiality. The purpose of the two sites was not for comparisons amongst the locations; rather, for a more varied representation of the LRGV through a convenience sample.

The instrumentation for the study was composed of an English language demographic questionnaire, The Acculturation Scale for Mexican-Americans-II (Cuéllar, Arnold & Maldonado, 1995), The Attribution Questionnaire (AQ-27) (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003), and The Level of Familiarity Scale (Corrigan, Edwards, et al., 2001).

The three questionnaires have a total of 68 items not including the demographic questions. The demographic questionnaire contained 10 multiple choice questions. The participants were recruited through classroom presentations based on prior approval from the instructors and took approximately 15- 30 minutes to complete. The survey process required access only one time as there was no follow-up nor pre and post-test methodology.

Data collection was completed during the Fall 2013 and Spring 2014 semesters and was concluded by mid-February 2014. Students were allowed to deny participation. There was no expectation or offering of extra credit or monetary payment to the participants by the Primary Investigator. If a student wished to not be a part of the study there was no loss of privilege. However, it can be noted that no students denied participation. There were minimal risks expected from the survey as the topics and questions did not include questions of citizenship status, sexual orientation and/or illegal activity that would render a negative perspective of the campus.

Selected students could be either studying to attain a certificate, associate's degree and/or transfer credits. Surveys that are collected were eliminated if the participant did not self-identify themselves as "Mexican", "Mexican American", and/or "Chicano" on item nine of the demographic survey. Information was safeguarded and kept anonymous; access to information continues to be only by the Primary Investigator with all possible means to keep information, responses and participation confidential.

Research Questions

The following research questions were investigated by quantitative method for this study: Correlational Research Questions

RQ1: To what degree does Level of Acculturation affect attitudes towards people with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley?

HØ1: There is a statistically significant relationship between Levels of Acculturation and attitude**s** towards individuals with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley**.**

Dependent variable: Attribution Factors (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion)

Independent Variable: Level of Acculturation **(**Level I – very Mexican oriented; Level II – Mexican oriented to approximately balance bicultural; Level III – Slightly Anglo oriented bicultural; Level IV – Strongly Anglo oriented; Level V – Very assimilated; Anglicized)

Group: Mexican American college students at two southwestern Hispanic-Serving Institutions (HSIs)

Statistical Analysis: One-Way ANOVA & Regression Analysis

RQ2: To what degree does Level of Familiarity affect attitudes towards people with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley?

HØ2: There is a statistically significant relationship between Level of Familiarity and the attitude**s** towards individuals with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley**.**

Dependent variable: Attribution Factors (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion)

Independent Variable: Level of Familiarity (most intimate contact with a person with mental illness, medium intimacy, little intimacy)

Group: Mexican American college students at two southwestern Hispanic-Serving Institutions (HSIs)

Statistical Analysis: One-way ANOVA

RQ3: To what degree does Level of Acculturation affect Level of Familiarity amongst Mexican American college students in the Lower Rio Grande Valley**?**

HØ3: There is a statistically significant relationship between Level of Familiarity status and the Level of Acculturation amongst Mexican American college students in the Lower Rio Grande Valley**.**

Dependent variable: Level of Familiarity (most intimate contact with a person with mental illness, medium intimacy, little intimacy)

Independent Variable: Level of Acculturation (Level I – very Mexican oriented; Level II – Mexican oriented to approximately balance bicultural; Level III – Slightly Anglo oriented bicultural; Level IV – Strongly Anglo oriented; Level V – Very assimilated; Anglicized)

Group: Mexican American college students at southwestern Hispanic-Serving Institutions (HSIs)

Statistical Analysis: Regression Analysis & Correlational Matrix

Key Research Question

RQ4: To what degree do demographic variables age, gender, socioeconomic status and educational level, level of familiarity and acculturation level affect attitudes towards people with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley**?**

HØ4: There will be a significant relationship between attitudes towards schizophrenia (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and demographic

variables age, gender, socioeconomic status, educational level, and level of familiarity and acculturation level amongst Mexican American college students in the Lower Rio Grande Valley**.**

Dependent variable: Attribution Factor (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion)

Independent Variable: Age, Gender, SES, Employment Status, Education Level, Acculturation Level, Level of Familiarity

Group: Mexican American college students at two southwestern Hispanic-Serving Institutions (HSIs)

Statistical Analysis: Multiple Regression Analysis

All hypotheses are to be tested at the significance level of α=0.05 (or equivalently, 5%).

Methodological Plan

This study employed a non-experimental design to examine the factors that influence the stigma of schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley. The study used a non-experimental design rather than a randomized control design due to an inability to manipulate or experimentally control variables. The variable of stigma is one that is naturally occurring and the relationship with the predictor variables is one that can be assessed. This research project utilized a conveniences sample of *N*=223 either studying to attain a certificate, associate's degree or were transfer students. College students were chosen as a sample due to previous success, reliability and validity of the instruments being normed to this population (Corrigan, Edwards, et al., 2001). The factors that were examined include the predictor variables of age, gender, socioeconomic status, employment status, educational level,

level of familiarity, and acculturation and the outcome variable of attributions related to stigma of schizophrenia.

Participant Inclusion Criteria

The inclusion criteria for this study included a status as an enrolled student at two separate southwestern Hispanic-Serving Institutions (HSIs) identified as Campus A or Campus B, who are 18 years of age or older, and self identifies as Mexican American. Participants were also required to speak, read and understand English at a minimum of a 6th grade level in order to complete the required demographic questionnaire and surveys. The exclusion criteria for this study included persons that did not self-identify as Mexican American, do not speak, and/or do not consent to the items on the consent form. The screening process for this study included checking for eligibility for participation in the study during the recruitment presentation.

Procedure for Informed Consent

After obtaining instructor permission, the Primary Investigator invited participants through brief presentations to the classes regarding the purpose of the study. The participants were provided with an informed consent form that was approved and required by the southwestern Hispanic-Serving Institutions (HSIs) Internal Review Boards. The informed consent form was provided to the participants with basic information about the study. The form also provided an explanation of the research process, the purpose of the study, the expected time commitment of participation, as well as the potential risks and benefits of participation. Additionally, the informed consent form outlined the accommodations that were made to ensure the process of confidentiality in reference to the participant's personal information will be maintained by the researcher. The participants were made aware that their participation was voluntary and there is to be no penalty in the event that they decide not to

participate in the study. This information was given to the participants in paper format as well as explained verbally. The informed consent form was presented for each participant to read and agree to prior to allowing participation in the present study. Surveys were completed and immediately returned to the Primary Investigator by being placed into a covered box. To maintain anonymity students were not asked for any identifying information except name and signature as required by the Internal Review Board for Campus B.

Analysis of Risk/Benefit

Potential Risk to Participants

This research project was deemed to carry minimal risk to the participants. One example of minimal risk that could result during participation in this study was discomfort in answering questions on stigma towards individuals with schizophrenia and acculturation. While all means to keep personal information confidential have been taken, there was a risk of loss of confidentiality. However, the researcher took all appropriate assurances to minimize and potentially delete the risk. The personal information provided on the surveys is safeguarded in a locked cabinet at the primary researcher's Ph.D. office. Items coded into SPSS were done so by not using participants' names; rather, the use of random number coding was employed.

Potential Benefits of Study

The participants were made aware of the possibility of their input on the surveys being used to benefit individuals with schizophrenia and to increase the ability to understand how mental health services can be better adapted to the Mexican American culture along the Texas-Mexico border. Due to the lack of research of border communities, the study provides valuable insight by having surveyed the population of the geographic location. Additionally, factors related to mental illness stigma such as the reasons for underutilization of mental health services,

the under reporting of schizophrenia in our area, and possible ways to assist Mexican Americans in treating the symptoms or deficits in their lives in a more culturally sensitive way. The study could also benefit the research community by contributing to the body of knowledge about stigma of serious mental disorders and the role of acculturation. Additional cultural insight can assist in reforming awareness programs and developing multicultural treatments.

Procedures for Maintaining Confidentiality

All items from the research process including, and not limited to, completed survey packets, SPSS document printouts, coding legend, informed consent forms and all other documents from this study with confidential information are in a locked file cabinet that is only be accessible by the Primary Investigator. The items are located and safeguarded in a locked cabinet at the primary researcher's Ph.D. office. All research and survey related information was processed in the researcher's personal computer with all files USB being encrypted and password protected in order to additionally provide and ensure confidentiality.

Data Collection

Participants

A power analysis was utilized to determine the adequate sample size needed to achieve 80% power in order to detect a medium effect size (0.3) at a significance level of .05. Sample size determination was based on a *t*-test while (See Table 3) considering relative small effect sizes which typically lead to larger sample size (O'Brien & Muller, 1993).

Table 3

Sample Size Calculation

	1	2	3	4	5	6
Test significance level, α	0.050	0.050	0.050	0.050	0.050	0.050
1 or 2 sided test?	2	2	2	2	2	2
Effect size, $\delta = \lvert\mu_A - \mu_0\rvert / \sigma$	0.20	0.250	0.300	0.250	0.300	0.300

Power (%)	80	80	80	90	90	92
n	199	128	90	171	119	128

*Based on Corrigan, Watson, Warpinski, & Gracia (2004)

Based on the calculation the target sample size initially was 128; however, taking into account the 90% Hispanic population would indicate 128/0.9=142. After accounting for a 30% attrition rate (e.g., missing answers) the sample size was calculated to be 142/ (1-0.3)=(*N*=202).

An estimated total of (*N*=223) college students from two separate southwestern Hispanic-Serving Institutions (HSIs) were selected for participation. The participants were recruited through classroom presentations based on prior approval from the course professor. Students were either studying to attain a certificate, associate's degree and/or transfer studies. Surveys collected were eliminated if the participant did not self-identify themselves as Mexican, Mexican American, and/or Chicano on item nine of the demographic questionnaire. The surveys were only available in English.

Procedures

This research was conducted at two Hispanic Serving southwestern Hispanic-Serving Institutions (HSIs) located on the Texas/Mexico border which reported having 87% or higher Hispanic populations on campus; this is significantly higher than the state average of 33% reported in 2002.

Campus A

Campus A was founded in 1993 by Texas Senate Bill 251 to serve the Starr and Hidalgo counties. Campus A had an enrollment of more than 30,000 students in 2011. In the FY 2009, Campus A was projected to service 16,098 students out of total population of Hidalgo County which was 630,458 with a distribution of 72% of the central Hidalgo county population. Campus A has a majority of their population of student body from the Pharr-McAllen-Edinburg

area. In 2012 Hispanics made up 95% of the total enrollment, 70% were classified as first generation college students, and 88% of students received some form of financial aid. In the fall of 2012, Hispanics constituted 27,532 of the total student enrollment of 29,812.

Campus B

Campus B is located in Cameron County and offers more than 50 degrees and certificates in many different areas of study. The campus had an enrollment of 5,853 students in fall of 2012. In the fall of 2012, Hispanics constituted 4,921 of the total student enrollment. According to Campus B, in the spring semester of 2012 Hispanics made up 87% of the total enrollment, 46% were classified as first generation college students, and 53% of students received were Pell Grant Eligible. The breakdown of students by gender for 2012 was reported as 53% females and 47% males.

Instrumentation

The initial survey instrument selection was accomplished through a review of the literature on topics such as stigma, social distance, acculturation, Hispanic population, beliefs and attitudes towards individuals with schizophrenia. Selected instruments were then examined for content validity, reliability, population the survey was normed with and past and current studies that used the surveys. Experts' reviews resulted in retention of the three surveys to scale the level of acculturation, attribution factors and level of familiarity.

Demographic Questionnaire

The demographic questionnaire contained 10 survey questions to measure demographic characteristics of the sample. Participants were reminded to not place any identifying information on the survey packet such as name or student identification number in order to maintain confidentiality. The personal information asked of participants included such

information as their age, gender, marital status, employment status, and household income. Information requested from participants in regards to educational background included questions regarding the highest degree or level of education, enrollment status, and program of study. There was a question to determine if the participants self-identified themselves as Hispanic and, more specifically, Mexican American. One question asked participants if they "know a person with schizophrenia." The information from the demographic questionnaire was used to gain information from the participants to be utilized for the descriptive analysis of the participants. A survey question regarding the participants' cultural background was essential to determine eligibility of the participant for the study at hand.

Acculturation Scale for Mexican-Americans-II (ARSMA-II)

The Acculturation Scale for Mexican-Americans-II (ARSMA-II) (Cuéllar, Arnold & Maldonado, 1995) is a bilingual survey with both English and Spanish version containing 48-items. The ARSMA-II has commonly been used to explore the effect of acculturation (Prieto et al., 2001). The ARSAM-II is the product of improvements and revisions to the original Acculturation Scale for Mexican Americans (ARSMA; Cuéllar, Harris, & Jasso, 1980). The ARSMA-II has made adjustments to improve the identification of bi-dimensional and orthogonal identifications (Cuéllar, Arnold & Maldonado, 1995). The scale is a self-rating format with a five point Likert scale that investigates the self-reported level of acculturation of the participants. The ARSMA-II measures acculturation along 3 primary factors: language, ethnic identity, and ethnic interaction. The Acculturation Scale for Mexican-Americans-II can be used as a tool to identify needs in a "culturally appropriate manner" (Lessenger, 1997). The scale was normed on 379 Mexican, Mexican American, and White Non-Hispanic university students who represented five generational levels (Cuéllar, Arnold & Maldonado, 1995).

The ARSMA-II is an orthogonal and multidimensional scale that measures orientation toward the Mexican culture. Thirteen survey questions measure the Anglo Orientation Subscale (AOS) with a coefficient alpha of .83; seventeen questions to obtain the Mexican Orientation Subscale (MOS) with a coefficient alpha of .88; the AOS subtracted from the MOS give the linear acculturation scores. Eighteen items make up the Marginality Scale (MARG) which has three subscales; the Anglo Marginality (ANGMAR) which comprise items 1-6; Mexican Marginality (MEXMAR) with items 6-12; and the Mexican American Marginality (MAMARG) of the final items 13-18. The subscales identify the amount of difficulty the participant has accepting those respective cultures.

The cutoff scores determine the level of acculturation for each of the participants and the levels are as follows: Level I – very Mexican oriented; Level II – Mexican oriented to approximately balance bicultural; Level III – Slightly Anglo oriented bicultural; Level IV – Strongly Anglo oriented; Level V – Very assimilated; Anglicized. The ARSMA-II is able to generate both linear acculturation categories (Levels I-V defined above) and orthogonal acculturative categories (Traditional, Low Biculturals, High Biculturals, and Assimilated). Items used a 5-point Likert-type scale which measure frequency and/or intensity ranging from not at all (1), very little or not very often (2), moderately (3), much or very often (4), and extremely often or almost all the time (5). Items on the ARSMA-II included on the Mexican orientated items include “I speak Spanish; I enjoy listening to Spanish language music; My thinking is done in Spanish.” Examples of items on the Anglicized items are “I speak English; I enjoy English language TV; I associate with Anglos.” Internal consistency was computed using Cronbach’s Alpha resulting in a coefficient of .87 indicating good internal consistency.

Scale 1 is a 30-item scale. The Anglo Orientation Subscale (AOS) includes 13 items (2, 4, 7, 9, 10, 13, 15, 16, 19, 23, 25, 27, 30) and the Mexican Orientation Subscale (MOS) includes 17 items (1, 3, 5, 6, 8, 11, 12, 14, 17, 18, 20, 21, 22, 24, 26, 28, 29). For each participant, the mean MOS score is calculated by taking the sum of the 17 items from the MOS scale and dividing the total by 17. The mean AOS score is calculated by taking the sum of the 13 items of the AOS and dividing the total by 13. A linear acculturation score is 24 and calculated for each subject by subtracting the mean MOS score from the mean AOS score. For the purpose of this study the linear acculturation score is used in computing acculturation level for each participant.

The acculturative categories on ARSMA-II are assigned based on the scores from the MOS and AOS (Cuéllar, Arnold & Maldonado, 1995). Examples of items on the MOS are "I speak Spanish; I enjoy listening to Spanish language music; My thinking is done in Spanish." Examples of items on the AOS are "I speak English; I enjoy English language TV; I associate with Anglos." Response categories to all items on ARSMA-II are based on a 5 point Likert scale which evaluates frequency and/or intensity (1= not at all; 2= very little or not very often, 3=moderately, 4= much or very often, and 5= extremely often or almost always). The criteria for determining the acculturative categories on the ARSMA-II is based on the obtained scores on the MOS and the AOS using the following cut-off scores as suggested by Cuéllar, Arnold & Maldonado (1995): very Mexican oriented (<–1.33); Mexican oriented to approximately bicultural (≥ –1.33 to ≤ –.07); slightly Anglo oriented bicultural (> –.07 to <1.19); strongly Anglo oriented (≥ 1.19 to <2.45); and very Assimilated (> 2.45).

Scale 2 includes 18 items and includes three subscales: Anglo Marginality (ANGMAR; items 1–6), Mexican Marginality (MEXMAR; items 7–12), and Mexican American marginality

(MAMARG; items 13–18). An overall marginality score is computed by summing the 18 items and subscale scores are the sum of the relevant six items.

The ARSMA-II has been found to have strong construct and concurrent validity as well as high convergent validity as measured by correlating acculturation scores from the original ARSMA with those scores derived from the ARSMA-II (Cuéllar, Arnold & Maldonado, 1995). ARSMA-II was correlated (r = .89) demonstrating concurrent validity. The correlation between acculturation and generational status was .61 and the mean differences between generations are significant, supporting the construct validity of ARSMA-II. Coefficient alphas and 1-week test–retest reliabilities for the scales were .83/.94 for Anglo Orientation Scale, .88/96 for Mexican Orientation Scale, .87/.78 for Marginality Scale, .90/.72 for Anglo Marginality Subscale, .68/.80 for Mexican Marginality Subscale, and .91/.81 for Mexican American Marginality Subscale

The internal reliability and test-retest reliability data for the ARSMA II are reported as follows:

Table 4

Internal and Test-Retest Reliability for the ARSMA-II

Scale	Internal	Test-Retest
AOS	.83	.94
MOS	.88	.96
MARG	.87	.78
ANGMAR	.90	.75
MEXMAR	.68	.80
MAMAR	.91	.81

Attribution Questionnaire (AQ-27)

The Attribution Questionnaire (AQ-27) (Corrigan, Markowitz, et al., 2003) is a 27-item survey developed to address 9 stereotypes of individuals with mental illness and serves as the measuring component for the predictors of stigma. There are multiple versions of this

questionnaire such as the 9 items (AQ-9); a short form for children (AQ-8-C); the family questionnaire (FQ); and in multiple languages such as Arab, English, German, Italian, Japanese, Polish and Spanish.

Corrigan, Markowitz, et al. (2003) developed the survey questions to address 9 stereotypes of individuals with mental illness: blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion. The nine constructs are:

1. Blame - people have control over and are responsible their mental illness and related symptoms.
2. Anger - irritated or annoyed because the people are to blame for their mental illness.
3. Pity - sympathy because people are overcome by their illness.
4. Help - the provision of assistance to people with mental illness.
5. Dangerousness - people with mental illness are not safe.
6. Fear - fright because people with mental illness are dangerous.
7. Avoidance - stay away from people with mental illness
8. Segregation - send people to institutions away from their community
9. Coercion - force people to participate in medication management or other treatments.

The questionnaire uses a vignette format with a prompt about a fictional character named "Henry" who is an individual diagnosed with schizophrenia. The questions use a 9-point Likert-type scale ranging from not at all (1) to very much (9) and measure the participants' level of agreement with the statements. The higher a score the more the participant agrees with the statement. The scale is reversed for items AQ7, AQ16, and AQ26. The scale has been found to have reliability and validity in identifying a person's attitudes and behaviors aimed towards a

person with mental illness. The score for the factors is summed by adding the questions in the following way:

1. Blame = AQ10+ AQ11 +AQ23
2. Anger = AQ1 + AQ4 + AQ12
3. Pity = AQ9 + AQ22 + AQ27
4. Help = AQ8 + AQ20 + AQ21 (Reverse score all three questions)
5. Dangerousness = AQ2 + AQ13 + AQ18
6. Fear = AQ3 + AQ19 + AQ24
7. Avoidance = AQ7 + AQ16 + AQ26 (Reverse score all three questions)
8. Segregation = AQ6 + AQ15 + AQ17
9. Coercion = AQ5 + AQ14 + AQ25

Internal consistency was computed using Cronbach's Alpha resulting in a coefficient of .82 indicating acceptable internal consistency. The AQ-27 is based on the stigmatizing assumptions and attitudes that impact individuals with serious mental illness. Individuals with serious mental illness are viewed as being personally responsible for their disabilities and dangerous. The AQ-27 is in accordance with previous research spanning four decades that supports the relationship between dangerousness, fear, and social avoidance (Feldman & Crandall, 2007; Penn et al., 1999; Stagnor & Crandall, 2000; Starr 1955). According to Corrigan, Rowan, et al. (2002), the "belief that persons with serious mental illness are dangerous is perhaps the most pernicious of stigmatizing attitudes about mental illness" (p. 307).

Table 5

Mean and Standard Deviations of AQ-27 Subscales

Factors	Mean	Standard deviation	Test–retest reliability
Responsibility	8.2	4.4	.55
Pity	18.8	5.6	.82
Anger	8.3	4.1	.64
Danger	12.0	5.2	.87
Fear	10.2	5.6	.86
No Help	9.7	5.7	.80
Coercion	17.1	4.1	.56
Segregation	9.8	5.3	.75
Avoidance	14.5	6.5	.78

Level of Familiarity (LOF)

The Level of Familiarity (Corrigan, Edwards, et al, 2001) is an 11-item survey that varies in the amount of familiarity of individuals with mental illness and is used to compute a familiarity score. The higher the level familiarity and positive experiences with individuals with mental illness assists in having an outcome of more positive perceptions and a decrease in the level of stigmatization. Corrigan, Green et al. (2001) identified the scope of intimacy and determined various levels of familiarity that at its most intimate has the impact of reducing stigma. Each item on the survey has a ranking order based on the intimacy of the item. The items are answered with a "yes" or a "no" response. The scale is scored based on the highest affirmative statement indicated by the participants and is based amongst the three main components as follows: 11= most intimate contact with an individual with schizophrenia, 7= medium intimacy with an individual with schizophrenia, and 1= little intimacy with an individual with schizophrenia (Corrigan, Edwards, et al., 2001). The level of familiarity is identified by a rank score which indicates a higher level of intimacy.

Table 6

Level of Intimacy Statements for the LOF Scale

Familiarity Statement	Level of Intimacy Score
I have watched a movie or television show in which a character depicted a person with mental illness.	3
My job involves providing services/treatment for persons with a severe mental illness.	7
I have observed, in passing, a person I believe may have had a severe mental illness.	2
I have observed persons with a severe mental illness on a frequent basis.	5
I have a severe mental illness.	11
I have worked with a person who had a severe mental illness at my place of employment.	6
I have never observed a person that I was aware had a severe mental illness.	1
A friend of the family has a severe mental illness.	8
I have a relative who has a severe mental illness.	9
I have watched a documentary on television about severe mental illness.	4
I live with a person who has a severe mental illness	10

CHAPTER IV

RESULTS AND FINDINGS

Demographic Descriptive Analysis

The data collection process took place over three months during the participants' Fall and/or Spring academic semesters. A total of 273 surveys were collected. However, those participants indicating a race or ethnicity other than Mexican American on item 9 of the demographic questionnaire (n = 50, 18.3%) were removed from the sample. This resulted in a total sample size of (N=223). The statistical software package used was SPSS 21.0. Of the Mexican American students 57.8% were female (n = 129) and 42.2% were male (n = 94). Participants' ages ranged from 18 to 62 with a mean age of 21.95 (SD = 4.45, n = 222). Age ranges was reported as 68.6% (n =*153*) 18-24 years of age, 20.2% (n = 45) 25-34 years of age, 5.4% (n = 12) 35-44 years of age, 3.1% (n = 7) 45-54 years of age, and 2.2% (n = *5*) 55-64 years of age. There was one person that did not report their age (0.4%). These statistics are reflective of the composition of the student body population at "Campus A" and "Campus B".

Employment status was reported as 43.9% (n = 98) employed or self-employed, 7.2% (n = 16) out of work, 2.2% (n = 5) a homemaker, 43.5% (n = 97) a student, 0.9% (n = 2) retired, and 1.8% (n = 4) as other. There was 1 person that did not report their work status (00.4%). A majority (n = 128, 57.4%) identified their income as less than $29,999, with 25.6% ($n$ = 57) reporting between $30,000 and $59,999, 11.7% ($n$ = 26) reporting between $60,000 and

$89,999, 3.6% (*n* = 8) reporting over $90,000. There were 4 participants (1.8%) that did not report an income level. Most participants indicated their marital status as never married (*n* = 160, 71.7%). Others identified as now married (*n* = 52, 23.3%), widowed (*n* = 1, 0.4%), divorced (*n* = 6, 2.7%), or separated (*n* = 4, 1.8%). Participants indicated ethnicity as Hispanic, Latino, or Spanish origin with a subcategory of Mexican, Mexican American, Chicano (*n* = 223, 100%).

In terms of post-secondary enrollment status, 65% (*n* = 145) were full-time and 34.5% (*n* = 77) part-time with one person not reporting enrollment status 0.4% (*n* = 1). For highest degree or level of school completed none of the participants reported the following: any diploma, Master's degree, professional degree, and/or Doctoral degree. The participants indicated their programs of study included arts and humanities (n = 9, 4.0%), business administration (n = 13, 5.8%), education (n = 19, 8.5%), engineering and computer science (*n* = 29, 13.0%), health science and human service (n = 68, 30.5%), science and math (n = 15, 6.7%), social and behavioral sciences (n = 7, 3.1%), credits for transfer(n = 52, 23.3%), and a small number who were undecided (*n* = 2, 0.9%). Nine participants (4.0%) did not answer this question. Participants reported educational level as high school graduate or equivalent (*n* = 66, 29.6%), some college credit; no degree (*n* = 145, 65.0%), Associate's degree (*n* = 11, 4.9 %), and Bachelor's degree (*n* = 1, .4%). Of the Mexican American students 80.7% did not know a person with schizophrenia (*n* = 180) and 19.3% knew a person with schizophrenia (*n* = 43).

Descriptive Analysis of Measures

The results below include descriptive statistics and demographic group comparisons on questions related to stigma of schizophrenia, level of acculturation, and reported level of familiarity amongst Mexican American college students.

Descriptive Analysis of ARSMA-II

Students self-reported their generational status in three categories based on the length of time since last immigration to the United States from Mexico. First generation Mexican Americans are defined as individuals who "were born in Mexico or other country." First generation Mexican Americans also had parents and grandparents who were born in Mexico and immigrated to the United States. Second generation Mexican Americans are defined as individuals who "were born in the USA; either parent born in Mexico or other country." Third generation Mexican Americans are individuals who "were born in the USA, both parents born in the USA and all grandparents born in Mexico or other country." Fourth generation Mexican Americans are individuals who both themselves and their parents were "born in the USA, and at least one grandparent born in Mexico or other country with remainder born in the USA." Fifth generation Mexican Americans are individuals who both themselves and their parents were "born in the USA, and all grandparents born in the USA." In this study 20 (9.0%) are self-reported as being first generation, 71 (31.8%) are second generation, 18 (8.1%) are third generation, 25 (11.2%) are fourth generation, and 28 (12.6%) are fifth generation. There were a total of 61 (27.4%) participants that failed to report a generational level on the questionnaire. Overall, the reported generational status (as measured by ARMA-II) among participants was 2nd generation status. In general, the majority of participants described themselves as being born in the USA with either parent born in Mexico or other country.

Table 7

Generational Level According to the ARSMA-II

Generational Level	Male	Female	Total (*n*=162)
1st Generation	9	11	20
2nd Generation	33	38	71
3rd Generation	9	9	18

4th Generation	6	19	25
5th Generation	11	17	28

Note: Based on *N*= 223 participants, with 61 missing data items, Adapted from Cuéllar, Arnold & Maldonado (1995)

The Acculturation Rating Scale for Mexican-Americans-II (ARSMA-II) was used to measure the acculturation level of the participants. The ARSMA-II was originally normed on Mexican, Mexican-American, and White non-Hispanic university undergraduate students with an average educational level of one to two years of college. Results of these tables demonstrate the appropriateness of the scale for use in the current study.

Table 8

Distributional Properties of ARSMA-II

	Original Study *N*=379		Current Study *N*=223			
Acculturation Scale	Mean	SD	Min.	Max.	Mean	SD
Anglo Orientation Subscale (AOS)	3.82	.57	2.15	5.00	3.92	0.48
Mexican Orientation Subscale (MOS)	3.28	.84	1.41	5.00	3.43	0.85
ARSMA Score	0.54*	1.26*	-2.38	3.43	0.49	1.02

Note: *scores were not reported by Cuéllar, Arnold & Maldonado (1995), these scores are derived from the available AOS and MOS mean scores and cutoff scores.

Analysis was conducted on the mean acculturation scores from the ARSMA-II and the current study for the purpose of examining the differences to the original study. As discussed in Chapter III, the acculturation score is obtained from the Anglo Orientation Subscale (AOS) and the Mexican Orientation Subscale (MOS) scores. The distributional properties (including minimum, maximum, mean, standard deviation) of the ARSMA-II scale were examined. The distributional properties of the ARSMA-II scale including the Anglo Orientation Subscale (AOS), Mexican Orientation Subscale (MOS) and total score are summarized in Table 8.

An analysis was conducted on the mean acculturation scores and standard deviations from the ARSMA-II (Cuéllar, Arnold, & Maldonado, 1995) and this current study to determine

if differences exist between the original sample and the current border community sample. As previously noted in Chapter 3, the difference between the Anglo Orientation Subscale (AOS) and the Mexican Orientation Subscale (MOS) comprise the acculturation score. Table 9 lists the AOS and MOS mean and standard deviation scores from the original study and the current study. In the original study, Cuéllar, Arnold & Maldonado (1995) did not report the acculturation score or standard deviation. Rather, the derived cutoff scores that resulted from them were reported as shown in Table 9. The mean of the acculturation cutoff scores is calculated as the difference between the AOS and MOS means reported (see table 9). Comparisons indicated that this sample had a relatively small difference of the mean (.05) acculturation score suggesting the instrument may be measuring the construct of acculturation similarly between the original and current sample population. Table 9 lists the AOS and MOS mean and standard deviation scores from both studies.

Table 9

Mean AOS, MOS, and Acculturation Scores of the ARSMA-II

	Original Study		Current Study	
	Mean	SD	Mean	SD
AOS	3.82	SD=.57	3.92	SD=.48
MOS	3.28	SD=.84	3.43	SD=.85
Acculturation Score	0.54*	SD=1.26*	0.49	SD=1.02

Note: *Acculturation Score = AOS (mean) – MOS (mean). Scores were not reported by Cuéllar, Arnold & Maldonado (1995) in the ARSMA-II article, these scores are derived from the available AOS and MOS mean scores and cutoff scores.

New acculturation levels were calculated through the same process outlined for the ARSMA-II levels by Cuéllar, Arnold & Maldonado (1995). Level I (Very Mexican Oriented) represents acculturation scores 1.5 standard deviations below the mean. Level II (Mexican Oriented to Approximately Balanced) represents acculturation scores between 1.5 and .5 standard deviations below the mean. Level III (Slightly Anglo Oriented Bicultural) represents

acculturation scores .5 standard deviations below and above the mean. Level IV (Strongly Anglo Oriented), represents scores in the range between .5 and 1.5 standard deviations above the mean. Level V (Very Assimilated; Anglicized) represents more than 1.5 standard deviations above the mean. Table 10 compares the original and current study cutoff scores used to calculate acculturation levels using the ARSMA-II.

Table 10

ARSMA-II Acculturation Levels and Cutoff Scores

Acculturation Level	Description	Original Scores	New Scores
Level I	Very Mexican	< -1.33	< -1.03
Level II	Mexican to Balanced Bicultural	≥ –1.33 to ≤ –.07	≥ –1.03 to ≤ –.02
Level III	Slightly Anglo Bicultural	> -.07 to < 1.19	> -.02 to < 1.00
Level IV	Strongly Anglo	≥ 1.19 to <2.45	≥ 1.00 to <2.01
Level V	Very Assimilated Anglicized	> 2.45	> 2.01

Note: *Acculturation Score = AOS (mean) – MOS (mean). Adapted from Cuéllar, Arnold & Maldonado (1995)

The ARSMA-II has 5 possible levels of acculturation defined by their cutoff scores (Table 9). There were 15 (6.7%) classified as a Level I (Very Mexican Oriented), 62 (27.8%) classified as a Level II (Mexican Oriented to Approximately Balanced), 79 (35.4%) classified as a Level III (Slightly Anglo Oriented Bicultural), 48 (21.50%) classified as a Level IV (Strongly Anglo Oriented), and 19 (8.5%) classified as a Level V (Very Assimilated; Anglicized) (see Table 11).

In general, the participants of this study reported mid-range acculturation levels as measured by the ARSMA-II. The mode score on this scale was Level 3 (Slightly Anglo Oriented Bicultural). The highest category had a total of 79 (35.4%) participants that scored in the Level III - Slightly Anglo Bicultural range > -.02 to < 1.00 on the ARSMA-II based on the new score range. Cumulative percentage showed a total of 220 (70.0%) of participants scored at or below the Level III - Slightly Anglo Bicultural range. The possible scores ranged from < -1.03

to > 2.01, where higher score indicates a higher level of acculturation. The descriptive results of the ARSMA-II for gender is reported (Table 11) with both 37 (39.4%) of the total males and 42 (32.6%) of the total females mostly scoring in the Level III (Slightly Anglo Bicultural) range. Scores were normally distributed around the center of the scale for level of acculturation.

Table 11

Acculturation Level by Gender for the ARSMA-II

	Male (*n*=94)		Female (*n*=129)		Total (*N*=223)	
Acculturation Level	*n*	%	*n*	%	*n*	%
Level I - Very Mexican	3	3.2%	12	9.3%	15	6.7%
Level II - Mexican to Balanced Bicultural	24	25.5%	38	29.5%	62	27.8%
Level III - Slightly Anglo Bicultural	37	39.4%	42	32.6%	79	35.4%
Level IV - Strongly Anglo	19	20.2%	29	22.5%	48	21.5%
Level V - Very Assimilated; Anglicized	11	11.7%	8	6.2%	19	8.5%

Note: Based on *N*= 223 participants, Adapted from Cuéllar, Arnold & Maldonado (1995)

Reliability Test for ARSMA-II

The ARSMA-II survey was employed to measure different, underlying constructs. The AOS (Anglo Orientation Subscale) and MOS (Mexican Orientation Subscales) were tested in order to calculate the Cronbach's alpha value. One construct, AOS (Anglo Orientation Subscale), consisted of thirteen questions while the other MOS (Mexican Orientation Subscales) consisted of seventeen questions. Higher values of Cronbach's alpha are better and constitutes a good level of internal consistency differs, although recommended values are 0.7 or higher (DeVillis, 2003; Kline, 2005). The AOS (Anglo Orientation Subscale) was found to have a Cronbach's alpha (α) of .694, which is approaching a high level of internal consistency for the scale. The MOS (Mexican Orientation Subscales) was found to have a Cronbach's alpha (α) of .909, which indicates a high level of internal consistency for the scale. Overall, the scale had a high level of internal consistency, as determined by a Cronbach's alpha. In addition, when each scale's alpha coefficient was calculated with each item deleted all alpha coefficients remained high (greater

than .694 for the AOS) and greater than .909 for the MOS scale suggesting that no scale would be improved by deleting any items. The AOS and MOS subscales, the items that compose them, scale and item means and standard deviations, and Cronbach alpha coefficients are detailed in Table 12.

Table 12

Means and Standard Deviations of Items on ARSMA-II

Item	Mean	*SD*
Anglo Orientation Subscale (Cronbach α= .694)	3.92	.48
A2. I speak English	4.77	.550
A4. I associate with Anglos	3.49	1.280
A7. I enjoy listening to English language music	4.63	.739
A9. I enjoy English language TV	4.68	.666
A10. I enjoy English language movies	4.85	.413
A13. I enjoy reading (e.g., books in English)	3.98	1.207
A15. I write (e.g., letters in English)	4.32	1.017
A16. My thinking is done in the English language	4.60	.812
A19. My contact with the USA has been	4.83	.501
A23. My friends, while I was growing up, were of Anglo origin	2.71	1.205
A25. My friends now are of Anglo origin	2.72	1.109
A27. I like to identify myself as an Anglo American	1.77	1.164
A30. I like to identify myself an American	4.11	1.246
Mexican Orientation Subscale (Cronbach α= .909)	3.43	.85
A1. I speak Spanish	3.73	1.247
A3. I enjoy speaking Spanish	3.67	1.315
A5. I associate with Mexican and/or Mexican Americans	4.55	.705
A6. I enjoy listening to Spanish language music	3.50	1.391
A8. I enjoy Spanish language TV	2.94	1.511
A11. I enjoy Spanish language movies	2.93	1.481
A12. I enjoy reading (e.g., books in Spanish)	2.28	1.423
A14. I write (e.g., letters in Spanish)	2.49	1.520
A17. My thinking is done in the Spanish language	2.61	1.470
A18. My contact with Mexico has been	2.60	1.284
A20. My father identifies or identified himself as “Mexicano”	3.67	1.587
A21. My mother identifies or identified herself as “Mexicana”	3.69	1.547
A22. My friends, while I was growing up, were of Mexican origin	3.76	1.205
A24. My family cooks Mexican foods	4.62	.703
A26. My friends now are of Mexican origin	3.98	1.022
A28. I like to identify myself as a Mexican American	4.22	1.144
A29. I like to identify myself as a Mexican	3.53	1.523

Note: Range of scale is 1 (not at all) to 5 (extremely often or almost always).

Crosstabulation for ARSMA-II

In order to determine whether there is a significant positive relationship between generational status and acculturation level, two separate analyses were conducted, as well as a crosstabulation summary (Table 13). First, a Pearson product moment correlation was run to determine the relationship between the five generational statuses (first generation, second generation, third generation, fourth generation, and fifth generation) and five linear acculturation levels (Level I - Very Mexican Oriented, Level II - Mexican Oriented to Balanced Bicultural, Level III - Slightly Anglo Oriented Bicultural, Level IV - Strongly Anglo Oriented, and Level V- Very Assimilated, Anglicized). The data showed no violation of normality, linearity or homoscedasticity. The results indicated a significant correlation at the $p < .05$ level ($r =. 592$, $n = 162$, $p < .0005$); therefore, there is a significant positive relationship showing that as generational status increases, acculturation level also increases supporting the construct validity of the ARSMA-II.

Table 13

ARSMA-II Acculturation Levels and Generational Status Crosstabulations

	Generation Level				
	1st Generation	2nd Generation	3rd Generation	4th Generation	5th Generation
Level I - Very Mexican Oriented	8 (72.7%)	3 (27.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Level II - Mexican Oriented to approximately balanced Bicultural	8 (23.5%)	23 (67.6%)	1 (2.9%)	1 (2.9%)	1 (2.9%)
Level III - Slightly Anglo Oriented Bicultural	2 (3.3%)	33 (54.1%)	9 (14.8%)	9 (14.8%)	8 (13.1)
Level IV - Strongly Anglo oriented	2 (4.8%)	10 (23.8%)	6 (14.3%)	15 (35.7%)	9 (21.4%)
Level V - Very Assimilated; Anglicized	0 (0.0%)	2 (14.3%)	2 (14.3%)	0 (0.0%)	10 (71.4%)
Total	20 (12.3%)	71 (43.8%)	18 (11.1%)	25 (15.4%)	28 (17.3%)

Note: N=162 due to missing items.

Descriptive Analysis of Attribution Questionnaire (AQ-27)

The stereotypes/dimensions of the AQ-27 with the highest overall mean scores were pity and coercion, whereas anger, help, responsibility, and segregation presented lower scores (Table 14). Coercion was the construct with the highest scores: "If I were in charge of Harry's treatment, I would require him to take his medication" had most responses close to the maximum score with a mean of 7.80 and had a 9 as a maximum score. Items related to coercion and avoidance also scored high, especially "How much concern would you feel for Harry" and "I would share a car pool with Harry every day." The pity construct showed high mean values for "How much sympathy would you feel for Harry?" and "How much concern would you feel for Harry? The item with the lowest score was in the responsibility construct, namely, "I would think that it was Harry's own fault that he is in the present condition," with a mean score of 1.59. The stereotypes/dimensions of the AQ-27 with the highest overall mean scores were pity, coercion, and avoidance whereas anger, help, segregation and responsibility presented lower scores (Table 15). Mean results obtained for each item/statement comprising the AQ-27 are presented in Table 15.

Table 14

Means Obtained per Attribution on the AQ-27

AQ-27 Attribution	Min	Max	Mean	*SD*
Anger	1.00	6.67	2.56	1.45
Dangerousness	1.00	9.00	4.03	1.94
Fear	1.00	9.00	3.55	2.03
Coercion	1.00	9.00	5.71	1.58
Segregation	1.00	9.00	3.38	1.83
Avoidance	1.00	9.00	4.66	1.85
Help	1.00	8.67	3.05	1.69
Pity	1.33	9.00	5.77	1.69
Responsibility	1.00	7.00	3.43	1.39

Note: Based on *N*= 223 participants. Max = maximum; Min = minimum; *SD* = standard deviation. Adapted from Corrigan, Markowitz, et al. (2003)

Table 15

Means and Standard Deviations Obtained on AQ-27 items

AQ-27 Item	Min	Max	Mean	*SD*
Anger (Cronbach α= .775)				
I would feel aggravated by Harry.	1	9	2.83	1.93
How angry would you feel at Harry?	1	9	2.03	1.51
How irritated would you feel by Harry?	1	9	2.84	1.81
Avoidance (Cronbach α= .662)				
If I were an employer, I would interview Harry for a job.	1	9	4.18	2.46
I would share a car pool with Harry every day.	1	9	5.51	2.27
If I were a landlord, I probably would rent an apartment to Harry.	1	9	4.32	2.42
Coercion (Cronbach α= .518)				
If I were in charge of Harry's treatment, I would require him to take his medication.	1	9	7.80	1.93
How much do you agree that Harry should be forced into treatment with his doctor even if he does not want to?	1	9	5.71	2.39
If I were in charge of Harry's treatment, I would force him to live in a group home.	1	9	3.66	2.28
Dangerousness (Cronbach α= .810)				
I would feel unsafe around Harry.	1	9	4.29	2.45
How dangerous would you feel Harry is?	1	9	4.37	2.25
I would feel threatened by Harry.	1	9	3.44	2.14
Fear (Cronbach α= .898)				
Harry would terrify me.	1	9	3.32	2.23
How scared of Harry would you feel?	1	9	3.66	2.24
How frightened of Harry would you feel?	1	9	3.68	2.22
Help (Cronbach α= .788)				
I would be willing to talk to Harry about his problems.	1	9	3.01	2.16
How likely is it that you would help Harry?	1	9	2.82	1.86
How certain would you feel that you would help Harry?	1	9	3.34	2.08
Pity (Cronbach α= .562)				
I would feel pity for Harry.	1	9	4.65	2.51
How much sympathy would you feel for Harry?	1	9	6.08	2.26
How much concern would you feel for Harry?	1	9	6.61	2.19
Responsibility (Cronbach α= .374)				
I would think that it was Harry's own fault that he is in the present condition.	1	9	1.59	1.43
How controllable, do you think, is the cause of Harry's present condition?	1	9	4.70	2.23
How responsible, do you think, is Harry for his present condition?	1	9	4.04	2.51
Segregation (Cronbach α= .776)				
I think Harry poses a risk to his neighbors unless he is hospitalized.	1	9	3.80	2.22
I think it would be best for Harry's community of he were put away in a psychiatric hospital.	1	9	3.22	2.27
How much do you think an asylum, where Harry can be kept away from his neighbors, is the best place for him?	1	9	3.17	2.13

Note: Based on *N*= 223 participants. Max = maximum; Min = minimum; *SD* = standard deviation. Adapted from Corrigan, Markowitz, et al. (2003)

Reliability Test for AQ-27

The AQ-27 survey was employed to measure different, underlying attributions of stigma. The various subscales of anger, avoidance, blame, coercion, dangerousness, fear, help, pity and segregation were tested in order to calculate the Cronbach's alpha value. All nine attributes consisted of three questions per item. Higher values of Cronbach's alpha constitute a good level of internal consistency differs, although recommended values are 0.7 or higher (DeVillis, 2003; Kline, 2005). The attribution of fear was found to have a Cronbach's alpha (α) of .898, which indicates a high level of internal consistency for the scale. (Table15) Overall, the scale had a high level of internal consistency, as determined by a Cronbach's alpha. The AOS and MOS subscales, the items that compose them, scale and item means and standard deviations, and Cronbach alpha coefficients are detailed in Table 15.

Descriptive Analysis of Level of Familiarity (LOF)

The reported scope of familiarity with mental illness amongst the participants was relatively high. The average score on the LOF was 6.41 (*SD* = 2.57, Possible Range = 0-11) with higher scores being related to more intimate experiences with individuals with mental illness on the part of the participant. Participants were instructed to place a check mark next to all of the statements on the 11-item list that represented their experience with individuals with schizophrenia. The rank score of the most intimate situation indicated by the participant determined their level of familiarity score. For example, a research participant who checked three situations from the list—"I have worked with a person who had a severe mental illness at my place of employment." (rank order score =6), "I have watched a movie or television show in which a character depicted a person with mental illness." (rank order score = 3), and "I have a severe mental illness" (rank order score = 11)—would receive a score of 11 because "I have a

severe mental illness" is the most intimate of the situations checked by the participant. The level of familiarity rankings per item are shown in Table 16. The level of familiarity statement participants most indicated representative of their experiences with individuals with mental illness was "I have watched a movie or television show in which a character depicted a person with mental illness" (rank order score = 3), with 91.5% (*n* = 204). The level of familiarity statement participants least indicated representative of their experiences with individuals with mental illness was "I have a severe mental illness" (rank order score = 11), with 3.1% (*n* = 7). The frequencies for rank scores are shown in Table 17.

Table 16

Level of Familiarity per Item

Rank Score	Level of Familiarity Statement	No		Yes	
		n	%	n	%
1	I have never observed a person that I was aware had a severe mental illness.	184	82.5	39	17.5
2	I have observed, in passing, a person I believe may have had a severe mental illness.	60	26.9	163	73.1
3	I have watched a movie or television show in which a character depicted a person with mental illness.	19	8.5	204	91.5
4	I have watched a documentary on television about severe mental illness.	59	26.5	164	73.5
5	I have observed persons with a severe mental illness on a frequent basis.	136	61.0	87	39.0
6	I have worked with a person who had a severe mental illness at my place of employment.	179	80.3	44	19.7
7	My job involves providing services/treatment for persons with a severe mental illness.	196	87.9	27	12.1
8	A friend of the family has a severe mental illness.	152	68.2	71	31.8
9	I have a relative who has a severe mental illness.	154	69.1	69	30.9
10	I live with a person who has a severe mental illness.	211	96.6	12	5.4
11	I have a severe mental illness.	216	96.9	7	3.1

Note: Based on *N*= 223 participants.

The rank score of nine (24.7%, *n =55*) was the indicated as the most frequent highest rank score with an associated statement of "I have a relative who has a severe mental illness." The rank score of four (22.4%, *n =50*) was the indicated as the second most frequent highest rank score with an associated statement of "I have watched a documentary on television about severe mental illness."

Table 17

Highest Rank on Level of Familiarity (LOF)

Rank Score	Level of Familiarity Statement		
		n	%
0	No items checked.	3	1.3%
1	I have never observed a person that I was aware had a severe mental illness.	3	1.3%
2	I have observed, in passing, a person I believe may have had a severe mental illness.	1	0.4%
3	I have watched a movie or television show in which a character depicted a person with mental illness.	17	7.6%
4	I have watched a documentary on television about severe mental illness.	50	22.4%
5	I have observed persons with a severe mental illness on a frequent basis.	23	10.3%
6	I have worked with a person who had a severe mental illness at my place of employment.	15	6.7%
7	My job involves providing services/treatment for persons with a severe mental illness.	11	4.9%
8	A friend of the family has a severe mental illness.	30	13.5%
9	I have a relative who has a severe mental illness.	55	24.7%
10	I live with a person who has a severe mental illness.	8	3.6%
11	I have a severe mental illness.	7	3.1%

Note: Based on *N*= 223 participants.

For purposes of statistical analysis, the rank scores from the Level of Familiarity Scale was categorized into three levels: most intimate contact with a person with mental illness , medium intimacy, and little intimacy for ordering observations from low to high. The cut-off scores were little intimacy (rank order score = 0-4), medium intimacy (rank order score = 5-8), and most intimate contact with a person with mental illness (rank order score = 9-11). See table 18 for the categorical descriptive. The three categories were relatively equal with medium intimacy being the most reported with 79 (35.4%) participants.

Table 18

Categories for Level of Familiarity (LOF)

Level of Familiarity Statement	Score Range	*n*	%
Little intimacy	0-4	74	33.2%
Medium intimacy	5-8	79	35.4%
Most intimate	9-11	70	31.4%

Note: Based on *N*= 223 participants.

Cumulative Descriptive Results

The cumulative descriptive results of the Acculturation Scale for Mexican-Americans-II (ARSMA-II) and the Level of Familiarity (LOF) are presented in Table 19.

Table 19

Overall Mean Scores obtained on the ARSMA-II and LOF

	Mean	*SD*	Possible Range
ARSMA-II	.4894	1.0249	I-V
LOF	6.41	2.570	1-11

Note: Based on *N*= 223 participants.

Measures of Stigma Attributes and Acculturation Level

A one-way analysis of variance and a linear regression analysis were used to examine if there is a statistically significant relationship between levels of acculturation and the subscales of the Attribution Questionnaire (AQ-27). It is expected that higher the level of acculturation is related to more favorable perceptions of people with schizophrenia.

One-Way AVOVA

A one-way ANOVA was conducted to evaluate the relationship between acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and participants' ratings of attribution factors associated with stigma as measured with the Attribution Questionnaire (AQ-27). It is expected that higher the level of acculturation is related to more favorable perception of people with schizophrenia. The independent variable, acculturation levels, included five groups: Level I - Very Mexican oriented (*n*=15); Level II - Mexican oriented to approximately balance bicultural (*n*=62); Level III - Slightly Anglo oriented bicultural (*n*=79); Level IV - Strongly Anglo oriented (*n*=48); and Level V - Very assimilated; Anglicized (*n*=19). The dependent variable was the overall rating of negative attributions

associated with mental illness, which includes: blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion.

There were no outliers, as assessed by boxplot; data was normally distributed for each group, as assessed by Shapiro-Wilk test ($p > .05$); and there was homogeneity of variances, as assessed by Levene's test of homogeneity of variances (See Table 20) for blame ($p = .148$), anger ($p = .947$), pity ($p =. 648$), help ($p =.330$), dangerousness ($p = .459$), fear ($p = .439$), avoidance ($p = .610$), segregation ($p = . 789$), and coercion ($p = . 092$).

Table 20

Test of Homogeneity of Variance - Grouped by Attribute

	Levene Statistic	df1	df2	Sig.
Blame	1.713	4	218	.148
Anger	.183	4	218	.947
Pity	.621	4	218	.648
Help	1.158	4	218	.330
Dangerousness	.909	4	218	.459
Fear	.945	4	218	.439
Avoidance	.675	4	218	.610
Segregation	.428	4	218	.789
Coercion	2.025	4	218	.092

There were no statistically significant differences between different levels of acculturation levels and the attribution factors of blame, anger, pity, help, dangerousness, fear, avoidance, nor segregation (See Table 21). Due to lack of significant results, the null hypothesis cannot be rejected for these attributes. The level of acculturation did not have statistically significant relationship to the attribution factors.

However, the strength of the relationship between acculturation level and the attribution factors coercion was found to have statistical significance. The attribution factor of coercion was statistically significantly different between different levels of acculturation level, $F(4,218) =$

2.502, $p < .05$. The coercion attribution score decreased from Level I – very Mexican oriented ($M = 6.67$, $SD = 1.77$); Level II - Mexican oriented to approximately balance bicultural ($M = 5.92$, $SD = 1.28$); Level III - Slightly Anglo oriented bicultural ($M = 5.66$, $SD = 1.65$); to Level IV - Strongly Anglo oriented ($M = 5.35$, $SD = 1.73$); with a slight increase in Level V - Very assimilated; Anglicized ($M = 5.42$, $SD = 1.49$) acculturation levels in that order.

Tukey post-hoc analysis revealed that the mean decrease from Level I – very Mexican oriented to Level IV - Strongly Anglo oriented (1.32, 95% CI [.04, 2.59]) was statistically significant ($p = .039$) but no other group differences were statistically significant. (See Table 21). Due to excessive ANOVA's, a Bonferroni post-hoc tests were run to correct for alpha loading. Post hoc analysis to the One-Way ANOVA consisted of conducting pairwise comparisons to finding which acculturation level affected score for the attribute coercion most strongly. Tests of the pairwise comparison were conducted using Bonferroni adjusted alpha levels of .05 divided by 5 or .01 level. The acculturation levels were not significantly different from each other.

Table 21

ANOVA of Strands When Grouped by Attribute

	Source	*SS*	*df*	*MS*	*F*	Sig.
Blame	Between Groups	16.984	4	4.246	2.244	.065
	Within Groups	412.506	218	1.892		
	Total	3062.882	223			
Anger	Between Groups	3.677	4	.919	.429	.788
	Within Groups	467.309	218	2.144		
	Total	1936.281	223			
Pity	Between Groups	18.944	4	4.736	1.675	.157
	Within Groups	616.423	218	2.828		
	Total	8066.033	223			
Help	Between Groups	2.789	4	.697	.240	.915
	Within Groups	633.008	218	2.904		
	Total	2713.062	223			
Dangerousness	Between Groups	11.278	4	2.819	.744	.563
	Within Groups	825.626	218	3.787		
	Total	4468.464	223			
Fear	Between Groups	28.549	4	7.137	1.747	.141
	Within Groups	890.415	218	4.084		
	Total	3733.441	223			
Avoidance	Between Groups	7.400	4	1.850	.533	.712

	Within Groups	756.972	218	3.472		
	Total	5617.208	223			
Segregation	Between Groups	22.439	4	5.610	1.694	.152
	Within Groups	721.765	218	3.311		
	Total	3302.402	223			
Coercion	Between Groups	24.585	4	6.146	2.502	.043
	Within Groups	535.530	218	2.457		
	Total	7834.713	223			

The 95% confidence intervals for the pairwise differences, as well as the means and standard deviation for the three acculturation level groups, are reported in Table 22.

Table 22

95% Confidence Interval of Pairwise Differences in Mean Changes in Acculturation Level

	M	*SD*	Level I	Level II	Level III	Level IV	Level V
Coercion							
Level I - Very Mexican oriented	6.67	.40				-2.91 to .27	-2.97 to.47
Level II - Mexican oriented to approximately balance bicultural	5.92	.20	-.78 to 2.27		-.96 to .44		
Level III - Slightly Anglo oriented bicultural	5.66	.18	-.53 to 2.55	-.44 to .96		-1.20 to .58	
Level IV - Strongly Anglo oriented	5.35	.23	-.27 to 2.91	-.28 to 1.43	-.58 to 1.20		-1.18 to 1.32
Level V - Very assimilated; Anglicized	5.42	.36	-.47 to 2.97	-.65 to 1.65	-.93 to 1.41	-1.32 to 1.18	

Note: Dunnett's procedure tested at 95%.

Taken together, the results of the one-way ANOVA suggests that levels of acculturation have an effect on one of the attributes associated with mental illness stigma for the population surveyed. Specifically, the results suggest, for the population surveyed, as a person has a higher acculturation level, they have a more positive attitudes and more positive perceptions of people with schizophrenia for the attribute coercion. There was a statistically significant difference between means for the attribute coercion ($p < .05$) and therefore we can reject the null hypothesis and accept the alternative hypothesis.

One-Way AVOVA for Collapsed ARSMA-II

For purposes of further statistical analysis, the acculturation levels from the Acculturation Rating Scale-II (ASMA-II) were collapsed into three levels: Level I - Very Mexican Oriented, Level/Mexican Oriented to Balanced Bicultural, Level II - Slightly Anglo Oriented Bicultural, and Level III- Strongly Anglo Oriented /Very Assimilated, Anglicized. See Table 23 for the categorical descriptive.

Table 23

Collapsed Categories for ARSM-II

Collapsed Acculturation Level	*n*	%
Level I - Very Mexican Oriented, Level/Mexican Oriented to Balanced Bicultural	77	34.5%
Level II - Slightly Anglo Oriented Bicultural	79	35.4%
Level III- Strongly Anglo Oriented /Very Assimilated, Anglicized	67	30.0%

Note: Based on *N*= 223 participants.

A one-way ANOVA was conducted to evaluate the relationship between acculturation level and attribution factors associated with stigma. The independent variable, acculturation level, included three collapsed groups: Level I – very Mexican oriented /Mexican oriented to approximately balance bicultural (*n*=77); Level II – Slightly Anglo oriented bicultural (*n* =79); Level III – Strongly Anglo oriented / Very assimilated; Anglicized (*n* =67). The dependent variable was the overall rated of negative attributions associated with mental illness, which included blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) were different for groups with different acculturation levels. There were no outliers, as assessed by boxplot; data was normally distributed for each group, as assessed by Shapiro-Wilk test ($p > .05$); and there was homogeneity of variances, as assessed by Levene's test of homogeneity of variances (See Table 24) for blame ($p = .181$), anger ($p = .707$), pity ($p =. 216$), help ($p =.504$),

dangerousness (p = .589), fear (p = .903), avoidance (p = .816), segregation (p = . 663), and coercion (p = . 146).

Table 24

Test of Homogeneity of Variance - Grouped by Attribute

	Levene Statistic	df1	df2	Sig.
Blame	1.722	2	220	.181
Anger	.347	2	220	.707
Pity	1.543	2	220	.216
Help	.687	2	220	.504
Dangerousness	.530	2	220	.589
Fear	.102	2	220	.903
Avoidance	.203	2	220	.816
Segregation	.412	2	220	.663
Coercion	1.941	2	220	.146

There were no statistically significant differences between different levels of acculturation levels and the attribution factors of anger, $F(2,220) = .517$, $p = .597$; pity, $F(2,220) = 1.954$, $p = .144$; help, $F(2,220) = .139$, $p = .870$; dangerousness, $F(2,220) = .965$, $p = .383$; fear, $F(2,220) = 2.065$, $p = .129$; or avoidance, $F(2,220) = .418$, $p = .659$.

However, the strength of the relationship between acculturation level and the attribution factors of blame, segregation and coercion were found to have statistical significance. The attribution factor of blame was statistically significantly different between different levels of acculturation level, $F(2,220) = 4.086$, $p < .05$. The blame attribution score decreased from Level I – very Mexican oriented /Mexican oriented to approximately balance bicultural (M = 3.74, SD = 1.46) to Level II – Slightly Anglo oriented bicultural (M = 3.43, SD = 1.42) to Level III – Strongly Anglo oriented / Very assimilated; Anglicized (M = 3.09, SD = 1.19) acculturation levels in that order. Tukey post-hoc analysis revealed that the mean increase from Level III – Strongly Anglo oriented / Very assimilated; Anglicized to Level I – very Mexican oriented

/Mexican oriented to approximately balance bicultural (.66, 95% CI [0.11, 1.20]) was statistically significant (p = .05), but no other group differences were statistically significant for the blame attribution factor.

The attribution factor of segregation was statistically significantly different between different levels of acculturation level, $F(2,220) = 3.127$, $p < .05$. The segregation attribution score decreased from Level I – very Mexican oriented /Mexican oriented to approximately balance bicultural (M = 3.80, SD = 1.87) to Level II – Slightly Anglo oriented bicultural (M = 3.12, SD = 1.70) to a small increase in Level III – Strongly Anglo oriented / Very assimilated; Anglicized (M = 3.22, SD = 1.87) acculturation levels in that order. Tukey post-hoc analysis revealed that the mean increase from Level II – Slightly Anglo oriented bicultural to Level I – very Mexican oriented /Mexican oriented to approximately balance bicultural (.68, 95% CI [-0.00, 1.37]) was statistically significant (p = .0005), but no other group differences were statistically significant for the segregation attribution factor.

Lastly, the attribution factor of coercion was statistically significantly different between different levels of acculturation level, $F(2,220) = 3.602$, $p < .05$. The coercion attribution score decreased from Level I – very Mexican oriented /Mexican oriented to approximately balance bicultural (M = 6.07, SD = 1.40) to Level II – Slightly Anglo oriented bicultural (M = 5.66, SD = 1.65) to a small increase in Level III – Strongly Anglo oriented / Very assimilated; Anglicized (M = 5.37, SD = 1.65) acculturation levels in that order. Tukey post-hoc analysis revealed that the mean increase from Level III – Strongly Anglo oriented / Very assimilated; Anglicized to Level I – very Mexican oriented /Mexican oriented to approximately balance bicultural (.70, 95% CI [-0.78, 1.32]) was statistically significant (p = .05), but no other group differences were statistically significant for the coercion attribution factor (See Table 25).

Table 25

ANOVA of Strands When Grouped by Attribute

	Source	*SS*	*df*	*MS*	*F*	Sig.
Blame	Between Groups	15.381	2	7.691	4.086	*.018*
	Within Groups	414.109	220	1.882		
	Total	429.490	222			
Anger	Between Groups	2.203	2	1.101	.517	.597
	Within Groups	468.783	220	2.131		
	Total	470.986	222			
Pity	Between Groups	11.088	2	5.544	1.954	.144
	Within Groups	624.279	220	2.838		
	Total	635.368	222			
Help	Between Groups	.805	2	.402	.139	.870
	Within Groups	634.992	220	2.886		
	Total	635.797	222			
Dangerousness	Between Groups	7.278	2	3.639	.965	.383
	Within Groups	829.625	220	3.771		
	Total	836.903	222			
Fear	Between Groups	16.937	2	8.468	2.065	.129
	Within Groups	902.028	220	4.100		
	Total	918.964	222			
Avoidance	Between Groups	2.891	2	1.446	.418	.659
	Within Groups	761.481	220	3.461		
	Total	764.372	222			
Segregation	Between Groups	20.569	2	10.285	3.127	.046
	Within Groups	723.634	220	3.289		
	Total	744.204	222			
Coercion	Between Groups	17.761	2	8.880	3.602	.029
	Within Groups	542.354	220	2.465		
	Total	560.115	222			

For the attribution factor blame, there was a significant difference in the means between groups Level III – Strongly Anglo oriented / Very assimilated; Anglicized group and the Level II – Slightly Anglo oriented bicultural group, but no significant differences and between the Level II – Slightly Anglo oriented bicultural group and Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural group and the Level III – Strongly Anglo oriented /

Very assimilated; Anglicized group and Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural group. The Level III – Strongly Anglo oriented / Very assimilated; Anglicized group showed a greater decrease in overall rating of the negative attribution, blame, associated with mental illness in comparison to the Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural group.

For the attribution factor segregation, there was a significant difference in the means between groups Level III – Strongly Anglo oriented / Very assimilated; Anglicized group and the Level II – Slightly Anglo oriented bicultural group, but no significant differences and between the Level II – Slightly Anglo oriented bicultural group and Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural group and the Level III – Strongly Anglo oriented / Very assimilated; Anglicized group and Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural group. The Level III – Strongly Anglo oriented / Very assimilated; Anglicized group showed a greater decrease in overall rating of the negative attribution, blame, associated with mental illness in comparison to the Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural group.

The 95% confidence intervals for the pairwise differences, as well as the means and standard deviation for the three acculturation level groups, are reported in Table 26. Due to excessive ANOVA's, a Bonferroni post-hoc tests were run to correct for alpha loading. Post hoc analysis to the One-Way ANOVA consisted of conducting pairwise comparisons to finding which acculturation level affected score for the attributes blame, coercion, and segregation most strongly. Tests of the pairwise comparison were conducted using Bonferroni adjusted alpha levels of .05 divided by 3 or .02 level. The acculturation levels were not significantly different from each other for the attributes coercion and segregation. The Level I – Very Mexican

oriented /Mexican oriented to approximately balance bicultural produced significant results on the mean scores for the attribute blame in comparison with either of the other two groups. The Level II – Slightly Anglo oriented bicultural and Level III – Strongly Anglo oriented / Very assimilated; Anglicized were not significantly different form each other.

Table 26

95% Confidence Interval of Pairwise Differences in Mean Changes in Acculturation Level

	M	*SD*	Level I	Level II
Blame				
Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural	3.74	1.47		
Level II – Slightly Anglo oriented bicultural	.43	1.42	.37 to -.86	
Level III – Strongly Anglo oriented / Very assimilated; Anglicized	3.09	1.19	.26 to -.17	.01 to -1.18*
Segregation				
Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural	3.80	1.88		
Level II – Slightly Anglo oriented bicultural	3.12	1.70	.05 to -1.36*	
Level III – Strongly Anglo oriented / Very assimilated; Anglicized	3.23	1.87	.93 to -.82	.16 to -1.31
Coercion				
Level I – Very Mexican oriented /Mexican oriented to approximately balance bicultural	6.07	1.40		
Level II – Slightly Anglo oriented bicultural	5.66	1.65	.22 to -99	
Level III – Strongly Anglo oriented / Very assimilated; Anglicized	5.37	1.65	.54 to -.36	.21 to -1.31*

Note: An asterisk indicates that the 95% confidence interval does not contain zero, and therefore the difference in means is significant at the .05 significance using Dunnett's procedure.

Taken together, these results suggest that levels of acculturation do have an effect on attributes associated with mental illness stigma. Specifically, the results suggest that when a person has a higher acculturation level, they have a more positive attitudes and more positive perceptions of people with schizophrenia for the attributes blame, segregation and coercion.

Linear Regression

Linear regression analysis was used to test if the acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) significantly predict participants' ratings of attribution factors associated with stigma towards individuals with mental schizophrenia as measured with the Attribution Questionnaire (AQ-27). It is expected that the higher the level of acculturation is related to a more favorable perception of people with schizophrenia.

The Durbin-Watson statistic for the each attribution factor is as follows: blame (1.768), segregation (1.679), and coercion (1.766). The Durbin-Watson statistic can range from 0 to 4; however a value of approximately 2, indicates that there is no correlation between residuals. The values for the attribution factors are very close to 2; therefore, it can be accepted that there is independence of errors (residuals).

A linear regression established that acculturation raw score could statistically significantly predict the attribution mean score for blame, $F(1, 221) = 7.709$, $p < .0$; the acculturation raw score accounted for 2.9% of the explained variability in the attribution mean score for blame. According to Cohen (1988), this suggests a low effect. The regression equation was: attribution means score for blame = 3.558 + -.249 x (acculturation raw score). The 95% confidence interval for the slope, 3.358 to 3.759, does not contain the value zero, and, therefore, overall strength is significantly related to the overall attribution score for blame. The correlation coefficient between the attribute blame and acculturation level index was .184 indicating a weak positive relationship.

A linear regression established that acculturation raw score could statistically predict the attribution mean score for segregation, $F(1, 221) = 4.282$, $p < .05$ and acculturation raw score

accounted for 1.5% of the explained variability in the attribution mean score for blame. According to Cohen (1988), this suggests a low effect. The regression equation was: attribution means score for segregation = 3.508 + -.246 x (acculturation raw score). The 95% confidence interval for the slope, 3.242 to 3.773, does not contain the value zero, and therefore overall strength is significantly related to the overall attribution score for segregation. The correlation coefficient between the attribute segregation and acculturation level index was .138 indicating a weak positive relationship.

A linear regression established that acculturation raw score could statistically significantly predict the attribution mean score for coercion, $F(1, 221) = 6.596$, $p < .05$ and acculturation raw score accounted for 2.5% of the explained variability in the attribution mean score for blame. According to Cohen (1988), this suggests a low effect. The regression equation was: attribution means score for blame = 5.841 + -.2-64 x (acculturation raw score). The 95% confidence interval for the slope, 5.611 to -6.070, does not contain the value zero, and therefore overall strength is significantly related to the overall attribution score for coercion. The correlation coefficient between the attribute coercion and acculturation level index was .170 indicating a weak positive relationship.

Table 27

Regression Analyses with Acculturation Levels Associated with Endorsement of Stigmatizing Attitudes on the AQ-27

	R^2	F	β	$CI_{.95}$ for *r*	
Blame	.029	7.709**	-.249	3.358	3.759
Anger	-.002	.530	-.069	2.384	2.811
Pity	0.00	.912	-.106	5.577	6.072
Help	-.003	.332	.64	2.773	3.269
Dangerousness	.000	1.046	-.130	3.815	4.383
Fear	.006	2.232	.-198	3.353	3.947
Avoidance	.001	1.206	-.133	4.459	5.02

Segregation	.014	.2825*	-.246	3.242	3.773
Coercion	.025	6.596*	-.264	5.611	6.070

Note. * $p < .05$ ** $p < .01$, $N=223$

As hypothesized, the attribution factors of blame, segregation, and coercion tended to be lower in relation of higher levels of acculturation levels. However, the attribution factors of anger, pity, help, dangerousness, fear, avoidance were not a significant factor in the linear regression analyses, whereas acculturation level remained as a strong predictor of participants' ratings of attribution factors associated with stigma towards individuals with mental schizophrenia.

Measures of Stigma Attributes and Level of Familiarity

One-Way AVOVA

A one-way ANOVA was conducted to evaluate the relationship between level of familiarity with individuals with mental illness as measured by the Level of Familiarity Scale (LOF) and participants' ratings of attribution factors associated with stigma as measured with the Attribution Questionnaire (AQ-27). It is expected that higher the level of familiarity is related to a more favorable perception of people with schizophrenia. The independent variable, level of familiarity, included three groups: Little Intimacy (n=74); Medium Intimacy (n =79); and Most Intimate (n =70). The dependent variable was the overall rating of negative attributions associated with mental illness, which includes: blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion.

There were no outliers, as assessed by boxplot; data was normally distributed for each group, as assessed by Shapiro-Wilk test ($p > .05$); and there was homogeneity of variances, as assessed by Levene's test of homogeneity of variances (See Table 28) for blame ($p = .161$), anger

(p = .973), pity (p =.374), help (p =.269), dangerousness (p = .339), fear (p = .964), avoidance (p = .574), segregation (p = .477), and coercion (p = .406).

Table 28

Test of Homogeneity of Variance - Grouped by Attribute

	Levene Statistic	df1	df2	Sig.
Blame	1.840	2	220	.161
Anger	.028	2	220	.973
Pity	.988	2	220	.374
Help	1.321	2	220	.269
Dangerousness	1.086	2	220	.339
Fear	.037	2	220	.964
Avoidance	.557	2	220	.574
Segregation	.743	2	220	.477
Coercion	.906	2	220	.406

There were no statistically significant differences between different levels of level of familiarity and the attribution factors of blame, $F(2,220)$ =.266, p = .766; anger, $F(2,220)$ = .747, p = .475; pity, $F(2,220)$ = .007, p = .993; nor dangerousness, $F(2,220)$ = 1.870, p = .157. Due to lack of significant results, the null hypothesis cannot be rejected for these attributes. The level of familiarity did not have statistically significant relationship to the attribution factors.

However, the strength of the relationship between the level of familiarity and the attribution factors help, fear, avoidance, segregation and coercion were found to have statistical significance. The following attribution factors were statistically significantly different between different levels of familiarity: help, $F(2,220)$ = 3.818, p <.05; fear, F (2,220) = 3.204, p <.05; avoidance, F (2,220) = 5.474, p <.01; segregation, F (2,220) = 3.348, p <.05; and coercion, F (2,220) = 3.483, p <.05.

The help attribution score decreased from Little Intimacy (M = 3.32, SD = 1.77); Medium Intimacy (M = 3.21, SD = 1.76); to Most Intimate (M = 2.60, SD = 1.45); for level of familiarity

in that order. The fear attribution score decreased from Little Intimacy (*M* = 3.84, *SD* = 2.08); Medium Intimacy (*M* = 3.73, *SD* = 1.95); to Most Intimate (*M* = 3.05, *SD* = 2.02); for level of familiarity in that order. The avoidance attribution score decreased from Little Intimacy (*M* = 5.07, *SD* = 1.88); Medium Intimacy (*M* = 4.79, *SD* = 1.70); to Most Intimate (*M* = 4.09, *SD* = 1.88); for level of familiarity in that order. The segregation attribution score decreased from Little Intimacy (*M* = 3.62, *SD* = 1.88); with a slight increase in Medium Intimacy (*M* = 3.58, *SD* = 1.81); then to a lower mean score than Little Intimacy for Most Intimate (*M* = 2.92, *SD* = 1.74); for level of familiarity in that order. Lastly, the coercion attribution score decreased from Little Intimacy (*M* = 5.57, *SD* = 1.58); with a slight increase in Medium Intimacy (*M* = 6.08, *SD* = 1.43); then to a lower mean score than Little Intimacy for Most Intimate (*M* = 5.44, *SD* = 1.71); for level of familiarity in that order. The largest drop in the mean scores was for avoidance in relation to level of familiarity scores. Therefore, due to the significance, the null hypotheses are rejected for the attributes help, fear, avoidance, segregation and coercion and are found to have a significance difference for level of familiarity.

Tukey post-hoc analysis revealed for the attribute help the mean increase from Little Intimacy to Most Intimate (.72, 95% CI [0.06, 1.37]) was statistically significant (*p* = .029) but no other group differences were statistically significant. For the attribute avoidance the mean increase from Little Intimacy to Most Intimate (.98, 95% CI [0.26, 1.69]) was statistically significant (*p* = .004) but no other group differences were statistically significant. For the attribute avoidance the mean increase from Medium Intimacy to Most Intimate (.64, 95% CI [0.28, 1.25]) was statistically significant (*p* = .004) but no other group differences were statistically significant. According to the Tukey post-hoc analysis no significant findings were determined for the attributes fear and segregation (See Table 29).

Table 29

ANOVA of Strands When Grouped by Attribute

	Source	*SS*	*df*	*MS*	*F*	Sig.
Blame	Between Groups	1.037	2	.519	.266	.766
	Within Groups	428.453	220	1.948		
	Total	3062.882	223			
Anger	Between Groups	3.176	2	1.588	.747	.475
	Within Groups	467.810	220	2.126		
	Total	1936.281	223			
Pity	Between Groups	.043	2	.021	.007	.993
	Within Groups	635.325	220	2.888		
	Total	8066.033	223			
Help	Between Groups	21.326	2	10.663	3.818	.023
	Within Groups	614.471	220	2.793		
	Total	2713.062	223			
Dangerousness	Between Groups	13.990	2	6.995	1.870	.157
	Within Groups	822.913	220	3.741		
	Total	4468.464	223			
Fear	Between Groups	26.012	2	13.006	3.204	.042
	Within Groups	892.952	220	4.059		
	Total	3733.441	223			
Avoidance	Between Groups	36.237	2	18.119	5.474	.005
	Within Groups	728.135	220	3.310		
	Total	5617.208	223			
Segregation	Between Groups	21.984	2	10.992	3.348	.037
	Within Groups	722.220	220	3.283		
	Total	3302.402	223			
Coercion	Between Groups	17.193	2	8.597	3.483	.032
	Within Groups	542.922	220	2.468		
	Total	7834.713	223			

The 95% confidence intervals for the pairwise differences, as well as the means and standard deviation for the three levels of familiarity groups, are reported in Table 30.

Table 30

95% Confidence Interval of Pairwise Differences in Mean Changes in Level of Familiarity

	M	*SD*	Little Intimacy	Medium Intimacy
Help				
Little Intimacy	3.32	1.77		
Medium Intimacy	3.21	1.76	-.58 to .80	
Most Intimate	2.60	1.45	.07 to 1.37*	-.03 to 1.24

Fear				
Little Intimacy	3.84	2.08		
Medium Intimacy	3.73	1.95	-.68 to .90	
Most Intimate	3.05	2.02	-.04 to 1.61	-.11 to 1.47
Avoid				
Little Intimacy	5.07	1.88		
Medium Intimacy	4.79	1.70	-.42 to .98	
Most Intimate	4.09	1.88	.22 to 1.72*	-.02 to 1.41
Segregation				
Little Intimacy	3.62	1.88		
Medium Intimacy	3.58	1.81	-.69 to .76	
Most Intimate	2.92	1.74	-.03 to 1.42	-.04 to 1.36
Coercion				
Little Intimacy	5.57	1.58		
Medium Intimacy	6.08	1.43	-1.10 to .08	
Most Intimate	5.44	1.71	-.53 to .79	.001 to 1.27*

Note: Dunnett's procedure tested at 95%.

Taken together, the results of the one-way ANOVA suggests that levels of familiarity have an effect on some attributes associated with mental illness stigma for the population surveyed. Specifically, our results suggest, for the population surveyed, as a person has a higher level of familiarity, they have a more positive attitudes and more positive perceptions of people with schizophrenia for the attributes: help, fear, avoidance, segregation and coercion. There was a statistically significant difference between means ($p < .05$) for these attributes and therefore we can reject the null hypothesis and accept the alternative hypothesis.

Measures of Level of Familiarity and Acculturation Level

An Ordinal Regression Analysis and a Correlational Matrix were used to examine if there is a statistically significant relationship between measures of acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and the level of familiarity of individuals with mental illness as measured by the Level of Familiarity Scale (LOF). It is

expected that higher the level of acculturation is related to a higher level of familiarity with individuals with mental illness.

Ordinal Regression Analysis

An Ordinal Regression Analysis was used to examine if there is a statistically significant relationship between measures of acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and the level of familiarity towards individuals with mental illness as measured by the Level of Familiarity Scale (LOF) score. It is expected that higher the level of acculturation is related to a higher level of familiarity with individuals with mental illness. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the residual of the fitted location model to a model with varying location parameters, $\chi^2(4) = 2.973$, $p = .562$. The deviance goodness-of-fit test indicated that the model was a good fit to the observed data, $\chi^2(4) = 1.880$, $p = .758$. The Pearson goodness-of-fit test indicated that the model was not a good fit to the observed data, $\chi^2(4) = 1.889$, $p = .756$. However, there were no statistically significant findings for the relationship between acculturation levels and level of familiarity. Thus, based on the ordinal regression analysis there is no link between acculturation level and level of familiarity for the sample population.

Correlational Matrix

Pearson correlations was conducted between acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and the level of familiarity towards individuals with mental illness as measured by the Level of Familiarity Scale (LOF). It is expected that higher the level of acculturation is related to a higher level of familiarity with individuals with mental illness.

Preliminary analyses showed the relationship to be linear with both variables normally distributed, as assessed by Shaprio-Wilk test ($p > .05$), and there were no outliers. Although the correlation was rather small there was no statistically significant correlation between acculturation levels, $r(221) = .085$, $p = .209$ and level of familiarity with individuals with mental illness.

Measures of Stigma Attributes and Demographics

Nine stepwise multiple regression analyses were conducted to assess the relative value and importance of the predictors age, gender, socioeconomic status, educational level, acculturation level as measured by the Acculturation Rating Scale for Mexican Americans – II (ARSMA-II), and level of familiarity as measured by the Level of Familiarity Scale (LOF) for explaining participants' ratings of the attribution factor of blame associated with stigma towards individuals with mental schizophrenia as measured with the Attribution Questionnaire (AQ-27). In a stepwise multiple regression analysis, the two attributes of anger and dangerousness were run to predict participants' ratings of the attribution factor associated with stigma towards individuals with mental schizophrenia as measured. The variables of age, gender, SES, employment, education level, acculturation level and level of familiarity were not statistically significant.

Blame

In the first stepwise multiple regression analysis, for the attribute blame, no correlations except for the one between blame and acculturation level were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.759. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained one of the seven predictors

and was reached in one step with six variables removed. The variable acculturation level statistically significantly predicted attribution of blame, $F(1, 215) = 6.439$, $p < .05$, adj. $R^2 = .025$ and accounted for approximately 2.5% of the variance of acculturation level ($R^2 = .029$, Adjusted $R^2 = .025$). Only the acculturation level variable added statistically significantly to the prediction, $p < .05$. No other predictor was found to be statistically significant for the attribute of blame. Regression coefficients and standard errors can be found in Table 31.

Table 31

Summary of Multiple Regression Analysis for Variables Predicting Blame

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI Lower	95% CI Upper
Intercept						4.081	.278		3.533	4.629
Acculturation Level	1, 215	.171	.029	.025	6.439*	-.224	.088	-.171	-.398	-.050

Note: **p*<.05; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

Pity

For the second stepwise multiple regression analysis, the attribute pity, no correlations except for the one between pity and work status were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.710. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained one of the seven predictors and was reached in one step with six variables removed. The variable work status statistically significantly predicted attribution of pity, $F(1, 215) = 7.233$, $p < .01$, adj. $R^2 = .028$ and accounted for approximately 2.8% of the variance of work status ($R^2 = .033$, Adjusted $R^2 = .028$). Only the work status variable added statistically significantly to the prediction, $p < .01$. No other predictor was found to be statistically significant for the attribute of pity. Regression coefficients and standard errors can be found in Table 32.

Table 32

Summary of Multiple Regression Analysis for Variables Predicting Pity

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI Lower	95% CI Upper
Intercept						6.296	.22		5.859	6.734
Work Status	1, 215	.180	.033	.028	7.233*	-.201	.075	-.180	-.348	-.054

Note: $*p<.01$; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

Help

For the third stepwise multiple regression analysis, the attribute help, no correlations except for the ones between help and level of familiarity and gender were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.162. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained two of the seven predictors and was reached in two steps with five variables removed. In the first stepwise multiple regression for the attribution help, the step 1 the contribution of variable level of familiarity was found to be statistically significantly, $F(1, 215) = 6.068$, $p < .05$, adj. $R^2 = .023$ and accounted for approximately 2.3% of the variance of level of familiarity ($R^2 = .027$, Adjusted $R^2 = .023$). Gender was entered in to the equation at Step 2. Gender increased the contribution of and found to be statistically significantly, $F(2, 214) = 5.198$, $p < .01$, increased adj. $R^2 = .037$ and accounted for an increase of approximately 3.7% of the variance of gender ($R^2 = .046$, Adjusted $R^2 = .037$). Level of familiarity and gender accounted for 3.7% of the variance, and 96.3% of the variance was not explained. The remaining variables of age, SES, employment, education level, and acculturation level were not statistically significant, and the variables did not contribute to the variance nor add predication. Regression coefficients and standard errors can be found in Table 33.

Table 33

Summary of Multiple Regression Analysis for Variables Predicting Help

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI Lower	95% CI Upper
Intercept						3.178	.145		2.359	3.997
Level of Familiarity	1, 215	.166	.027	.023	6.068*	-.397	.143	-.188	-.679	-.115
Gender	1, 214	.215	.046	.037	5.198**	.479	.233	.139	.20	.938

Note: * p<.05, ** p<.01; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

Fear

For the fourth stepwise multiple regression analysis, for the attribute fear, no correlations except for the one between fear and gender were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.987. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained one of the seven predictors and was reached in one step with six variables removed. The variable gender statistically significantly predicted attribution of fear, $F(1, 215) = 4.849$, $p < .05$, adj. $R^2 = .018$ and accounted for approximately 1.8% of the variance of acculturation level ($R^2 = .022$, Adjusted $R^2 = .018$). Only the gender variable added statistically significantly to the prediction, $p < .05$. No other predictor was found to be statistically significant for the attribute of fear. Regression coefficients and standard errors can be found in Table 34.

Table 34

Summary of Multiple Regression Analysis for Variables Predicting Fear

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI Lower	95% CI Upper
Intercept						4.432	.413		3.619	5.246
Gender	1, 215	.149	.022	.018	4.849*	-.605	.275	-.149	-1.146	-.063

Note: * p<.05; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

Avoidance

For the fifth stepwise multiple regression analysis, for the attribute avoidance, no correlations except for the one between avoidance and level of familiarity were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.114. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained one of the seven predictors and was reached in one step with six variables removed. The variable level of familiarity statistically significantly predicted attribution of avoidance, $F(1, 215) = 11.364$, $p < .01$, adj. $R^2 = .046$ and accounted for approximately 4.6% of the variance of acculturation level ($R^2 = .050$, Adjusted $R^2 = .046$). Only the level of familiarity variable added statistically significantly to the prediction, $p < .01$. No other predictor was found to be statistically significant for the attribute of avoidance. Regression coefficients and standard errors can be found in Table 35.

Table 35

Summary of Multiple Regression Analysis for Variables Predicting Avoidance

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI Lower	95% CI Upper
Intercept						5.700	.328		5.054	6.346
Level of Familiarity	1, 215	.224	.050	.046	11.364*	-.517	.153	-.224	-.819	-.215

Note: **p*<.01; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

Segregation

For the sixth stepwise multiple regression analysis, for the attribute segregation, no correlations except for the one between segregation and level of familiarity were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.700. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained one of the

seven predictors and was reached in one step with six variables removed. The variable level of familiarity statistically significantly predicted attribution of segregation, $F(1, 215) = 13.472$, $p < .05$, adj. $R^2 = .014$ and accounted for approximately 1.4% of the variance of acculturation level ($R^2 = .018$, Adjusted $R^2 = .014$). Only the level of familiarity variable added statistically significantly to the prediction, $p < .05$. No other predictor was found to be statistically significant for the attribute of segregation. Regression coefficients and standard errors can be found in Table 36.

Table 36

Summary of Multiple Regression Analysis for Variables Predicting Segregation

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI Lower	95% CI Upper
Intercept						4.016	.330		3.366	4.665
Level of Familiarity	1, 215	.136	.018	.014	4.048*	-.310	.154	-.136	-.614	-.006

Note: $*p<.05$; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

Coercion

For the final stepwise multiple regression analysis, for the attribute coercion, no correlations except for the ones between coercion and level of acculturation and age were found to be statistically significant. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.824. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. The prediction model contained two of the seven predictors and was reached in two steps with five variables removed. In the first stepwise multiple regression for the attribution coercion, the step 1 the contribution of variable level of acculturation was found to be statistically significantly, $F(1, 215) = 7.69$, $p < .01$, adj. $R^2 = .030$ and accounted for approximately 3.0% of the variance of level of acculturation ($R^2 = .035$, Adjusted $R^2 = .030$). Age was entered in to the equation at Step 2. Age increased the contribution of and found to be statistically significantly, $F(2, 214) = 6.453$, $p <$

.01, increased adj. R^2 = .048 and accounted for an increase of approximately 4.8% of the variance of age (R^2 = .057, Adjusted R^2 = .048). Acculturation level and age accounted for 4.8% of the variance, and 95.2% of the variance was not explained. The remaining variables of gender, SES, employment, education level, and level of familiarity were not statistically significant, and the variables did not contribute to the variance nor add predication. Regression coefficients and standard errors can be found in Table 37.

Table 37

Summary of Multiple Regression Analysis for Variables Predicting Coercion

Variable	*df*	*R*	R^2	R^2_{adj}	*F*	*B*	SE_B	β	95% CI	
									Lower	Upper
Intercept						6.152	.364		5.435	6.869
Acculturation Level	1, 215	.186	.035	.030	7.692*	-.277	.101	-.183	-.679	-.115
Age	1, 214	.238	.057	.048	6.453*	.259	.115	.149	.32	.486

Note: * p<.01; *B*=unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient

CHAPTER V

SUMMARY AND CONCLUSION

Discussion

The current study used data collected by surveying Hispanic college students through a convenience sample at two separate post-secondary southwestern Hispanic-Serving Institutions (HSIs) along a border community. The instrumentation for the study was composed of a demographic questionnaire, The Acculturation Scale for Mexican-Americans-II (Cuéllar, Arnold, & Maldonaldo, 1995), The Attribution Questionnaire (AQ-27) (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003), and The Level of Familiarity Scale (Corrigan, Edwards, Green, Diwan, & Penn, 2001). The purpose of the present study was to examine the factors that influence stigma based on the participants' ratings of the attribution factors associated with stigma towards individuals with schizophrenia such as acculturation level, level of familiarity, age, gender, level of education, socioeconomic status, and work status as possible factors that influence stigma towards individuals with schizophrenia. This study was conducted in order to increase the understanding of how acculturation levels and experiences correlate and predict the stigmatizing perceptions of individuals with schizophrenia for the present sample population. It is hypothesized that the higher the level of acculturation of a participant, the lower the level of stigma and a higher level of familiarity towards individuals with schizophrenia. Discussion of the findings of this study will be presented as well as key findings, limitations, future research,

and implications. Previous research has suggested that environmental factors are an important factor of mental health stigma (Corrigan et al., 2001); however, few researchers have explored multicultural factors such as acculturation.

Attributes and Acculturation

The first research question proposed to what degree does Level of Acculturation affect attitudes towards people with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley? The hypothesis was that there is a statistically significant relationship between Levels of Acculturation and attitudes towards individuals with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley.

A one-way ANOVA was conducted to evaluate the relationship between acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and participants' ratings of attribution factors associated with stigma as measured with the Attribution Questionnaire (AQ-27). The attribution variables associated with mental illness include: blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion. There were no statistically significant differences between different levels of acculturation and the attribution factors of blame, anger, pity, help, dangerousness, fear, avoidance and help. Due to lack of significant results, the null hypothesis cannot be rejected for these attributes. The level of acculturation did not have statistically significant relationship to the attribution factors.

However, the strength of the relationship between acculturation level and the attribution factor *coercion* was found to have statistical significance. As the acculturation level increased, the score the participants' perceptions of forcing individuals with mental illness to participate in medication management or other treatments lowered. The strongest mean decrease was found to be between Level I – very Mexican oriented to Level IV - Strongly Anglo oriented.

When the acculturation levels were collapsed there were statistical significant findings for the attributes *blame, segregation and coercion*. Taken together, these results suggest that levels of acculturation do have an effect on attributes associated with mental illness stigma. Specifically, the results suggest that as college students become more acculturated to the dominant culture, they have a lower score on the attributes of *blame, segregation, and coercion*. Highly acculturated participants have more positive attitudes towards individuals with schizophrenia. Conversely, the lower acculturated individuals have a more negative attitude towards individuals with schizophrenia. In a related factor, Mexican Americans with lower acculturation levels are more respectful of authority figures. They tend to see the individual with mental illness as being more dependent on the individuals such as doctors and other medical personnel. These findings are aligned with the cultural characteristic of respect towards authority figures and tend to have a positive impact on the receptiveness towards mental health services by less acculturated Mexican Americans (Gim, Atkinson, & Whiteley, 1990; Ramos-Sanchez et al., 1999; Ramos-Sánchez & Atkinson, 2009).

A linear regression analysis was used to determine if acculturation scores significantly predicted the participants' ratings of attribution factors associated with stigma towards individuals with schizophrenia. It was expected that higher the level of acculturation is related to a more favorable perception of people with schizophrenia. There were statistically significantly findings for *blame, segregation, and coercion*. There was predictability between level of acculturation and the participants' perceptions of blaming a person for their mental illness and the belief they have controllability, segregating people to institutions, and coercing people to participate in treatment. These findings are interesting due to research findings that suggests that Mexican Americans tend to value *familism* which is "a cultural value that involves individuals'

strong identification with and attachment to their nuclear and extended families, and strong feelings of loyalty, reciprocity, and solidarity among members of the same family" (Marin & Marín, 1991, p. 13).

Attributes and Level of Familiarity

The second research question is to what degree does level of familiarity affect attitudes towards people with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley? The hypothesis was that there is a statistically significant relationship between Level of Familiarity and the attitudes towards individuals with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley. Through a one-way ANOVA the relationship between level of familiarity as measured by the categories from the Level of Familiarity Scale (LOF) and participants' ratings of attribution factors associated with stigma as measured with the Attribution Questionnaire (AQ-27) was found to be statistically significant for some of the attributes. Corrigan and Watson (2006) found more positive attitudes and fewer stigmas in studies where people have a higher level of familiarity with a person with a mental illness. For the population surveyed there were no statistically significant differences between different levels of level of familiarity and the attribution factors of *blame, anger, pity, and dangerousness*. However, the strength of the relationship between the level of familiarity and the attribution factors help, fear, avoidance, segregation and coercion were found to have statistical significance. These findings are in line with the research by Alexander & Link (2003) who found people with firsthand experience with people with mental illness have a more accepting attitude towards individuals with schizophrenia. Additionally, Huxley (1993) also found that people who had limited encounters with individuals with mental illness would highly stigmatize this population.

For the participants of this study, there were higher levels of familiarity related to lower scores for the attribute help. College students with higher levels of familiarity perceived that individuals with schizophrenia require assistance from others. The fear attribution score decreased based on the level of familiarity indicating there was less fright of people with schizophrenia. The view that people with mental illness are dangerous is a common misconception (Corrigan, 2004b; Hayward & Bright, 1997). However, consistent with previous research, the more intimate knowledge people have with individuals with mental illness, the less they perceive danger (Boisvert & Faustm 1999; Penn, et al., 1994; Penn, et al., 1999). In addition, the likelihood to avoid or stay away from individuals with schizophrenia was found to decrease with higher levels of familiarly for the college students surveyed. For segregation, the belief that individuals with schizophrenia need to be sent to institutions away from their community and coercion, the forcing of people into medical management or treatment were also decreased with level of familiarity. This could be potentially due to the viewing of the individual as a person and not a label which creates humanistic approaches and beliefs. Previous research has associated negative labels and/or medical specific terms to be associated with more negative views of individuals with mental illness (Doherty, 1975; Farina & Felner, 1973; Socall & Holgraves, 1992; Penn et al., 1994).

The greatest discrepancy for attributes between low and high acculturation levels were for mean scores of the attribute *avoidance* which is important for this population. This finding presents the concept that the college students surveyed were more open to differences. Recent generations have become increasingly exposed to individuals with mental illness (Corrigan et al., 2014). These findings are significant since the attributes that are most commonly associated with stigma towards individuals with schizophrenia include those that involve individual

responsibility, social interaction, and dangerousness (Hayward & Bright, 1997; Penn, et al., 1994; de Sousa, Marques, Curral, & Queirós, 2012). The results of the one-way ANOVA suggests that levels of familiarity have an effect on some attributes associated with mental illness stigma for the population surveyed. Specifically, results suggest, for the population surveyed, as a person has a higher level of familiarity, they have a more positive attitudes and more positive perceptions of people with schizophrenia for the attributes of *help, fear, avoidance, segregation and coercion*.

Level of Familiarity and Acculturation

The third research question posed was to what degree does Level of Acculturation affect Level of Familiarity amongst Mexican American college students in the Lower Rio Grande Valley? The hypothesis was that there would be a statistically significant relationship between Level of Familiarity status and the Level of Acculturation amongst Mexican American college students in the Lower Rio Grande Valley. An Ordinal Regression Analysis and a Correlational Matrix were used to examine if there is a statistically significant relationship between measures of acculturation levels as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and the level of familiarity of individuals with mental illness as measured by the Level of Familiarity Scale (LOF). It was expected that the higher the level of acculturation, the higher the level of familiarity with individuals with mental illness. However, the ordinal regression did not find a link between acculturation level and level of familiarity for the sample population.

The Pearson correlations between acculturation score as measured by the Acculturation Rating Scale for Mexican Americans (ARSMA-II) and the level of familiarity towards individuals with mental illness as measured by the Level of Familiarity Scale (LOF) found there

was not a statistically significant correlation between acculturation levels and level of familiarity with individuals with mental illness. According to these results and consistent with the ordinal regression findings, there was not a statistically significant correlation between acculturation and level of familiarity for the population surveyed.

The lack of correlation between acculturation and level of familiarity of the college student population is an indication that there is an underlying need for additional awareness of individuals with mental illness. The awareness for college students would encompass the definition and identification of mental illness, campus services, referral process for campus services, and knowledge of community resources. Corrigan, Lurie, Goldman, Slopen, Medasani, and Phelan (2005) found contact, or familiarity, to assist in the decrease of mental illness stigma. An awareness program designed for the promotion of awareness of mental illness can also assist in replacing negative stereotypes towards individuals with mental illness with factual information. Promoting awareness of such stereotypes will not imply that individuals will subscribe to the beliefs (Jussim, Nelson, Manis, & Soffin, 1995). Rather, it would assist in preventing the endorsement of negative attitudes that typically invoke reactions that are caused by negative emotions (Hilton & von Hippel, 1996, Krueger 1996). Creating awareness and dispelling the negative stereotypes not only prevents the prejudicial attitudes that can keep individuals from having increased contact and level of familiarity with individuals with mental illness, but also assists in reducing and preventing a cycle of stigma.

Attributes

Stigma is a multidimensional construct that encompasses behavior, labeling, stereotyping, cognitive, emotional reactions, and behavioral responses (Link et al., 2004). The present study showed a tendency towards perceptions that are associated with stereotyping attitudes such as

pity, fear, coercion, and segregation that have previously been associated with the dimensions of stigma most related to individuals with mental illness. Corrigan, Markowitz et al. (2003) has previously associated some attributions such as responsibility, dangerousness, fear, anger, coercion, segregation, and avoidance with discriminative attitudes. The higher scores on the AQ-27 for the participating college students were consistent for the dimensions of fear, dangerousness, and avoidance which have been often reported as being the most significant stereotypes associated with the stigma of mental illness (Corrigan, Markowitz et al., 2003).

The item on the AQ-27 with the highest mean score was in the *coercion* dimension: "If I were in charge of Harry's treatment, I would require him to take his medication." However, the mean scores, particularly for the dimension of responsibility, were low in the present study. For example, the item with the lowest mean score for this study was "I would think that it was Harry's own fault that he is in the present condition." The scores could be due to the level of familiarity the college students that participated had with individuals with mental illness. The attitudes of participants of this study seem to be oriented towards the support and help for individuals with schizophrenia, even if it needs to be against their own will and possibly in an institution. The emotional reactions that the college students expressed towards individuals with schizophrenia are examples of stigma (Link et al., 2004). These emotional reactions are important since they are one of the strongest predictors of discrimination from individuals with mental illness (Angermeyer, Holzinger, & Matschinger, 2010). Participants who reported high levels of familiarity with mental illness, subsequently reported high level of coercion, pity, and segregation. The results call into question the influence of negative experiences on stigmatizing views when there is a high level of familiarity to schizophrenia. Previous research has shown that stereotypes are capable of influencing a person's views and attitudes towards a person with

schizophrenia (Corrigan & Watson, 2002). Pairing previously acknowledged negative stereotypes and negative experiences through contact with an individual with mental illness can cause prejudicial attitudes that further promotes stigma. The results indicate that the experiences with individuals with mental illness has caused some of the participants to relate attributes such as coercion, pity, and segregation that point to the inability of an individuals with schizophrenia to care for themselves properly. For a person to "feel bad" for an individual with schizophrenia is an emotive response to the negative stereotypes that individuals with mental illness are unable to care for themselves and need to be kept away from society. Therefore, for college students, these stigmatizing attitudes are important to address through awareness since these students are in the process of being educated and trained for positions that can potentially be making decisions on policies for individuals with mental illness.

Demographics

The final key research question was to what degree the demographic variables of age, gender, socioeconomic status, educational level, level of familiarity, and acculturation level effect attitudes towards people with schizophrenia amongst Mexican American college students in the Lower Rio Grande Valley? The hypothesis was that there would be a significant relationship between attitudes towards schizophrenia (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and demographic variables age, gender, socioeconomic status, educational level, and level of familiarity and acculturation level amongst Mexican American college students in the Lower Rio Grande Valley. There were nine stepwise multiple regression analyses that were conducted to assess the relative value and importance of the predictors age, gender, socioeconomic status, educational level, acculturation level as measured by the Acculturation Rating Scale for Mexican Americans – II (ARSMA-II), and level

of familiarity as measured by the Level of Familiarity Scale (LOF) for explaining participants' ratings of the attribution factors associated with stigma towards individuals with mental schizophrenia as measured with the Attribution Questionnaire (AQ-27).

The attribute with the strongest relationship and statistical significance was *blame*. Acculturation level was the sole significant predictor. An explanation for this population could be the influence of cultural views and how they interact and influences the beliefs of what causes mental illness. The more acculturated individuals of the study may be more knowledgeable of the factors that cause schizophrenia and are less likely to blame people with schizophrenia for their situation (Cuéllar, Arnold, & Maldonaldo, 1995; Marin & Marín, 1991).

Pity, which Corrigan, Markowitz et al. (2003) had previously found to be an attitude related to emotional responses that causes an increase in providing help and assistance. Work status was found to be a predictor for *pity*. The stigmatizing views could be accounted for by an individual's work status. Employed people had more positive interactions. This information points to the possible importance of workplace experiences in determining the way individuals with schizophrenia are perceived. This corresponds to the research by Corrigan and Watson (2006) that indicated closer relationships and familiarity can improve the stereotypical views such as workplace relationships. A major goal for many individuals with mental illness is to gain additional independence by becoming and maintaining gainful employment. Employment of individuals with mental illness gives additional opportunities for people in the workplace to have added exposure and to increase the level of familiarity. However, the stigma of individuals with mental illness is present in the workplace. There is a continued level of discrimination towards individuals with mental illness in the workplace due to reduced employment rates, unemployment, and lack of ADA implementation (Overton & Medina, 2008). Due to the stigma

in the workplace individuals with mental illness tend to not be given employment opportunities and are seen as being unreliable and needing help. Decreasing the level of stigma of employers is an important component of stigma reduction since having individuals with mental illness in the workplace can increase positive thoughts and perceptions.

The higher level of acculturation was found to be a predictor for the attribute *help*. For many individuals with schizophrenia the main source of caregivers is their family. In the U.S., it is estimated that 40% of individuals with schizophrenia reside with relatives (WHO, 2001). The care of individuals with schizophrenia is even more common for ethnic minorities such as Mexican Americans (Ramirez Garcia, Hernandez & Dorian, 2009), an estimated 70% of individuals with serious mental illness of Hispanic origin, live with family members (Ramirez Garcia, Chang, Young, Lopez, & Jenkins, 2006). Additional research on acculturation and Mexican American caregivers could give additional insight for familiarity and the attribute of help.

For the attribute *fear*, perceived dangerousness has been found to elicit negative attitudes and behavioral responses (Farina, 1998). Gender was found as a predictor factor for the participants of the present study for females. This finding is validated by past research that differentiates attitudes towards mental illness based on gender roles (Horevitz & Organista, 2013). Additionally, the results could be accounted for based on the gender of the character in the vignette being a male named "Henry." Research by Lenert, Ziegler, Lee, Unfred, & Mahmoud, (2000) indicated a potential for gender of patients or actors to influence the rating of an individual with schizophrenia.

For the attributes *avoidance* and *segregation*, the predictor of level of familiarity was found to be significant. This finding corresponds to Corrigan and Watson (2006) who previously

found positive attitudes and lower levels of stigma resulted from people with a higher level of familiarity with an individual with schizophrenia. Corrigan, Edwards, Green, Diwan & Penn (2001) found level of familiarity to be related to not only less stigmatizing attitudes but also less instances of avoidance of individuals with schizophrenia.

The remaining two attributes of *anger* and *dangerousness* were not found to have statistically significant relationships with variables: age, gender, SES, employment, education level, acculturation level and level of familiarity. The variables did not contribute to the variance nor add predication capabilities for the attributes of anger and dangerousness.

Level of Familiarity

Overall, the findings of this research support the hypothesis that the level of familiarity influences attitudes towards individuals with mental illness. The overall scope of familiarity with mental illness amongst the participants was relatively high. The average score on the LOF was 6.41 (*SD* = 2.57, Possible Range = 0-11) with higher scores being related to more intimate experiences with individuals with mental illness on the part of the participant. The level of familiarity statement participants most indicated representative of their experiences with individuals with mental illness was "I have watched a movie or television show in which a character depicted a person with mental illness" (rank order score = 3), with 91.5% (*n* = 204). This level of familiarity could be a concern as research shows that the role of the media often has a negatively skewed view of people that with mental illness. Negative stereotypes towards individuals with mental illness are often exhibited and are as follows: they are dangerous individuals; the person with the mental illness is to blame for their situation; generally mental health illness is chronic in nature with little chance of positive prognosis; and often the person with a mental illness will demonstrate behaviors that do not follow social norms (Hayward &

Bright, 1997). However, if media is used in a positive way, it can increase positive view of individuals with mental illness (Penn, Chamberlain, & Muesser, 2003).

Not surprisingly, the level of familiarity statement participants indicated the least was "I have a severe mental illness" (rank order score = 11) with 3.1% (n = 7). The percentage is drastically lower than the estimated 26.2% of Americans that have a diagnosable mental illness (Substance Abuse and Mental Health Services Administration, 2012). However, not as many individuals with a mental illness enrolled at the campuses. Despite precautions to ensure the confidentiality of the surveys submitted and no identifying information being placed on the surveys, there still may have been individuals that did not want to self-disclose or have a lack of knowledgeable of what constitutes a mental illness.

Another important finding was the high number of participants that indicated "I have a relative who has a severe mental illness" as their highest level of familiarity (rank order score 9, with 24.7% (n=55). When placed into categories based on the rank scores form the Level of Familiarity Scale the three categories were relatively equal with medium intimacy being the most reported with 79 (35.4%) participants. Findings from this study showed that the level of familiarity was a predictable factor for the college students surveyed and provided a positive impact on stigma attributes.

Acculturation

The findings of this study for the college students surveyed are consistent with the literature on acculturation and generational level. Acculturation level was assessed using the ARSMA-II which was previously normed on Mexican, Mexican American, and White non-Hispanic university students (Cuéllar, Arnold & Maldonado, 1995). The current participants were from two separate post-secondary southwestern Hispanic-Serving Institutions (HSIs) along

a border community which were similar to the original population. There was validation of the usefulness of the ARSMA-II with the selected population through similar analyses conducted for in comparison to the original study by Cuéllar, Arnold & Maldonado (1995). There was validity for the assumption that as a participant's generational status (defined as 1st, 2nd, 3rd, 4th and 5th generations) increases there is a proportional increase in acculturation scores. The Pearson product moment correlation was conducted between the two variables of acculturation level and generation level and there was a statistically significant and positive relationship. The correlation for the current study (r =.59) was nearly as strong as the ARSMA-II normative sample (r =.61) (Cuéllar, Arnold & Maldonado). Comparisons revealed that the mean from the original study (3.82) in comparison to the mean from the current study (3.92) was slightly higher. Due to the fact the original cutoff scores were based on a set amount of standard deviations from the mean, a new set of cutoff scores for acculturation levels was created. The current study has established local norms for the ARSMA-II that might be relevant for the college students in this area.

The results of the present study found a relationship and predictability of acculturation as a factor associated with stigma of schizophrenia. This finding suggests that the acquisition of the dominant cultural values has a bearing on attitudes towards individuals with schizophrenia for the participating college students. The findings also suggest there could be additional factors that may be at work in determining the stigma of schizophrenia in a border community.

The findings for the participating college students did also bring into question what additional factors other than acculturation that could be influencing the higher scores on attributes such as help, coercion and segregation. The aforementioned attributes are not consistent with traditional Mexican ideals such as *machismo, folk illness, familism, fatalism*, and *personalismo* that influence Mexican Americans views of mental health and mental health

services (Cuéllar, Arnold, & Maldonaldo, 1995). A possibility for this could be that some Mexican values were not addressed in this study and could be influences on the stigma related attributes. For example, the cultural constructs of Mexican Americans *respeto* (respect) for educated professionals may predispose the participants of this study to prescribe to the attributes of help, coercion, and segregation (Marin & Marín, 1991). These findings support research by Ramos-Sánchez and Atkinson (2009) that are starting to contradict previous thoughts on culture influencing behavior with mental health help-seeking and treatment. The factor of respect for authority figures such as medical doctors and others by less acculturated Mexican Americans could constitute more willingness to seek help and follow recommendations for treatment. These specific values were not a factor examined in the current study but is suggested for future studies.

Summary

The review of the literature has found that 1 in 5 Americans ages 18 or older experienced mental illness in the past year (Substance Abuse and Mental Health Services Administration, 2012). This statistic translates to 45.9 million Americans. Mental health is a serious issue in the United States and impacts families, the workplace, mental health workers, social services, and the community in varying levels (Byrne, 1997). The review of the literature reinforces that mental health stigma is consistently one of the most prominent barriers to seeking mental health services for individuals with schizophrenia (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). The stigma individuals with schizophrenia experience causes a significant reluctance of individuals to seek the mental health assistance that they require, a lack of treatment and/or medication compliance, and a loss of self-esteem; this often leads to dysfunctional coping strategies (Corrigan, 2004a).

Highly populated Mexican American communities, such as border communities, have an issue with the underreporting of mental illness rates (Perkins et al., 2011). The prevalence rate for mental illnesses such as schizophrenia has been reported as being lower in the border communities than the rest of Texas. There have been general trends regarding the influence of factors and causes for the underutilization of mental health services by Mexican Americans dating back to the mid to late 70's (Acosta, 1979; Barrera, 1978; Keefe, 1979; Padilla, Ruiz, & Alvarez, 1975). Due to the low prevalence rate of schizophrenia research, this study examines the factors that influence stigma in a border community that could assist in giving insight to the reasons for: the lack of health seeking behavior, lack of treatment, lack of documentation, and unique cultural characteristics that are unique to areas such as the border communities (Perkins et al., 2011). While there are numerous factors that could influence Mexican Americans to not seek mental health services, the factors of social stigma, culture and acculturation are influential in areas such as the border communities where there is mixture of two cultures (Barrera, Gonzalez, & Jordan, 2013).

Due to the significant lack of research studies focused on residents in the Lower Rio Grande Valley, the aim of this study was to better understand the factors that influence the perceptions and stigma of schizophrenia amongst Mexican Americans along the U.S./Mexico border. Specifically, this study sought to add to the current body of knowledge by focusing on findings of the specific impact factors such as acculturation, level of familiarity, socioeconomic status, and gender have on Mexican Americans' level of stigma and attitudes towards individuals diagnosed with schizophrenia within a border community.

Key Findings

The key findings for the current study include:

1. For individuals with low acculturation levels that are more aligned with the native culture, in contradiction to traditional Mexican values, the results indicated higher scores for the attribute *segregation*.
2. Due to a lack of correlation between level of familiarity and acculturation level, there is a potential need for increased awareness of individuals with mental illness for college students in this area.
3. Findings from this study showed that the level of familiarity as a predictable factor for the college students surveyed and provided a positive impact on stigma attributes.

Key Finding #1

The cultural influences of Mexican Americans have been found to impact such activities as help seeking behaviors for individuals with mental illness issues (Bastida, Cuéllar, & Villas, 2001; Meyer, Patterson, & Dean, 2013; Sharkey, Dean, & Johnson, 2011; Zimmet, McCarty, & deCourten, 1997). The Mexican American culture, especially one on a border community was found to be in opposition to the traditional beliefs, especially of *familism*. It is interesting to note that the attribute of *segregation* was high for the less acculturated individuals. The less acculturated individual by definition is considered to continue to hold the traditional Mexican values in their daily lives.

The belief in segregation is a drastically different approach to mental illness in comparison to the concept of *familism* where families seek solidarity and avoid separation (Marin & Marín, 1991). However, families may be interested in protecting a family member with schizophrenia in an attempt to prevent them from being exposed to the stigma and

discrimination that society imposes on individuals with mental illnesses. It is important to note there is a sense of shame for some Mexican American families that may not be fully aware of the true causes of mental illness. In the traditional Mexican culture, there is a cultural belief that mental illness and disabilities are caused in part by God's punishment for a sin of the family, in particular the parents (Barrera, Gonzalez, & Jordan, 2013). Additionally, the findings on blame do not correspond to Mexican Americans belief of *fatalism* which is described as the concept that no one has control over one's destiny (Unger et al., 2002). The machismo mentality of the Mexican culture could cause shame by the family due to the stigma that they may encounter since the person with a disability would not have the male qualities such as physical strength, and honor (Unger et al, 2002, p. 260). The need to feel pride of one's offspring and/or relatives is strong enough to further impose isolation and segregation for individuals with mental illness. Keeping the individuals with mental illness at home is in an attempt to protect them from the stigma that is evident in society; however, this action reduces the visibility and contact potential for non-disabled peers. Through education, families can be informed that stigma can possibly be reduced by increasing the inclusion of individuals with mental illness into society, rather than continuing to keep them at home to protect them. The cycle that continues is more difficult to break. Traditional Mexican American families should receive the knowledge that the short term fears will help them, or others, in the long run. In a border community it is important to continue to create awareness and anti-stigma campaigns to address the concerns of family members.

Suggestions and advice from medical practitioners or other people of authority figures can assist in the promotion of a least restrictive environment for individual with mental illness on the Mexico-Texas border. The cultural belief of *respect*, respect towards authority figures such as medical practitioners and mental health providers, by less acculturated Mexican Americans

can be used as positive influence. Mexican Americans trust of the opinions of those in an authority figure can be used for appropriate and positive influence to assist with the transition of allowing their family members with mental illness to be more exposed and integrated. In the future, an acculturation scale that measures on the basis of traditional Mexican values such as *machismo, folk illness, familism, fatalism,* and *personalismo* that influence Mexican Americans views of mental health and mental health services would be useful to gauge the influence of these important cultural aspects (Cuéllar, Arnold, & Maldonaldo, 1995).

Key Finding #2

Mental illness stigma continuing to be a serious issue in society is a clear conclusion according to precious research (Byrne, 1997; Corrigan, 2004a; Hinshaw & Cicchetti, 2000; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). Initially it was hypothesized that acculturation would be positively correlated to the level of familiarity for the population (Hovey, 2000). A less acculturated person tends to be more prone to following the native cultural beliefs such as the importance of family being the nucleus and the tendency to interact mainly with relatives and close family friends. In contrast, individuals with a higher level of acculturation tend to prescribe to the dominant cultural beliefs which include, in this case, an increased sense of independence and individuality from their family. Therefore, it was hypothesized that the college students would have had a higher exposure to individuals with disabilities due to their increased amount of experiences outside of the family radius. This was not the case for this study.

Due to the lack of correlation between level of familiarity and acculturation level, the campuses may consider plans of action to generate additional awareness for their students.

There is a clear indication that the participants would benefit from additional opportunities that promote and assist in increasing the level of familiarity with individuals with disabilities by creating innovative procedures for promoting awareness and sensitivity. The increased awareness and sensitivity programs would benefit the college population in two the two main ways of increasing exposure to what is a mental illness and promoting the utilization of mental health care services. This study also benefits the college community by contributing to the knowledge about stigma of serious mental disorders for the development of custom approaches. Additional cultural insight can assist in reforming current awareness programs and developing multicultural treatments specifically for this particular area.

Increasing the level of awareness can assist individuals to have an improved knowledge of mental health symptoms, treatments, and services. Generally, there continues to be a significant gap and misconceptions in the knowledge of what a mental illness is, the cause, symptoms, and overall what constitutes a mental illness (Corrigan, 2004b; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Corrigan, Green, Lundin, Kubiak,& Penn, 2001; Corrigan, River, et al., 2001; Holmes, Corrigan, Williams, Canar, & Kubiak, 1999; Penn & Nowlin-Drummond, 2001). In a college population the lack of such knowledge of mental illness can pose a risk for this group of people if information is not dispersed properly. College students, in general, experience many new experiences and stresses for the first time. With a new sense of independence there are often issues with coursework, time management, isolation, and creating a self-identity that could potentially impact the individual's mental health.

Due to the lack of research of border communities, this study provides valuable insight by having surveyed the population of this geographic location. Additionally, factors related to mental illness stigma such as the reasons for underutilization of mental health services, the under

reporting of schizophrenia in our area, and possible ways to assist Mexican Americans in treating the symptoms or deficits in their lives in a more culturally sensitive way. It is important to promote mental health services that are available in a non-intimidating and culturally sensitive way to promote utilization by this population on college campuses. Research shows that there is an increase in the number of college students that have been treated for a mental illness prior to their enrollment (Suicide Prevention Resource Center, 2004). Therefore, the promotion of services available is important for college students to be able to readily utilize not only for those that were previously identified as having a mental illness but also those college students whom may first experience emerging mental health problems during their enrollment.

There are reported estimates that 27% of college students are diagnosed with a mental illness between the ages of 18 to 24 (NAMI, n.d.). Essential components of the community such as, but not limited to, campus administrators, counselors, office of disabilities, clubs and organizations, and local mental health agencies can collaborate to increase the awareness and familiarity of what constitutes a mental illness, demystify the stereotypes, and promote utilization of mental health services for college students. "Planting the seed" of positive mental health through events and activities that are well planned, publicized, and collaborative not only promote utilization of mental health services while in college but starts the spread of eliminating stigma and discrimination of individuals with mental illness in an effective manner of which the reach is not currently measurable, but well worth the effort.

Key Finding #3

Findings from this study showed that the level of familiarity provided a positive impact on attributes related to stigma for this population. It is interesting to note that for the current population similar findings were found in terms of level of familiarity being related to lower

scores for attributes associated with negative stigmas (Alexander & Link, 2003; Corrigan & Watson, 2006; Hudes, 2006). The promotion of positive attitudes and perceptions towards individuals with mental illness is key to reducing stigma. In particular, college students are on the forefront of this continuing social movement. With an increased level of awareness through sensitivity training and increased events and activities that promote the truth about mental illness, college students are capable of graduating from college not only with a degree but also with a clear education on mental illness.

For the college students surveyed there is a positive level of perceptions and attitudes towards individuals with schizophrenia that can be further grown from in order to plant the vital seed that is necessary for social change. Teaching and promoting advocacy for individuals with mental health can be fortified for future professionals while in college. College graduates will one day be in important roles and occupations that are responsible or capable of promoting mental health issues and awareness. College students are an important part of our societies future in the areas of health care, law makers, criminal justice professionals, educators to name a few. Capitalizing on the positives that currently exist can lead an empowerment movement that has students as the primary force to promote the change of perceptions and attitudes towards mental illness through lifelong advocacy.

Through a network of college staff, students, community members, and advocacy groups there is a possibility of working towards the common goal of changing the view of mental illness from the negative stereotypes to one that is free of negativity and fear towards a future where the border community can understand mental illness. For this particular area, the increased awareness and information can assist in increasing the utilization of mental health services, diagnoses, treatment, positive outcomes, and increased inclusion of individuals with not only

schizophrenia but any mental illness. Teaching advocacy to the next generation can further promote and generate a movement towards stigma reduction.

Limitations of the Study

Limitations of this study should be noted. The first limitation is in regards to the representation of Mexican Americans as a whole are acknowledged. Participants for this study were gathered through a convenience sample from one geographic location at two southwestern Hispanic-Serving Institutions (HSIs) limiting the generalizability of these findings. Another limitation included the lack of qualitative questions and outcomes from such questions. A qualitative portion might have allowed the researcher to gain more insight into some of the participants' responses. Additionally, the relationship between the variables and factors are associations rather than having a causal relationship due to the research design. An additional limitation of this study is the data is based on a self-report and the researcher is unable to ensure the accuracy and honesty of all the responses. Students may answer questions in socially desirable manners that may not reflect their behavior and stigmatizing attitudes or may be influenced by mood states and attitudes of respondents.

Future Research

The present study provided data on the participants' ratings of the attribution factors associated with stigma towards individuals with schizophrenia as measured with the Attribution Questionnaire (AQ-27), acculturation level as measured by the Acculturation Rating Scale for Mexican Americans – II (ARSMA-II), and level of familiarity as measured by the Level of Familiarity Scale (LOF). Most stigma studies utilize a descriptive research design that is correlational in nature, to provide statements on causality.

Future studies in this area can consider the use of an experimental research design to see if changes to attitudes and perceptions can be accomplished. In order to make strides in increasing the positive perceptions of individuals with mental illness, research needs to be designed to increase awareness though specially designed sensitivity training and discussions of mental illness. Sensitivity training and programs aimed at promoting positive contact has been found to be successful with college students (Chinsky & Rappaport, 1970; Corrigan et al., 2002; Thornicroft et al., 2008; de Sousa, Marques, Curral, and Queirós, 2012; Holmes et al. 1999). Using such measures of educational training can optimize the level of awareness of the negative effects of stigma on individuals with mental illness, their families, and society.

The current participants in this research study were entirely Mexican American, mostly never married, full-time undergraduate students, between the ages of 18-24, with less than $29,000 reported income from two separate post-secondary southwestern Hispanic-Serving Institutions (HSIs) along a border community. Future research may consider the replication of the current study with a larger, diverse, and randomized college population. Future studies for the border community would also consider including a more representative sample than college students. Including a more representative sample could also include additional representation in the five levels of acculturation researched by Cuéllar, Arnold, and Maldonaldo (1995). In addition, the focus of the present study was Mexican Americans along the Texas and Mexico border; however, different geographical locations can provide additional insight to the particular factors influencing stigma for those populations.

The present research study focused on predictors of current perceptions of individuals with schizophrenia. A longitudinal study would provide additional perspectives and generate additional data on changes on perceptions, beliefs, and behaviors of participants over time. The

finding that for level of familiarity, 68.6% of the participants scored at or below an 8 (medium intimacy), may be a pattern that can change over time with additional life experiences.

Future studies might also focus on examining additional variables that could explain variance and minimize unaccounted for variance on the outcome measures. The variables explained fairly small amounts of the variance while leaving 90% or more of the variance unexplained. Although acculturation levels, level of familiarity, gender and age and work status emerged as predictors on the outcome measures, there were other possible variables which might have added to additional predictability. Variables may include different populations, program of study, college major, and other suggested variables such as the use of both subjective and objective measures of stigma, and assessing the attitudes towards schizophrenia from patient groups, health care professionals, and the general public.

Future studies may also want to implement an acculturation instrument that incorporates additional Mexican American cultural values such as *respeto, machismo, folk illness, familism, fatalism*, and *personalismo.* Using such an instrument would give additional insights to the specific cultural aspects that are factors that cause stigma of individuals with mental illness for Mexican Americans. For the Attribution Questionnaire (AQ-27), future studies would want to consider a female patient for the vignette instead of "Henry" to examine the changes of attitudes when the gender is changed. Previous research has found the gender of the character in the vignette can influence the overall perceptions of individuals with mental illness (Lenert, Ziegler, Lee, Unfred, & Mahmoud, 2000).

Additionally, despite the fact that level of familiarity with individuals with a mental illness proved to be a significant factor in the current study, a more exploratory description of the relationship and intimacy is advised for future research. For example, a person can indicate on

the LOF that they have intimate contact with persons with mental illness, but there was not an opportunity to gain insight as to relationship and/or type of mental illness. The knowledge, level of familiarity, and specific interaction with individuals' mental illness is an important component in research of stigma of mental illness (Alexander & Link, 2003; Angermeyer & Matschinger, 1996; Corrigan, Edwards, et al., 2001).

In the limitations portion, social desirability was listed as one factor that could have impacted the current research findings. Goffman (1963) explained how individuals may seek to present themselves in socially favorable ways. For a future study, the addition of a social desirability scale such as the Marlowe-Crowne Social Desirability Scale (MC-SDS) (Crowne & Marlow, 1960) could be used to screen out participants from the study who may not be honestly answering questions.

Implications

According to the U.S. Census Bureau, the Hispanic population is the largest growing ethnic group in the United States with a rate of increase estimated to be at a 48% since 2000 (Motel & Patten, 2013). This increase results in a need for the public education system, social services, mental health practitioners, and rehabilitation counselors to be fully informed in how to assist ethnic minorities. It is vital for professionals to understand that culture plays a role in the psychological, behavioral and emotional functioning of the Mexican American population clinician (Altarriba & Santiago-Rivera, 1994; Santiago-Rivera & Altarriba, 2002; Schrauf, 2000). It is important to note that Mexican culture and cultural beliefs are not necessarily a barrier to mental health services and stigma towards individuals with mental illness. Rather, the unique culture of a border community could be used for counselors and mental health professionals to view and reduce institutional barriers that may be present.

While this study has garnered results applicable only to the college students from two southwestern Hispanic-Serving Institutions (HSIs) the findings presented brings attention to the understanding of various factors involved in the attitudes towards people with schizophrenia. This research may provide insights that help lead toward the creation of culturally sensitive education, training, treatment, and promotion of interventions to assist individuals with mental illness gain the resources needed to provide a higher chance of positive outcomes. The stigma associated with mental illness has been found to determine if people seek help, the level of commitment to treatments and the success of treatment (Hayward & Bright, 1997). Additionally, the current findings could be used to assist practitioners to develop outreach programs specifically tailored to the Mexican American population surveyed. There is a social obligation for mental health practitioners and counselors to provide educational outreach custom designed to inform Mexican Americans about the availability and the use of mental health services. Accessibility to services should be a top societal priority, there needs to be additional reviews of what is necessary to overcome and minimize institutional barriers to have people get the mental health services they need.

Knowledge gained from this research project can also assist in creating anti-stigma campaigns and promotion of mental health services specifically tailored to match the needs of the college students from the two separate post-secondary southwestern Hispanic-Serving Institutions (HSIs) along a border community. Previous research has found that in southwest border communities, there is an increased risk for schizophrenia for Mexican Americans (Bourque, van der Ven, & Malla, 2011). However, the underutilization of mental health services in the LRGV is a continuing contributing factor to the low reporting of schizophrenia

prevalence. Therefore, the findings can be used locally to assist the people of the LRGV to create anti-stigma interventions and assist in diagnosis and treatment.

Final Remarks

This study is one of the first studies aimed at the impact of acculturation on the perspectives and attitudes towards individuals with schizophrenia amongst Mexican Americans along a border community. The study reflects the common idea that stigma towards mental illness is still prevalent in society. For the college students that participated, the limited familiarity with individuals with mental illness, the specific attributes that were dominant, and the impact of acculturation determines not only the nature, but the influence that culture has on mental illness stigma. The research highlights how acculturation is associated with a unique form of mental illness stigmatization that affects the ways in which the participants experience, understand and perceive individuals with mental illness. Findings, no matter how small, aid in the extension of the understanding of the social contexts of stigma and serve to help generate a theorization of how individuals experience mental illness in a social context.

With the high risks associated with schizophrenia, it is important for community members, practitioners, and policy makers to be aware of the role and impact of acculturation and level of familiarity on the stigmatizing beliefs of Mexican Americans in the LRGV. Issues with acculturation have an impact on how accepted individuals feel into the mainstream Amercian society; these highly complex issues need additional attention and research. Due to the rising population of Mexican Americans it is imperative that there continues to be a growth in the number of bilingual counselors and mental health care workers. All mental health providers must be armed with the tools and multicultural competencies to be able to clearly address the needs of the population. Mental health professionals must continue to assist

Mexican Americans in the areas of promotion and awareness of mental illness and services in a culturally sensitive manner. Additional programs should be targeted towards acculturated Mexican Americans and in particular towards acculturated Mexican American men in an effort to encourage the usage of mental health services, counseling, and encouragement of help seeking behaviors **(**Ramos-Sanchez & Atkinson, 2009).

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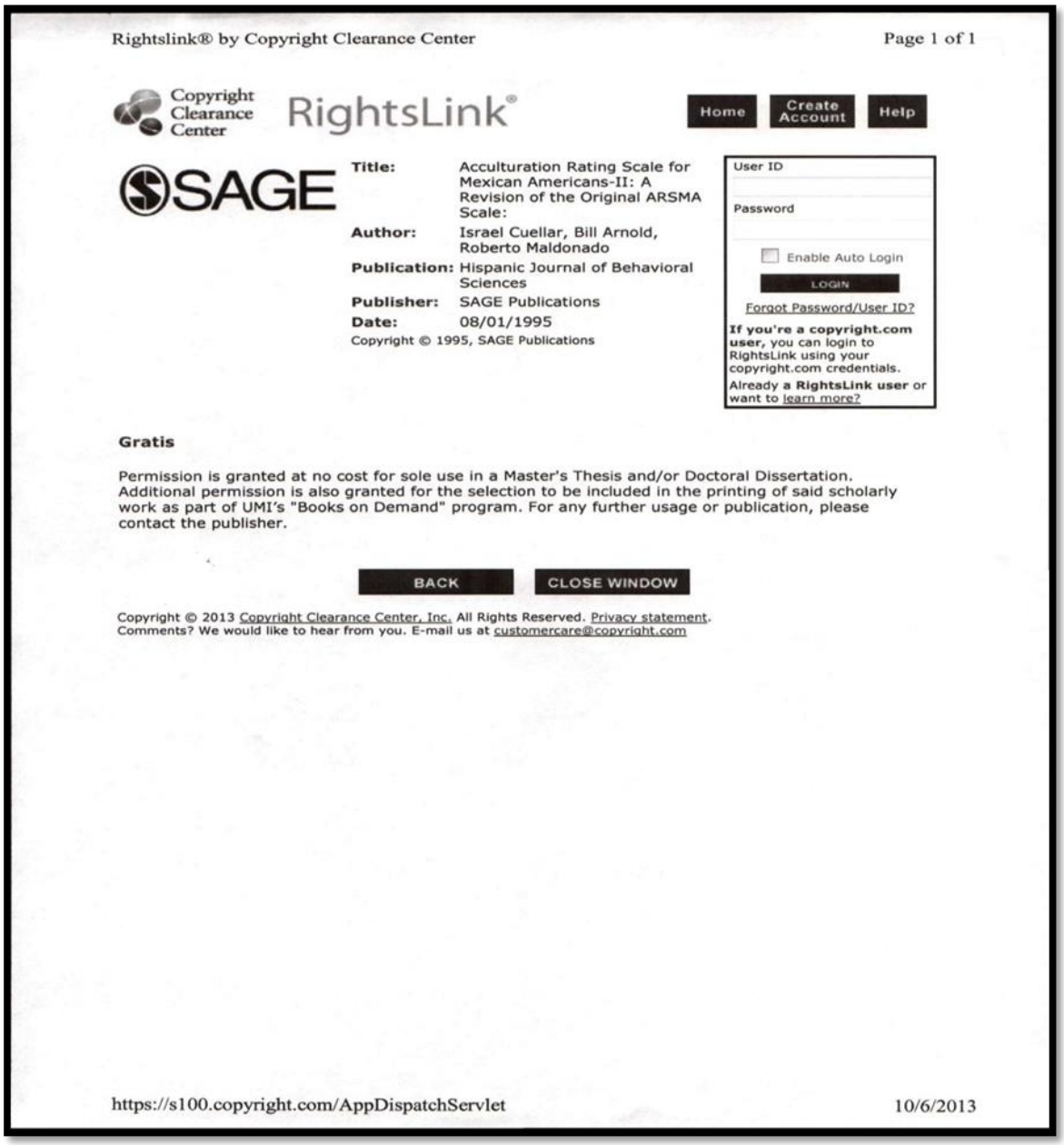
APPENDIX A

APPENDIX A

AUTHORS' PERMISSION TO USE ACCULTURATION RATING

SCALE FOR MEXICAN AMERICANS –II (ARSMA)



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SAGE

Title: Acculturation Rating Scale for Mexican Americans-II: A Revision of the Original ARSMA Scale:
Author: Israel Cuellar, Bill Arnold, Roberto Maldonado
Publication: Hispanic Journal of Behavioral Sciences
Publisher: SAGE Publications
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APPENDIX B

APPENDIX B

AUTHOR PERMISSION TO USE ATTRIBUTION QUESTIONNAIRE (AQ-27)

& LEVEL OF FAMILIARITY SCALE (LOF)

August 21, 2013

Dr. Patrick Corrigan
IIT College of Psychology
3105 South Dearborn, Suite 252
Chicago, IL 60616-3793
corrigan@iit.edu

Dear Dr. Corrigan:

I am a doctoral student from The University of Texas Pan-American writing my dissertation tentatively titled "Factors Contributing to the Stigma of Schizophrenia Amongst Mexican American College Students in the Lower Rio Grande Valley" under the direction of my dissertation committee chaired by Dr. Bruce Reed.

I would like your permission to reproduce and to use the Attribute Questionnaire (AQ-27) and the Level of Familiarity Scale in my research study. I would like to use and print your survey under the following conditions:

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If these are acceptable terms and conditions, please indicate so by signing one copy of this letter and returning it to me either through e-mail with your signature to vparedes711@gmail.com. I look forward to hearing from you.

Sincerely,

VALERIE PAREDES

Valerie Paredes, M.Ed., CSC
Doctoral Candidate

Signature

8/26/13
Date

Expected date of completion May 2014

1

APPENDIX C

APPENDIX C

SURVEY PACKET - CONSENT FORM

Approved by:
UTPA IRB
Expires: N/A
IRB# 2013-125-10

Consent Form

Study title: FACTORS AFFECTING ATTITUDES TOWARDS PEOPLE WITH SCHIZOPHRENIA: PERCEPTIONS OF MEXICAN AMERICAN COLLEGE STUDENTS

This research is being conducted by Valerie Paredes from the University of Texas-Pan American. The research study investigates the factors affecting attitudes and perceptions of Mexican American college students towards people with schizophrenia. The survey should take about no more than 45 minutes to complete.

If you would prefer not to participate in this study, simply return the blank survey. Your responses are anonymous; you should not include any identifying information on this survey. Try to answer all questions. You must be at least 18 years old to participate. If you are not 18 or older, please inform the researcher and do not complete the survey.

Researcher contact information: ***Name: Valerie Paredes***
Title: PhD Student
Dept: Rehabilitation
The University of Texas-Pan American
Phone: (956)244-5769
Email: vcortez1@broncs.utpa.edu

Faculty Advisor: Dr. Bruce Reed
Dept: Rehabilitation
The University of Texas-Pan American
Phone: (956) 665-7036
Email: bjreed@utpa.edu

This research has been reviewed and approved by the Institutional Review Board for Human Subjects Protection (IRB). If you have any questions about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, please contact the IRB at 956-665-2889 or email irb@utpa.edu. You are also invited to provide anonymous feedback to the IRB by visiting www.utpa.edu/IRBfeedback.

You will be given a copy of this form to keep for your records.

APPENDIX D

APPENDIX D

SURVEY PACKET – DEMOGRAPHIC QUESTIONNAIRE

Demographics Survey

MARK YOUR ANSWER TO ALL QUESTIONS.

1. **What is your age?** _____

2. **What is you gender?**
   A. Female
   B. Male

3. **What is your marital status?**
   A. Now married
   B. Widowed
   C. Divorced
   D. Separated
   E. Never married

4. **What is the highest degree or level of school you have completed?**
   A. No diploma
   B. High school graduate - high school diploma or the equivalent (for example: GED)
   C. Some college credit, no degree
   D. Associate degree (ex.: AA, AS)
   E. Bachelor's degree (ex.: BA, BS)
   F. Master's degree (ex.: MA, MS, MEng, MEd, MSW, MBA)
   G. Professional degree (ex.: MD, DDS, DVM, LLB, JD)
   H. Doctorate degree (ex.: PhD, EdD)

5. **What is your current enrollment status?**
   A. Full-Time (12+ hours)
   B. Part-Time (Less than 12 hours)

6. **List your current program of study?** _____

7. **Please specify your employment status.**
   A. Employed or Self-employed
   B. Out of work
   C. A homemaker
   D. A student
   E. Retired
   F. Other_____

8. **What is your total household income?**
   A. Less than $29,999
   B. $30,000 to $59,999
   C. $60,000 to $89,999
   D. $90,000 or more

9. **Are you of Hispanic, Latino, or Spanish origin?**
   A. No, not of Hispanic, Latino, or Spanish origin
   B. Yes, Mexican, Mexican American, Chicano
   C. Yes, Puerto Rican
   D. Yes, Cuban
   E. Yes, another Hispanic, Latino, or Spanish origin -- (Print origin, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, etc.)_____

10. **Do you know a person with schizophrenia?**
    A. No
    B. Yes

Page 2 of 9

APPENDIX E

APPENDIX E

SURVEY PACKET – ACCULTURATION RATING SCALE-II (ARSMA-II), SCALE 1

Acculturation Rating Scale-II (ARSMA-II) - *English Version*

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

1. **1st generation** = You were born in Mexico or other country.
2. **2nd generation** = You were born in USA; either parent born in Mexico or other country.
3. **3rd generation** = You were born in USA, both parents born in USA and all grandparents born in Mexico or other country.
4. **4th generation** = You and your parents born in USA and at least one grandparent born in Mexico or other country with remainder born in the USA.
5. **5th generation** = You and your parents born in the USA and all grandparents born in the USA.

SCALE 1

[Circle a number between 1-5 next to each item that best applies.]

	1	2	3	4	5
	Not at all	Very little or not very often	Moderately	Much or Very often	Extremely Often or Almost Always
1. I speak Spanish	1	2	3	4	5
2. I speak English	1	2	3	4	5
3. I enjoy speaking Spanish	1	2	3	4	5
4. I associate with Anglos	1	2	3	4	5
5. I associate with Mexican and/or Mexican Americans	1	2	3	4	5
6. I enjoy listening to Spanish language music	1	2	3	4	5
7. I enjoy listening to English language music	1	2	3	4	5
8. I enjoy Spanish language TV	1	2	3	4	5
9. I enjoy English language TV	1	2	3	4	5
10. I enjoy English language movies	1	2	3	4	5
11. I enjoy Spanish language movies	1	2	3	4	5
12. I enjoy reading (e.g., books in Spanish)	1	2	3	4	5
13. I enjoy reading (e.g., books in English)	1	2	3	4	5
14. I write (e.g., letters in Spanish)	1	2	3	4	5
15. I write (e.g., letters in English)	1	2	3	4	5
16. My thinking is done in the English language	1	2	3	4	5
17. My thinking is done in the Spanish language	1	2	3	4	5
18. My contact with Mexico has been	1	2	3	4	5
19. My contact with the USA has been	1	2	3	4	5
20. My father identifies or identified himself as “Mexicano”	1	2	3	4	5
21. My mother identifies or identified herself as “Mexicana”	1	2	3	4	5
22. My friends, while I was growing up, were of Mexican origin	1	2	3	4	5
23. My friends, while I was growing up, were of Anglo origin	1	2	3	4	5
24. My family cooks Mexican foods	1	2	3	4	5
25. My friends now are of Anglo origin	1	2	3	4	5
26. My friends now are of Mexican origin	1	2	3	4	5
27. I like to identify myself as an Anglo American	1	2	3	4	5
28. I like to identify myself as a Mexican American	1	2	3	4	5
29. I like to identify myself as a Mexican	1	2	3	4	5
30. I like to identify myself an American	1	2	3	4	5

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End of Scale 1

APPENDIX F

APPENDIX F

SURVEY PACKET – ACCULTURATION RATING SCALE-II (ARSMA-II), SCALE 2

SCALE 2

[Circle a number between 1-5 next to each item that best applies.]

	1	2	3	4	5
	Not at all	Very little or not very often	Moderately	Much or Very often	Extremely Often or Almost Always
1.I have difficulty accepting some ideas held by Anglos	1	2	3	4	5
2.I have difficulty accepting certain attitudes held by Anglos	1	2	3	4	5
3. I have difficulty accepting some behaviors exhibited by Anglos	1	2	3	4	5
4. I have difficulty accepting some values held by some Anglos	1	2	3	4	5
5. I have difficulty accepting certain practices and customs commonly found in some Anglos	1	2	3	4	5
6. I have, or think I would have, difficulty accepting Anglos as close personal friends	1	2	3	4	5
7. I have difficulty accepting ideas held by some Mexicans	1	2	3	4	5
8. I have difficulty accepting certain attitudes held by Mexicans	1	2	3	4	5
9. I have difficulty accepting some behaviors exhibited by Mexicans	1	2	3	4	5
10. I have difficulty accepting some values held by some Mexicans	1	2	3	4	5
11. I have difficulty accepting certain practices and customs commonly found in some Mexicans	1	2	3	4	5
12. I have, or think I would have, difficulty accepting Mexicans as close personal friends	1	2	3	4	5
13. I have difficulty accepting ideas held by some Mexican Americans	1	2	3	4	5
14. I have difficulty accepting certain attitudes held by Mexican Americans	1	2	3	4	5
15. I have difficulty accepting some behaviors exhibited by Mexican Americans.	1	2	3	4	5
16. I have difficulty accepting some values held by Mexican Americans.	1	2	3	4	5
17. I have difficulty accepting certain practices and customs commonly found in some Mexican Americans.	1	2	3	4	5
18. I have, or think I would have, difficulty accepting Mexican Americans as close personal friends.	1	2	3	4	5

End of Scale 2

APPENDIX G

APPENDIX G

SURVEY PACKET – ATTRIBUTION QUESTIONNAIRE (AQ-27), PG. 1

Attribution Questionnaire (AQ-27)

PLEASE READ THE FOLLOWING STATEMENT ABOUT HARRY:

Harry is a 30 year-old single man with schizophrenia. Sometimes he hears voices and becomes upset. He lives alone in an apartment and works as a clerk at a large law firm. He has been hospitalized six times because of his illness.

NOW ANSWER EACH OF THE FOLLOWING QUESTIONS ABOUT HARRY. CIRCLE THE NUMBER OF THE BEST ANSWER TO EACH QUESTION.

1. I would feel aggravated by Harry.

1 2 3 4 5 6 7 8 9
not at all very much

2. I would feel unsafe around Harry.

1 2 3 4 5 6 7 8 9
no, not at all yes, very much

3. Harry would terrify me.

1 2 3 4 5 6 7 8 9
not at all very much

4. How angry would you feel at Harry?

1 2 3 4 5 6 7 8 9
not at all very much

5. If I were in charge of Harry's treatment, I would require him to take his medication.

1 2 3 4 5 6 7 8 9
not at all very much

6. I think Harry poses a risk to his neighbors unless he is hospitalized.

1 2 3 4 5 6 7 8 9
none at all very much

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APPENDIX H

APPENDIX H

SURVEY PACKET – ATTRIBUTION QUESTIONNAIRE (AQ-27), PG. 2

7. If I were an employer, I would interview Harry for a job.

1	2	3	4	5	6	7	8	9
not likely								very likely

8. I would be willing to talk to Harry about his problems.

1	2	3	4	5	6	7	8	9
not at all								very much

9. I would feel pity for Harry.

1	2	3	4	5	6	7	8	9
none at all								very much

10. I would think that it was Harry's own fault that he is in the present condition.

1	2	3	4	5	6	7	8	9
no, not at all								yes, absolutely so

11. How controllable, do you think, is the cause of Harry's present condition?

1	2	3	4	5	6	7	8	9
not at all under personal control								completely under personal control

12. How irritated would you feel by Harry?

1	2	3	4	5	6	7	8	9
not at all								very much

13. How dangerous would you feel Harry is?

1	2	3	4	5	6	7	8	9
not at all								very much

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APPENDIX I

APPENDIX I

SURVEY PACKET – ATTRIBUTION QUESTIONNAIRE (AQ-27), PG. 3

14. How much do you agree that Harry should be forced into treatment with his doctor even if he does not want to?

1	2	3	4	5	6	7	8	9
not at all								very much

15. I think it would be best for Harry's community if he were put away in a psychiatric hospital.

1	2	3	4	5	6	7	8	9
not at all								very much

16. I would share a car pool with Harry every day.

1	2	3	4	5	6	7	8	9
not likely								very likely

17. How much do you think an asylum, where Harry can be kept away from his neighbors, is the best place for him?

1	2	3	4	5	6	7	8	9
not at all								very much

18. I would feel threatened by Harry.

1	2	3	4	5	6	7	8	9
no, not at all								yes, very much

19. How scared of Harry would you feel?

1	2	3	4	5	6	7	8	9
not at all								very much

20. How likely is it that you would help Harry?

1	2	3	4	5	6	7	8	9
definitely would not help								definitely would help

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APPENDIX J

APPENDIX J

SURVEY PACKET – ATTRIBUTION QUESTIONNAIRE (AQ-27), PG. 4

21. How certain would you feel that you would help Harry?

1	2	3	4	5	6	7	8	9
not at all certain								absolutely certain

22. How much sympathy would you feel for Harry?

1	2	3	4	5	6	7	8	9
none at all								very much

23. How responsible, do you think, is Harry for his present condition?

1	2	3	4	5	6	7	8	9
not at all responsible								very much responsible

24. How frightened of Harry would you feel?

1	2	3	4	5	6	7	8	9
not at all								very much

25. If I were in charge of Harry's treatment, I would force him to live in a group home.

1	2	3	4	5	6	7	8	9
not at all								very much

26. If I were a landlord, I probably would rent an apartment to Harry.

1	2	3	4	5	6	7	8	9
not likely								very likely

27. How much concern would you feel for Harry?

1	2	3	4	5	6	7	8	9
none at all								very much

APPENDIX K

APPENDIX K

SURVEY PACKET – LEVEL OF FAMILIARITY (LOF)

Level of Familiarity (LOF)

PLEASE READ EACH OF THE FOLLOWING STATEMENTS CAREFULLY. AFTER YOU HAVE READ ALL OF THE STATEMENTS BELOW, PLACE A CHECK BY EVERY STATEMENT THAT REPRESENTS YOUR EXPERIENCE WITH PERSONS WITH A SEVERE MENTAL ILLNESS.

_____ I have watched a movie or television show in which a character depicted a person with mental illness.

_____ My job involves providing services/treatment for persons with a severe mental illness.

_____ I have observed, in passing, a person I believe may have had a severe mental illness.

_____ I have observed persons with a severe mental illness on a frequent basis.

_____ I have a severe mental illness.

_____ I have worked with a person who had a severe mental illness at my place of employment.

_____ I have never observed a person that I was aware had a severe mental illness.

_____ A friend of the family has a severe mental illness.

_____ I have a relative who has a severe mental illness.

_____ I have watched a documentary on television about severe mental illness.

_____ I live with a person who has a severe mental illness.

BIOGRAPHICAL SKETCH

Valerie Paredes received her B.S. in Criminal Justice from The University of Texas-Pan American, Edinburg, Texas, M.Ed. in Guidance and Counseling at The University of Texas at Brownsville, Brownsville, Texas, and Ph.D. in Rehabilitation Counseling at The University of Texas-Pan American, Edinburg, Texas. She has been a Counselor at Harlingen High School South, Harlingen, Texas since 2010. Previously, she was a Life Skills Teacher at Travis Elementary, Harlingen, TX from 2006-2010, an Admissions Advisor at Texas State Technical College, Harlingen, TX from 2004-2006, a Caseworker at Texas Youth Commission, Harlingen, TX in 2004, and a Case Manager for Communities in Schools, Cameron County, Brownsville, TX from 2002-2004. Her research experience has been in perceptions of college students, schizophrenia, stigma, acculturation, and substance abuse along the South Texas/Mexico border. She was invited to present a poster presentation at the 2011 National Council on Rehabilitation Education Conference (NCRE) National Conference and has been published in The Journal of Alcohol and Drug Education. She has served as the Secondary Co-Chair on the RGV Lead's Lower Rio Grande Valley Counselors' Network since 2011. At the 2013 RGV Lead Regional Conference, she was named the RGV Lead's Counselor of the Year Recipient. Valerie Paredes is a native of Cameron County and the daughter of Roger and Velma Cortez of Harlingen, Texas. She is married to Juan Manuel Paredes, Jr., a native of Harlingen, Texas and they have one puppy together named Scarlett Begonia. She can be reached at P.O. Box 531542, Harlingen, TX 78553.