A PSYCHOSOCIOCULTURAL INVESTIGATION OF PSYCHOLOGICAL WELL-BEING AMONG CHICANA/O UNDERGRADUATES

BY
HUMBERTO RICARDO HERNANDEZ

A dissertation submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

WASHINGTON STATE UNIVERSITY
Department of Education and Counseling Psychology

May 2011

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To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation/thesis of HUMBERTO RICARDO HERNANDEZ find it satisfactory and recommend that it be accepted.

___________________________________
Brian McNeill, Ph.D.

___________________________________
Austin T. Church, Ph.D

___________________________________
Laurie D. McCubbin, Ph.D
ACKNOWLEDGMENT

First, I would like to express my greatest gratitude to the Creator for blessing me with my family who have always supported my dreams and ambitions and who have given me the strength to complete this project. Thank you Mom and Dad for your love, support, and sacrifices that you have made along the way to ensure that I received a great education. To my grandmother who is watching over me: You have inspired me with your work ethic and your commitment to family. To Sara: We did it! Thank you for always believing in me!

I would also like to thank my Chair, Dr. Brian McNeill for his mentorship since I first entered graduate school. I appreciate your guidance and talking Lakers and Dodgers with me. I also express my many thanks to my committee members, Dr. Tim Church and Dr. Lali McCubbin, who have also been a great part of my professional development as a scientist and a practitioner. Lastly, I’d like to thank my cohort: Sarah, John, Rachel, Amy, Lisa, and Shawn. I’m so thankful for your friendship and support.
A PSYCHOSOCIOCULTURAL INVESTIGATION OF PSYCHOLOGICAL WELL-BEING AMONG CHICANA/O UNDERGRADUATES

Abstract

by Humberto Ricardo Hernandez, Ph.D.
Washington State University
May 2011

Chair: Brian W. McNeill

The Latina/o population makes up the largest ethnic minority group in the United States. Unfortunately, the Latina/o population also experiences higher rates of poverty in comparison to other ethnic groups (U.S. Census Bureau, 2006). Educational attainment is one of the key factors in elevating one’s socioeconomic standing, yet Latina/o undergraduates continue to be underrepresented in higher education (NCES, 2002). Previous frameworks have been unable to establish an interdisciplinary approach that accounts for the cultural phenomena, which makes the experiences of Latina/os unique. The present study reviewed the psychological well-being of Latina/o undergraduates from a psychosociocultural (PSC) framework in order to glean a more comprehensive understanding of the factors that contribute to adjustment. A review of the literature of previous findings and issues associated with mismeasurement are provided. Specifically, psychological (college self-efficacy) and sociocultural constructs (cultural congruity, attitudinal familismo, acculturation/enculturation) will be reviewed to understand the interactions and impact of these variables on level of psychological well-being. A mediation model predicting the psychological well-being of 138 Chicana/o undergraduates was tested, however mediation was not supported. The present study found that increased college self-
efficacy predicted increased psychological well-being. Further, increased Anglo orientation was associated with increased cultural congruity, more positive perceptions of the university environment, and increased college self-efficacy. Increased attitudinal familism was associated with increased college self-efficacy. Lastly, cultural congruity, perceptions of the university environment, college self-efficacy, and attitudinal familism were all positively associated with psychological well-being. Limitations and future directions are discussed.
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I dedicate this dissertation to my soon-to-be-born son. You are a blessing and I can’t wait to hold you. *Te quiero mucho, miyo!*
Chapter I

Introduction

This chapter is divided into three distinct sections. First, the chapter covers the demographics and background characteristics of Latina/os in the United States. Second, the theoretical models explaining the higher education experiences of Latina/os will be reviewed and critiqued. From a psychosociocultural perspective, there will be a review of constructs salient to the lives of Latina/os. The reviewed constructs are familismo, acculturation, cultural fit, college self-efficacy, and psychological well-being. Further, the chapter will provide a review of the literature investigating the significance of familismo in the lives of Latina/os and how it pertains specifically to Latina/o undergraduates. Additionally, a review of the association between acculturation and familismo will be covered, emphasizing the inconsistencies in measuring both constructs orthogonally. Literature on the impact of cultural fit on the adjustment, well-being, and distress of Latina/o undergraduates will also be examined. In addition, the literature review will also focus on the associations self-efficacy shares with the aforementioned variables and its role as a mediating variable.

Demographic Trends of Latina/os

Latina/os represent the largest ethnic minority group in the United States with an approximate population of 41.9 million, accounting for 36% of the 100 million people added to the United States population between 1966 and 2006 (Pew Hispanic Center Fact Sheet, 2006). Furthermore, it is estimated that by 2050, the Latina/o population will reach 98 million people, representing approximately 25% of the total U.S. population and three times higher than their current population. While Latina/os represent the largest ethnic minority group in the United
States, they also comprise one of the most impoverished ethnic groups in the nation. As of 2003, Latina/os had a 22.5% poverty rate, far exceeding the poverty rate of Caucasians at 8.2%.

Despite this considerable growth, Latina/os are underrepresented in institutions of higher education (National Center for Education Statistics ([NCES], 2002), and are disproportionately enrolled in 2-year colleges. Latina/o students accounted for 14% of all students in 2-year institutions, but accounted for only 7% of students enrolled in 4-year universities (NCES, 2003). These figures drop from 14% to 9% and 7% to 6%, respectively, for degrees conferred to Latina/o students, suggesting that there are leaks in the educational pipeline, which need to be addressed. These numbers may speak to the negative experiences that Latina/o undergraduates often encounter while at the university (Gloria & Pope-Davis, 1997), which may impact their psychological functioning (Solberg & Villareal, 1997).

Among the Latina/o population, individuals of Mexican descent have attained the lowest undergraduate degree completion rates, earning degrees at a much lesser rate than Puerto Ricans, Cubans, and South and Central Americans (Yosso & Solorzano, 2006). This is of great concern since the Mexican-American subpopulation accounts for 56% of the entire Latina/o population in the United States (Watford, Rivas, Burciaga, & Solorzano, 2005). Therefore, while Latina/os may become enrolled in institutions of higher education, it is not guaranteed that they will persist in their educational endeavors.

Moreover, educational persistence may also be impacted by immigration status. New immigrants tend to have higher drop-out rates than second-generation students, while second-generation students have higher drop-out rates than their third-generation counterparts (NCES, 2000). Generational differences in drop-out rates may be attributed to first-generation students
having to struggle with language acquisition and cultural conflicts between their native culture and American values.

Poverty has also been cited as a possible explanation for high attrition rates. Latina/os have been recognized as one of the most impoverished ethnic groups in the United States (Garcia & Marotta, 1997). In 2000, Latina/os contributed to 12% of the U.S. population, but Latina/os accounted for 21% of individuals living in poverty (NCES, 2003). Attrition rates are positively correlated with the parents’ socioeconomic status (NCES, 1996). However, compared to other ethnicities with similar socioeconomic statuses, Latina/os continue to experience lower academic attainment (NCES, 1995).

With fewer Latina/os enrolled and persisting in higher education, it is also understood that greater disparities will exist at the graduate school level. While African Americans and European Americans are steadily increasing their representation at the undergraduate and graduate levels, Latina/os have not made comparable progress (Watford et al., 2005). Although the Council of Graduate Schools (Syverson, 2003) reported increases in graduate/master’s-level enrollment for Latina/os, research indicates that degree attainment decreases as Latina/o students climb the academic ladder. During a ten-year period from 1992 to 2002, conferred doctorates to Latina/os rose only slightly from 3.6% to 5.1% (Survey of Earned Doctorates, 2000).

These trends of academic attrition are alarming considering that a college degree positively impacts an individuals’ economic and occupational future (U.S. Census Bureau, 2003). Latina/os’ earning potential grows from $24,163 with a high school diploma or GED to $67,679 with an advanced degree. This earning potential can lead to greater opportunities and resources such as improved health care and job promotion, which can contribute to greater
overall functioning. These trends threaten the rise in socioeconomic standing that education brings (Secada et al., 1998).

Recently, postsecondary institutions have made efforts to increase diversity on campus. In order to assess their ability to create a diverse climate, these institutions have largely relied on increases in attendance of ethnic minorities as a marker for success (Castellanos & Gloria, 2007). However, it has been recommended by researchers that institutions look beyond attendance records to assess the success of ethnic minority students and begin to investigate the unique needs of Latina/o undergraduates to succeed. Although there may be increases in attendance, administrations would benefit students by gaining a greater understanding of Latina/o educational experiences and barriers.

Unfortunately, Latina/o undergraduates are well aware that many barriers exist. Such barriers include lack of role models, encountering discrimination, and facing low expectations from staff and administration (Gloria & Castellanos, 2003). In fact, students’ academic achievement has shown limited improvement over the past three decades, and the quality of experience continues to decline as few teachers educate from culturally integrated frameworks or hold high educational expectations for Latina/o students (Quijada & Alvarez, 2006). Consequently, students often question their own abilities or right to be in postsecondary education when they consistently encounter social and cultural barriers (Kamimura, 2006; Rosales, 2006).

Gaps in educational attainment have been attributed to leaks in the educational pipeline, suggesting that academic institutions are not meeting the needs of Latina/o undergraduates in the classroom and campus environment. Additionally, debate exists as to whether Latina/o
undergraduates drop out of college or whether the educational pipeline pushes them out in primary and secondary education. This pipeline frequently tracks students into non-college bound classes, mistakenly places them in special education curricula due to language difference, resulting in low academic expectations (Gay, 2001). Despite these barriers, authors have argued that Latino families should not have to compensate for inadequacies of the educational system (Delgado-Gaitan, 2001; Yosso, 2006). This view contrasts with previous views that posit that problems with the educational attainment of Latina/o undergraduates are the result of an inadequate family system (Trueba & Bartolome, 1997). In order to address the psychological and educational needs of Latina/o undergraduates, a brief overview of Latina/os in education, operational terms, and key constructs will be discussed.
Chapter II

Review of Literature

Substantial literature has focused on the alleged shortcomings of Latina/o cultural values that impede Latina/o undergraduates from succeeding in postsecondary education. Explanations for the academic failure of Latina/os that have relied on a cultural-deficit model have been a part of the educational history of Latina/o students (Flores, 1993; Valencia, 1991). Known in the literature as the "cultural deprivation" model, the deficit approach assigns disproportionate academic problems among low-status students (e.g., cognitive and linguistic deficiencies, low self-esteem, poor motivation) to shortcomings in their sociocultural background (Valencia, 1986). This model displaces the responsibility of the educational system and hinders social policy. Rather than focus on the myths of the cultural-deficit model, psychologists and higher education administrators need to consider the strengths of Latina/o culture and incorporate them into policy that can lead to greater persistence in higher education.

Historical Perspectives of Latina/os in Higher Education

Taking into account the educational disparities and psychological distress that Latina/o undergraduates encounter regularly, researchers have investigated the experiences of Latina/o undergraduates from a diverse range of theoretical frameworks. Despite the fact that many psychological and sociocultural factors contribute to the negative experiences of Latina/o undergraduates, most theoretical models fail to address the many contextual realities that they face. For instance, research on educational outcomes (i.e., academic persistence) may focus on the environment’s impact on the student, while other research may place an emphasis on the internal resources of the individual. Unfortunately, despite the persistent study of Latina/os in higher education, Latina/os continue to experience psychological distress, while they continue to
persist at lower levels than their peers. The following section will serve as a review of previous and current perspectives on Latina/o educational persistence and psychological functioning.

Resiliency Research

In order to respond to a history of literature that purported the alleged shortcomings of Latina/o families’ culture and unwillingness to enter higher education, researchers began to investigate resiliency factors among Latina/o undergraduates (e.g. Alva, 1991; Arellano & Padilla, 1996; Cabrera & Padilla, 2004; Ceballo, 2004; Gonzalez & Padilla, 1997). Resiliency theorists have attempted to dispel the notion that “at-risk” students will inevitably fail and drop out of institutions of higher education. Investigators have focused on internal (e.g., motivation, self-esteem) and external (e.g., family support, mentors) resources that aid resiliency among Latina/o undergraduates. Further, resiliency theorists have investigated potential “at-risk” students to gain a greater understanding of students who appear to be invulnerable to potential barriers that students may encounter (Arellano & Padilla, 1996). Risk factors include poverty, institutionalized racism within schools, and a lack of optimal resources available for student success.

Arellano and Padilla (1996) investigated the academic experiences of 30 undergraduates of Mexican heritage at Stanford University. Students were equally divided into three different groups ($N = 10$) by parental level of education. The findings of the study revealed that mentors and role models were most important for the resilience of students whose parents had the least amount of education. These role models and mentors helped students by providing resources that enabled students to apply to Stanford and succeed. Additionally, the majority of students indicated that maintaining a sense of pride about their Mexican heritage motivated them to
succeed. However, even more salient for these students was the parental support they received, which enabled them to feel optimistic about their educational pursuits.

Cabrera and Padilla (2004) extended the work of Arellano and Padilla (1996) by closely examining the academic experiences of two undergraduates of Mexican heritage through the use of in-depth interviews. In their retrospective study, two students of Mexican heritage revealed that they identified strongly with their culture and noted that they felt marginalized in the United States due to public policies such as racial profiling. Consistent with Arellano and Padilla’s (1996) findings, parents, particularly mothers, provided motivation to succeed through overt and covert messages. Specifically, mothers monitored their children to ensure that they were completing their homework and had instilled in them a sense of responsibility. Students expressed gratitude toward their mothers and credited their mothers for ingraining them with habits that led to successful outcomes.

Utilizing a qualitative methodology, Ceballo (2004) investigated the role of parenting strategies on ten successful first-generation, U.S. born Latina/o undergraduates at an Ivy League institution. Four family characteristics that contributed to academic success among Latina/o undergraduates were derived from the analysis. First, a strong parental commitment to educational attainment was present for all ten students in the study. Parents viewed education as a means to escape poverty and to attain a well-paying job. Although many of the parents did not finish high school, parents consistently offered verbal support and emphasized the opportunities that their children had. Second, since most of the parents in the study did not attend a university, students described their parents as supporting their autonomy. According to students, their parents trusted them with educational matters and students were expected to make good decisions. Students reported that this autonomy was a “mixed blessing” as students were
allowed certain freedoms, but they felt that they lacked guidance (p. 179). Third, students explained that parents displayed nonverbal forms of support for their educational endeavors.

Resiliency research has contributed greatly to shifting previous perspectives, which had viewed Latina/o families as uncooperative, or hindering the success of Latina/o undergraduates. Through the use of qualitative methodology, resiliency researchers have revealed the personal attributes that lead to success and have made recommendations to affect positive outcomes for Latina/o undergraduates. Despite these contributions, there have been critiques made regarding the external validity of resiliency research (Bartelt, 1994). Essentially, there have been questions concerning the definition of resilience. Bartelt has questioned the use of the term resilience to represent a singular psychological trait. Rather than define resilience as a singular psychological trait, it has been recommended that resilience be viewed as a systemic process, which takes into account the ecological reality of the individual. Much of the resiliency research has utilized a qualitative methodology. Additionally, focusing too much on the internal resources of students rather than also investigating the individual’s ecological world makes it difficult to make recommendations based on research findings. Finally, qualitative designs have been effective in offering new insights into the experiences of resilient Latina/o undergraduates, but researchers have attempted to generalize results from small to modest sample sizes.

**Theories on Social Integration**

Several theorists have focused on a social integration approach to understanding student comfort and persistence in higher education (Bean, 1983; Tinto, 1975, 1987). Tinto (1975) was one of the original theorists to call into question the lack of social integration between students and the campus environment, and research that failed to observe personal factors in combination with environmental factors. The model took into account the interaction between family
background, personal disposition, and schooling to understand the impact of goal commitment and institutional commitment. Goal commitment refers to the commitment to obtain a degree, while institutional commitment refers to the student’s commitment to the university he/she attends. According to Tinto’s theory, social integration results from peer and faculty interaction, which reinforce each other over time. As with resiliency research, Tinto’s model attempts to take into account personal and environmental factors.

Tinto (1987) posited that explanations used by researchers used to explain the experiences of academic nonpersistence tended to be: (a) ineffective, (b) unhelpful to academic institutions, (c) overlooking the role of the academic institution on the student, and (d) lacking a cohesive theory as they labeled, but did not adequately explain the relationships between variables. Rather than focus solely on the alleged shortcomings of students or academic factors, Tinto’s model included personal, academic, and social factors. Tinto hypothesized that academic nonpersistence could be explained by an ongoing process of interaction between the student (e.g., skills, resources, prior educational experiences, commitment) and the social and academic systems of the academic institution.

According to Tinto (1993), the intentions and commitment to an academic institution are continually modified by the student’s experiences in the academic institution. Specifically, intentions and commitment can be altered by interactions with other members of the institution and their perceptions about the degree that they aspire to attain. Experiences that are viewed as socially integrative or congruent are viewed as positive experiences and lead to increases in goal commitment and institution commitment. Conversely, incongruence, or the lack of fit between the student and the academic institution, is viewed as being related to academic nonpersistence. Incongruence may occur in social or academic spheres, where the student perceives the academic
climate as unsuitable for his/her needs. Further, incongruence may occur when there is a lack of fit between the goals and values of the academic institution and those of the student.

Bean (1983) also stressed the importance of social integration, but conceptualized the process of social integration differently. Whereas Tinto’s model (1987, 1993) adopts a more sociological perspective, Bean’s integration model emphasized the psychological factors of the individual. Essentially, students enter higher education with expectations and beliefs that are either confirmed or disconfirmed by their interaction with the campus environment. If their expectations are confirmed, they will maintain their previous set of beliefs and attitudes. On the other hand, if their beliefs are disconfirmed, these experiences may prompt students to form new impressions of their experiences on campus. As a result, students’ intentions to stay or leave the university are highly influenced by the interaction between their expectations and subsequent experiences.

Eaton and Bean (1995) further elaborated on this theory of social integration by taking into account the importance of background characteristics of the student. From this perspective, social and academic integration along with the student’s background will influence a student’s persistence attitudes. For instance, Bean and Eaton (1994) suggested that an individual’s attitudes toward an academic institution and subsequent behaviors may be impacted by their psychological assessments such as self-efficacy. Whereas Tinto (1993) theorizes that academic performance will eventually lead to greater social integration, Bean posits that social integration will lead to greater academic success.

Bean’s and Tinto’s work has received great research attention since they published their respective interactional theories (Berger & Braxton, 1998; Fischer, 2007). Although, Tinto’s interactional theory has played a vital role in understanding the process of academic attainment
in higher education, his theory has received criticism from some scholars. Despite investigating social factors that contribute to academic nonpersistence, the model ignores cultural barriers that many students of color often encounter (Tierney, 1996). This lack of cultural investigation is cause for concern given the lack of representation of students of color on university campuses (U.S. Census Bureau, 2003) and the unique barriers that they face (Jones, Castellanos, & Cole, 2002). Bean’s model has also been criticized for vaguely describing background characteristics while inadequately describing the unique experiences that students of color routinely encounter (Fischer, 2007). Further, many of these studies of social interaction have relied upon cognitive or academic measures, which is problematic considering that academic performance for students of color is not as strong a predictor of persistence decisions as it is for Caucasian students (Duran, 1996).

Psychosociocultural Framework

Gloria and colleagues developed a framework that extends Tinto’s (1975, 1987, 1993) person-environment framework by investigating cultural phenomena that may contribute to persistence behaviors and psychological functioning (Gloria, 1998; Gloria et al., 1999; Gloria & Robinson-Kurpius, 2001). The psychosociocultural (PSC) framework takes into account contextual and social factors that influence persistence. The framework identifies noncognitive factors and social and environmental factors such as the family and peer support networks of students of color. Furthermore, beyond understanding factors that contribute to persistence, the PSC framework also presents recommendations for administrative personnel and counseling center staff who work with students of color to promote greater persistence and enhanced psychological functioning (Gloria & Rodriguez, 2000).
According to Gloria and colleagues (Gloria, 1998; Gloria et al., 1999; Gloria & Robinson-Kurpius; Gloria & Rodriguez, 2000), the experiences of Latina/o undergraduates are best understood by thoroughly assessing multiple dimensions: psychological, sociological, and cultural. Therefore, sources of psychological functioning and distress can be investigated by addressing psychological (e.g., self-efficacy), social (perceptions of university environment), and cultural contexts (cultural congruity, familismo). As demonstrated in previous research, self-efficacy has been found to be a protective factor against psychological distress (Torres & Solberg, 2001). Further, family support may also increase confidence in navigating the university environment (Solberg & Villareal, 1997). Finally, students’ perceptions of cultural fit between themselves and the university have been associated with persistence decisions and psychological functioning among students of color (Gloria, Castellanos, & Orozco, 2005; Gloria & Ho, 2003).

Gloria and colleagues (1999) tested the PSC framework by examining the self-beliefs (psychological), social support (sociological), and comfort with the institution (cultural) of 98 African American undergraduates. Results from hierarchical regression analyses provided evidence that the aforementioned independent variables predicted persistence decisions. Furthermore, African American students who made fewer nonpersistence decisions experienced greater cultural fit with the academic institution, reported greater social support from family and friends, and had higher levels of self-esteem.

Findings from research utilizing a PSC framework suggest that psychological and sociocultural factors consistently shape the persistence decisions and experiences of students of color. More recently, research has demonstrated that the PSC framework can provide a comprehensive lens from which to examine the psychological well-being of students of color at
university campuses. Gloria, Castellanos, and Orozco (2005) utilized a PSC framework to investigate psychological well-being among 98 Latina undergraduates. Hierarchical regression analyses were conducted in order to observe the impact of cultural congruity, coping responses, and perceptions of barriers on psychological well-being. Data revealed that cultural congruity and active coping were the strongest predictors of psychological well-being. Consistent with previous findings, bivariate correlations revealed that psychological well-being was positively correlated with cultural congruity. Additionally, cultural congruity was positively correlated with active coping responses to perceived barriers. These findings regarding cultural congruity speak to the notion that culture cannot be ignored when examining the higher education experiences of students of color and provide a richer assessment than constructs such as sense of belonging.

Additionally, research has provided extensive evidence that social support is a protective factor against stress (Cohen & Willis, 1985; Torres & Solberg, 2001). Specifically, family support has been linked to higher levels of confidence and reduction of stress (Solberg & Villareal, 1997). Therefore, it seems possible that the family system may help rather than hinder Latina/o undergraduates from persisting in higher education, while alleviating psychological distress that comes with entering college.

Gallardo (2004) stated that Latino values of interdependence place family unity, loyalty, and honor above individual needs and goals, which may hinder Latina/o undergraduates from persisting in higher education (Fuligni & Pedersen, 2002). Fuligni and Pedersen posit that a pull toward contributing financially to the family unit might keep young Latina/o adults from enrolling in four-year universities. However, familial obligation was also linked to positive emotional well-being. This suggests that although familial obligation may hinder Latina/os from
immediately entering higher education, familial obligation may also provide emotional support, which is a contributing factor to academic persistence and well-being.

Predominantly White institutions have rewarded values of individualism and competition (Gloria & Pope-Davis, 1997; Watson et al., 2002). These values are often in conflict with those of ethnic minority undergraduates (Phinney, Dennis, & Osorio, 2006). Studies of the university environment have found that ethnic minority students have felt marginalized on campus (Gossett, Cuyjet, & Cockriel, 1998), and have experienced the university environment as racist (Huffman, 1991), oppressive, and indifferent (Gloria, Castellanos, Lopez, & Rosales, 2005). Specifically, Latina/o students have reported feeling unwelcome and marginalized on university campuses (Hurtado, 1994; Hurtado & Carter, 1997). Despite administrative efforts by university officials to readdress campus climate, racial and ethnic minority students attending predominantly White institutions continue to experience the university environment as stressful (Ponterotto, 1990; Watson et al., 2002). Although there have been many studies examining the stress and obstacles that Latina/o undergraduates encounter, few studies have examined their psychological well-being.

In summary, research has shown that social support reduces stress for college students (Gloria & Robinson-Kurpius, 2001). Perceived social support for Latina/o undergraduate students appears to have a strong positive relationship to college adjustment and psychological well-being (Gloria, Castellanos, Lopez, & Rosales, 2005; Gloria, Castellanos, & Orozco; Solberg & Villareal, 1997). The lack of cultural fit between ethnic minority students and their academic institutions has gained further attention in recent years (Gloria, Castellanos, Lopez, & Rosales, 2005). Gloria and colleagues (2005) have investigated strengths and coping strategies that have helped Latina/o undergraduates persist and become successful in their academic institutions.
Investigating such constructs is vital in understanding how educators, staff, and administrators can be available to help students find resources to succeed and avoid falling into the cracks of the educational pipeline. Unfortunately, only two studies have examined the psychological well-being of Latina/o undergraduates (see Gloria, Castellanos, & Orozco, 2005; Solberg & Villareal, 1997).

**Sociocultural Factors**

*Familismo*

The cultural value of familismo is generally depicted as involving individuals’ strong identification with their extended and nuclear families. Additionally, family members maintain strong feelings of loyalty, reciprocity, and solidarity (Marin & Marin, 1991; Triandis, Marin, Betancourt, Lisansky, & Chang, 1982). For Latina/os, the role of the family is so relevant in their daily lives, that it has been suggested that it is a buffer against psychological distress and can enhance emotional well-being during many phases in life (Fuligni & Pedersen, 2002; Gil, Wagner, & Vega, 2000; Ruiz, 2007). Despite the importance of familismo in the daily lives of Latina/os, familismo has been measured inconsistently, making it difficult to synthesize the literature (Freeberg & Stein, 1996).

There is evidence that familismo is a complex construct that has multiple domains. For instance, some authors have measured familismo along three dimensions: family as referents, family obligation, and family support (Fuligni & Pedersen, 2002; Sabogal et al., 1987). The dimension family as referents refers to the belief that individuals should comport themselves in a way that represents their family in a positive light. Furthermore, family obligation alludes to the belief that family members should be self-sacrificing for the benefit of the family. Finally,
family support refers to the emotional and financial support that members try to reciprocate to each other.

Steidal and Contreras (2003) created a measure called the Attitudinal Familism Scale, which measures familismo along four dimensions: familial support, familial interconnectedness, familial honor, and subjugation of self for family. Familial support measures the belief that family members are obligated to provide emotional and financial support. Familial interconnectedness refers to the belief that family members are obligated to maintain emotional and physical closeness in accordance with the family structure and hierarchy. Familial honor refers to the belief that individuals must uphold the family name through appropriate comportment. Finally, subjugation of self for family reflects the belief that individuals must acquiesce to family needs.

Research has focused on the investigation of either behavioral aspects or attitudinal aspects of familismo among Latina/os (Valenzuela & Dornbusch, 1994). Behavioral familismo refers to the degree of interactions among family networks, including providing support and receiving support, and demonstrating loyalty and solidarity (Baca Zinn, 1998; Sabogal et al., 1987). Attitudinal familismo refers to specific attitudes toward family roles, reciprocity amongst family members, and other attitudes that reflect familismo. Researchers have investigated familismo measuring both behavioral and attitudinal aspects. However, Steidal and Contreras (2004) argued that measuring behavioral aspects of familismo may yield inconsistent results given that family members might be geographically distant from each other due to factors such as immigration and acculturation.

One of the dimensions of familismo has been identified as family obligation (Sabogal et al., 1987; Steidal & Contreras, 2004). Fuligni and Pedersen (2002) examined the effects of
family obligation on emotional well-being in a longitudinal sample of 745 young adults from various ethnicities. Participants were asked to complete a set of questionnaires that measured current support for family, respect for family, and perceived future support for family. Results from analysis of variance revealed that individuals from Latina/o and European backgrounds endorsed higher levels of current support for family and respect for family than their peers from Filipino and East Asian backgrounds. Cross-sectional analyses revealed that Latina/o and Filipino young adults averaged higher on all three measures of family obligation than individuals from East Asian and European backgrounds. After controlling for ethnic background, first generation individuals tended to hold stronger beliefs in contributing to the family in the future than their second and third generation peers. Additionally, individuals who endorsed strong beliefs in family obligation also tended to endorse higher levels of emotional well-being. The authors concluded that contributing to the family may give individuals a sense of purpose, leading to a greater sense of well-being (Fuligni & Pedersen, 2002).

A considerable amount of research focusing on the role of families among Latina/os has demonstrated an emphasis on familial support, loyalty, and interdependence among family members (Cauce & Domenech-Rodriguez; 2002). Despite the extensive investigation of Latina/o families, sibling relationships have not been extensively researched. Updergraff, McHale, Whiteman, Thayer, and Delgado (2005) explored sibling relationships between two Mexican-American families along three dimensions: intimacy, negativity/conflict, and temporal involvement. The adolescents in this study spent an average of 17.2 hours per week together and disclosed values of support and loyalty related to familism. Although the study by Whiteman et al. informs the literature of the potential impact of familial conflict among Latina/o families, more studies involving quantitative methodologies are warranted to generalize the results.
There is evidence that attitudinal familismo endures throughout the acculturation process. Sabogal et al. (1987) found three dimensions that comprise attitudinal familismo: familial obligations, perceived support from family, and family as referents. Although the perceptions of familial obligations and family as referents diminished with acculturation, perceived support from family remained intact even in the presence of acculturation.

Research has called into question the role of family on the educational outcomes of Latina/o undergraduates. Ceballo (2004) suggests that familial support is a positive asset that leads to greater persistence behaviors, while other studies have viewed Latina/o families as hindering their success. A qualitative study conducted by Ceballo (2004) outlined four characteristics of Latina/o families whose children attended an ivy league university: (a) parental commitment to education, (b) parental facilitation of the student’s autonomy, (c) parental expression of support for educational goals, and (d) the presence of supportive faculty mentors. Contrary to previous assumptions that Latina/o families are not supportive of educational advancement, one role of Latina/o families is to facilitate academic success by demonstrating a commitment to sacrifice for students of higher education. Further, research findings demonstrate that academic institutions need to be sensitive to students who come from communities that foster interdependence rather than rugged independence, which academic institutions appear to favor (Jones et al., 2002).

Familismo and mental health. Padilla, Cervantes, Maldonado, and Garcia (1988) conducted interviews with 62 Latina/os to assess participants’ coping strategies when confronted with sociocultural stressors. Data gathered from interviews revealed that access to family support contributes to improved mental health. Moreover, research has provided evidence that family support has been associated with both academic success (Gandara, 1995) and academic
self-efficacy (Torres & Solberg, 2001) among Latina/o undergraduates. Maintaining values of 
familismo has been attributed to more positive psychological well-being among Latina/os, while 
family conflict may lead to psychological distress (Rodriguez, Mira, Paez, & Myers, 2007). 
Among a sample of 248 individuals of Mexican origin, Rodriguez and colleagues attempted to 
measure the impact of familismo and acculturation on psychological adjustment. The 
researchers measured family conflict, the importance of family, and family support, 
acknowledging that few studies have measured family conflict as a dimension of familismo. 
Hierarchical regression analyses revealed that individuals who maintained high levels of family 
support tended to have higher levels of well-being, even after controlling for sociodemographic 
and acculturation variables. Conversely, regression analyses revealed that individuals who 
endorsed greater family conflict were likely to experience psychological distress.

There is evidence that familismo is a cultural asset associated with less internalization of 
problems and enhanced self-esteem (Smokowski & Bacallao, 2006). Smokowski and Bacallao 
assessed the acculturation risk factors and cultural assets of 323 Latina/o adolescents. 
Specifically, they sought to understand the impact of acculturation and familismo on self-esteem 
and internalizing problems of Latina/o adolescents. The authors operationalized internalized 
problems as containing three dimensions: anxious/depressed, withdrawn/depressed, and somatic 
complaints. Regression analyses revealed that biculturalism and attitudes associated with 
familismo predicted higher levels of self-esteem and lower levels of internalizing problems.

Familismo and acculturation. Attempts have been made to investigate the relationship 
between acculturation and familismo (Marin & Marin, 1991). Since familismo is considered a 
central construct in the lives of Latina/os, scholars have hypothesized that levels of familismo 
should decrease as Latina/os acculturate into the dominant American culture. However, since
operational definitions of familismo and acculturation have remained inconsistent, findings have been understandably mixed. Sabogal and colleagues (1987) were amongst the first researchers to investigate the relationship between acculturation and familismo in a Latina/o population. They found that values associated with familismo remained intact across generational levels regardless of acculturation or national origin. Consequently, it appears that familismo may be central to the lives of Latina/os regardless of generation.

Gil, Wagner, and Vega (2000) explored the effects of acculturation and acculturative stress on the impact of alcohol use in 1,051 immigrant and 969 U.S. born Latina/os participants. The results from a structural equation modeling analysis suggested that acculturation and acculturative stress may increase alcohol use in the absence of Latina/o family values, attitudes, and familistic behaviors. These findings may indicate that acculturative process can often be distressing to adolescent Latina/o males and that alcohol use may be a coping mechanism when familial support is not perceived as present. However, it should be noted that acculturation was measured primarily by assessing language preferences and generational status, which may not be sufficient in holistically measuring the acculturation process.

Sabogal and colleagues (1987) investigated the effects of acculturation on attitudinal familismo in a sample of 452 Latina/os and 227 Caucasian non-Latina/os. Attitudinal familismo was measured using items from previous familismo measures by Bardis (1959) and Triandis and colleagues (1982). Items from the measures were factor analyzed and three factors were derived, which the authors labeled familial obligations, perceived support from family, and family as referents. Acculturation was measured using a brief acculturation measure developed by Sabogal et al. (1987). Results from one-way ANOVAs indicated that less acculturated individuals endorsed higher levels of agreement with dimensions of family as referents and
familial obligations than individuals who were more acculturated. Perceived support from family was the only dimension of familismo that did not decrease with acculturation, generational status, or location where the individual was raised.

In contrast, Rodriguez and Kosloski (1998) found contradictory results, which indicated that attitudes associated with familismo increase with acculturation. A sample of 182 individuals of Puerto Rican heritage were asked to respond to a set of 13 items measuring attitudinal familismo from scales developed by Bardis (1959) and Triandis and colleagues (1982), replicating the measures used in the study by Sabogal and colleagues (1987). Factor analyses derived three factors, which were labeled perceived support from family, family as referents, and familial obligations. Rodriguez and Kosloski (1998) used a multiple regression analysis to assess the impact of acculturation on familismo. Results revealed that acculturation was a statistically significant, positive predictor of family obligations and support from relatives.

Interestingly, other researchers have found no direct associations between familismo and acculturation. Ramirez and colleagues (2004) investigated acculturation, familismo, parental monitoring, and knowledge as predictors of substance use among Latina/o and Caucasian adolescents. Acculturation was measured unidimensionally by taking four items from the Acculturation Rating Scale for Mexican Americans (Cuellar, Harris, & Jasso, 1980). Familismo was measured using seven items, which were concerned with the importance of parents and elders. Consistent with previous findings, Latina/os who were classified as low, medium, and high acculturation all had higher scores on familismo than Caucasians. No associations between familismo and acculturation were discussed.

Familial support was not significantly correlated with acculturation, which suggests that certain aspects of reciprocity may remain intact during the acculturation process (Steidal &
Contreras, 2003). This reciprocity is crucial for Latina/o undergraduates as research suggests that perceived support from family may positively influence their adjustment to college (Torres & Solberg, 2001) and help students maximize their potential (Gloria, 1997).

Hovey and King (1996) found that low levels of familial communication were correlated with greater levels of stress during the acculturation process among Latina/o adolescents. Furthermore, the researchers found that the participants preferred emotional closeness to physical closeness, which may be a way to cope with being physically distant from relatives during the acculturation process, which may involve immigrating. These results suggest that familismo is integral in helping Latina/os cope with stressors that they may have to encounter.

Much of the research involving familismo and acculturation has focused on how it may impact psychological distress rather than investigating how it might positively impact psychological well-being (Rodriguez et al., 2003). Moreover, few studies have investigated how familismo and acculturation might impact the psychological well-being of Latina/o undergraduates (Castellanos & Gloria, 2007).

Rodriguez and colleagues (2007) have cited three prominent problems hindering our understanding of the association between familismo and acculturation: (1) although most researchers agree that familism is a central construct in the lives of many Latina/os, there is little agreement on an operationalized definition of familism; (2) studies have focused on supportive aspects of familism, yet have not included aspects that may cause distress; and (3) acculturation has often been measured on a unidimensional continuum rather than a multidimensional continuum. According to Rodriguez and colleagues, future research studies investigating familism and acculturation need to address these constructs multidimensionally.
In summary, familismo appears to be a core value in the lives of Latina/o populations. Results from previous research informs us that maintaining values of familismo may positively impact psychological adjustment and help Latina/o undergraduates persist in higher education (Smokowski & Bacallao, 2006; Torres & Solberg, 2001). Further, acculturation may have an impact on familismo, but due to methodological limitations in measuring both constructs, results have been mixed (Rodriguez et al., 2007). In order to accurately assess the impact of familismo on the psychological well-being of Latina/o undergraduates, it will be necessary to utilize measures that are multidimensional and capture the core values of familismo. The Attitudinal Familism scale appears to measure the core components of familismo that may be specific to the values that Latina/os hold (Steidal & Contreras, 2003).

**Acculturation**

Acculturation is viewed as the adoption of social values and mores associated with the dominant culture (Cuellar et al., 1995). Acculturation is a critical phenomenon that influences many aspects of the lives of Latina/os (Marin, 1991). Further, acculturation has been shown to impact various mental health outcomes, such as self-esteem and cultural identity (Valentine, 2001). For instance, Finch and colleagues (2001) found that Latina/os who reported higher acculturation levels also reported higher levels of self-esteem. Finch and colleagues also noted that although acculturation levels were positively correlated with self-esteem, there is often a trade-off between Latina/o cultural values and acceptance of mainstream culture. This trade-off between cultural values and acceptance of dominant culture can also produce acculturative stress (Finch et al., 2001).

Berry (1987) defined acculturative stress as the stress individuals or groups experience in their adjustment to a new culture. Studies have found a positive association between
acculturation and psychological distress. For example, Burram et al. (1987) found that highly acculturated U.S. born Mexican-American participants had higher prevalence of major depression, phobia, dysthymia, and substance abuse throughout their lifetime than Mexican-born participants (Burnam et al., 1987). Similarly, approximately twenty-five percent of Latina/o adolescents experienced high levels of suicidal ideation, as determined by gaining scores of 31 or greater out of 45 on the Suicidal Ideation Questionnaire-Junior (Hovey & King, 1996). Further, suicidal ideation was positively correlated with acculturative stress and depression.

Moreover, acculturative stress combined with other cultural barriers such as discrimination can result in adverse effects on physical and mental health. Findings from these studies have yielded interesting trends about the mental health status of Latina/os. For instance, Mexican-born immigrants have consistently fared better on measures of mental health status than their Mexican-American counterparts, even when socioeconomic variables have been controlled (Escobar, Hoyos-Nervi, & Gara, 2000). Accordingly, lesser-acculturated Mexican-Americans appear to have healthier psychological functioning than more acculturated Mexican-Americans. Further, Miranda and Umhoefer (1998) found that bicultural Latina/os typically have better mental health profiles than less and more acculturated Latina/os. Miranda and Umhoefer proposed that depressive symptoms increase while social interest decreases with increasing levels of acculturation.

Cuellar, Siles, and Bracamontes (2004) asserted that acculturation remains a difficult construct to measure because culture is “an amorphous entity, neither static nor unidimensional (p. 120).” Therefore, a complex construct such as acculturation is difficult to define and has been often misused in the literature as a result. Furthermore, due to its complexity, there remains little consistency in acculturation measures, making if difficult to compare research findings.
using these measures. While some researchers focus efforts on linguistic-based acculturation measures, other researchers have attempted to implement references to historical figures, cultural practices, and values (e.g., Cuellar, Arnold, & Gonzalez, 1995).

Accordingly, efforts to develop valid and reliable acculturation scales have had mixed results. Early acculturation scales designed for Latina/o populations focused on historical figures such as Pedro Infante. As Cuellar and Glazer (1996) have articulated, items referring to history and educational attainment can become outdated and produce unreliable results because individuals may endorse values associated with the indigenous culture without having knowledge of such historical figures.

Similar problems may arise when measures focus primarily on language usage as a determinant of acculturation (Negy & Woods, 1992). Research exists that supports language usage as a sufficient means to measure acculturation. Indeed, language usage accounts for significant variance of acculturation measures (Serrano & Anderson, 2003). However, others argue that focusing on language usage is insufficient because individuals may identify and maintain close ties with their culture independent of language usage (Phinney, 1998; Phinney, Romero, Nava, & Huang, 2001).

Previous acculturation measures have included at least one of five dimensions of acculturation: behavior, cultural identity, knowledge, language, and values. Of these dimensions, the dimension of cultural values has been viewed as a deeper degree of immersion (Kim & Abreu, 2001; Marin, 1993). Cultural values have been operationalized as the self-reported beliefs about cultural customs, traditions, and social roles and relationships (Kim & Abreu, 2001).
Assessing acculturation during adolescence further complicates accurate measurement. Unger and colleagues (2007) administered frequently used acculturation measures to 221 Latina/o 9th grade students in the Los Angeles area to examine the concurrent validity of the measures. The results revealed modest correlations amongst scales that contained White/Anglo orientation subscales, as well as modest correlations among Hispanic/Latino subscales. Additionally, contrary to the authors’ hypothesis, the ARSMA-II White/Anglo Orientation subscale was significantly correlated with the ARSMA-II Mexican Orientation subscale (r = .38, p < .01). Unger and colleagues suggested that a component that complicates the measurement of acculturation for adolescents is identity formation, particularly ethnic identity formation. Due to mixed findings in the literature of acculturation, the authors suggested using multiple acculturation measures. Additionally, it is plausible that an acquiescence response bias accounted for positive correlations, given that Latina/os have been shown to prefer more extreme response sets in comparison to Caucasians (Marin, Gamba, & Marin, 1992).

Berry (1980, 1998, 2003) has proposed a four-fold theory of acculturation based on psychological adaptation. Berry’s four-fold theory demonstrates how individuals adapt through assimilation, separation, integration, or marginalization. These strategies are distinguished by alterations in the maintenance of one’s traditional culture and/or adopting aspects of the dominant culture. According to Berry, assimilation refers to letting go of one’s cultural identity and taking on the values, beliefs, and attitudes of the dominant culture. Alternatively, individuals may avoid interactions with the dominant culture and prefer to maintain the original culture (i.e., separation strategy). Individuals who adopt new aspects from the dominant culture, while maintaining aspects of the original culture are said to be adopting an integration strategy,
otherwise known as biculturalism. Conversely, individuals who shun aspects of both the dominant and original culture adopt a marginalization strategy.

Recognizing that individuals’ levels of acculturation cannot be measured along one dimension, researchers began to design acculturation measures that assess multiple dimensions of culture (i.e., ceremonies, cultural values, language usage, etc.) and both measure maintenance of the indigenous culture (enculturation) and assimilation to the dominant culture (acculturation) (Kim & Abreu, 2001). However, few acculturation measures adequately measure acculturation in a multidimensional, orthogonal framework (Cuellar et al., 1995; Marin & Gambin, 1996). The Acculturation Rating Scale for Mexican Americans- II (ARSMA-II) was intended to assess acculturation utilizing Berry’s four-fold conceptualization of acculturation, including dimensions of separation, integration, marginalization, and integration (Cuellar et al., 1995). From this four-fold conceptualization, the authors attempted to design a measure that could separate acculturation and enculturation scores. Although the ARSMA-II has been used with many Latina/o populations (Cespedes & Huey, 2008), it was designed specifically for Mexican and Mexican-American populations. Furthermore, Zea and colleagues (2003) have argued that focusing on behaviors that rely on the availability of resources (e.g., food, music) may lead to an inaccurate assessment of acculturation.

Cuellar, Arnold, and Gonzalez (1995) found evidence to support that individuals acculturate cognitively, in addition to acculturating behaviorally. Cuellar and colleagues (1995) conducted regression analyses using the ARSMA-II and inventories that measured Machismo, Familismo, Folk Beliefs, Fatalism, and Personalismo. Results revealed that Familismo, Machismo, Folk Beliefs, and Fatalism were significantly correlated with acculturation. These findings are significant considering that cognitive referents were not previously seen as a valid
method of measuring acculturation. Based on their findings, Cuellar and colleagues (1995) suggested that researchers combine the ARSMA-II with the four validated cultural measures.

Recently, Zea and colleagues (2003) have designed an acculturation measure for use with Latina/o groups called the Abbreviated Multidimensional Acculturation Scale (AMAS-ZABB). It is a bilinear and multidimensional self-report measure that has both an English and Spanish version that can be completed based on language preference. Like the ARSMA-II, the AMAS-ZABB functions based on the four-fold model, enabling it to assess for biculturalism rather than assume the endorsement of one culture and the rejection of another. However, unlike the ARSMA-II, the authors intentionally excluded acculturation behaviors because their measure attempts to assess acculturation across environments, independently of the availability of resources needed to perform certain cultural behaviors.

In summary, when conducting research on ethnic minority populations, it is essential to examine the potential mediating impact of acculturation on psychological functioning and adjustment. Moreover, it is necessary to investigate acculturation from a multidimensional perspective and not assume that acculturation leads to loss of the native culture. Previous acculturation measures have relied on linguistic content to assess acculturation for convenience, but it is also pertinent to assess other components of acculturation as well (Zea et al., 2003). Despite the potential that the AMAS-ZABB appears to demonstrate, the ARSMA-II has a longer history and has demonstrated respectable psychometric properties (Cuellar et al., 1995).

Cultural Congruity

Further impacting the difficulty associated with acculturation, Latina/o undergraduates also may feel unwelcome in the university institution. For many students of color, the campus climate has been viewed as hostile, unwelcoming, and negligent in addressing their needs
For instance, Nora and Cabrera (1996) found that students of color were aware of different forms of prejudice and discrimination, whereas White students were less likely to perceive prejudice and discrimination around them. Further, students of color are likely to report that their values are not accepted or appreciated by their academic institution (Ponterotto, 1990).

Similarly, Gloria (1997) found evidence that Chicanas perceived the university as neglecting their presence on campus. In a study involving 357 Chicana undergraduates, regression analyses revealed that one’s perception of the university environment was a strong predictor of academic persistence decisions among Chicanas at a predominantly White institution (PWI). Specifically, when the institution was viewed as unwelcoming, participants were more likely to endorse academic non-persistence decisions. Therefore, it seems that when Chicanas perceive the institution as neglecting, it may negatively impact their desire to persist.

The aforementioned experiences appear to reveal that Latina/o undergraduates may feel powerless, unwanted, and isolated at the universities they attend. Given this lack of control and lack of a voice on campus, it is reasonable to acknowledge that Latina/os feel pushed out of higher education due to a lack of political power (Gonzalez, 2002) and being consistently reminded that their values conflict with those of the institution (Gloria, 1999). This lack of control may be compounded further by microaggressions, implicit or explicit interactions that communicate disregard toward Latina/o students (Solorzano, 1998).

In a qualitative study by Jones et al. (2002), Latina/os and other ethnic minority students revealed they had often encountered racism on campus. Furthermore, students voiced that there was a lack of representation of ethnic minorities on campus, which consequently created a non-welcoming environment. Efforts have been made to improve the campus climate for Latina/os
and ethnic minorities since students of color notice when there is a lack of representation on-campus. For example, special programs and services (i.e., multicultural centers) have been provided in order to create greater comfort for Latina/o undergraduates. However, few overt efforts have been made to address how to make the campus climate more welcoming to Latina/o undergraduates (Hurtado et al., 1998).

In another qualitative study, Gonzalez (2002) described three elements of campus culture that hindered the persistence of Chicana/o students. He labeled them as the social world, the physical world, and the epistemological world. In each of these “worlds”, the general message transmitted to Chicana/o students was that they were not welcomed or valued. In his study, the social world was depicted as an asymmetrical representation of power between Chicana/os and Whites, where Chicana/os lacked political power, and were not reflected in the racial and ethnic makeup of the students, faculty, and staff. Chicana/os experienced a similar lack of representation in the physical world, which was depicted as the architecture of campus buildings, campus sculptures, and other symbols such as posters and flyers. Participants experienced marginalization due to a lack of Chicana/os representation on campus. Finally, participants felt marginalized due to a lack of knowledge of Chicana/o culture on campus.

Furthermore, Latina/o undergraduates’ perceptions of the campus climate as hostile may not change greatly over time (Hurtado, Carter, & Spuler, 1996). Hurtado and colleagues (1996) conducted a longitudinal study of Latina/o students’ perceptions of the campus climate in their first year. Latina/o students reported perceiving racial tension on campus, which had a negative impact on their academic and psychological adjustment as they progressed through college. Furthermore, overt harassment and discrimination was negatively correlated with the individual’s attachment with the institution. On the other hand, overt harassment and
discrimination did not significantly impact Latina/o students’ psychological and academic functioning. Although Latina/o undergraduates may continually encounter discrimination on campus, they may find ways to cope and maintain their psychological adjustment.

Extending the work of Hurtado et al. (1996), Hurtado and Carter (1997) used a composite measure of sense of belonging to assess student comfort and the sense that they were valued. Hurtado and Carter’s rationale for investigating sense of belonging was a response to Tinto’s (1987) social integration model, which Hurtado and Carter argue places too much emphasis on the student to socially integrate into the campus environment. Latina/o students reported feeling marginalized in the university when they perceived racial tension (Hurtado & Carter, 1997). Conversely, students reported a higher sense of belonging when they were able to participate in religious and community organizations.

Hurtado and Ponjuan (2005) also assessed sense of belonging and perceptions of the campus climate among Latina/o undergraduates. They also incorporated a measure allowing students to endorse to what degree they are enthusiastic about their academic institution and whether they would recommend the academic institution to others. Latina/o undergraduates tended to endorse a higher sense of belonging when they reported having positive interactions with diverse peers. Furthermore, taking academic courses that emphasized diversity was correlated with a greater sense of belonging. Conversely, participants endorsed a lower sense of belonging when they perceived their experiences with peers as negative. Hurtado and Ponjuan suggested that these findings indicate that Latina/o undergraduates can experience feelings of inclusiveness through informal and college-related activities.

The academic and social climate on campus in postsecondary institutions can have a significant impact on the success of Latinos (Nevarez, 2001). In a review of the literature,
Nevarez noted that underrepresented groups often encounter discrimination and cultural incongruence in predominantly White institutions (PWI). Latina/o undergraduates may sense pressure from PWIs to fit into the cultural mold of the academic institution or otherwise hide (Cervantes, 1988). Cervantes conducted interviews of Latina/o and African American undergraduates, which revealed that these students felt the need to hide their cultural selves in order to survive in the university environment.

Hurtado, Milem, Clayton-Pederson, and Allen (1999) articulated that administrators and university staff have a responsibility to counteract the negative experiences that students of color encounter daily at the university. In order to effect change in the campus climate, Hurtado, Milem and colleagues recommended that administrators address the historical legacy of exclusion, the numerical representation of students of color, the perceptions of attitudes among and between ethnic groups, and intergroup relations on campus.

A construct related to perceptions of the campus climate and sense of belonging is cultural congruity. Cultural congruity is characterized as the fit between students' personal values and the values of the environment in which they operate (e.g., the university) (Gloria & Robinson Kurpius, 1996). Students of color often report feeling marginalized and having to manage incongruities between their values and those of the institution (Jones et al., 2002). Difficulties coping with these incongruities may have a direct impact on the adjustment and persistence behaviors of students of color (Gloria & Ho, 2003; Gloria & Robinson-Kurpius, 2001; Gloria & Rodriguez, 2000).

Additionally, cultural congruity may impact men differently than women. Constantine, Robinson, Wilton, and Caldwell (2002) investigated the relationships among social support, self-esteem, and cultural congruity in a sample of 151 African Americans and Latina/os. Latina
women and African American women endorsed significantly higher scores of cultural congruity than did Latino men and African American males. The authors suggested that African American and Latino men have an awareness of possible negative stereotypes the university environment may have of them. Consequently, lower comfort levels could arise due to cultural incongruence. Additionally, regression analyses controlling for sex differences revealed that perceived social support and self-esteem were strong predictors of cultural congruity among Latino and African-American undergraduates, suggesting that an individual’s positive self-beliefs and support from others may act as a buffer against feelings of isolation.

In summary, there is an extensive literature emphasizing marginalization and negative perceptions of the university environment (Gloria & Rodriguez, 2000; Hurtado & Ponjuan, 2005). Latina/o undergraduates consistently report feeling neglected, pushed out, and experiencing institutional racism. Although constructs such as sense of belonging provide critical information, they do not explicitly address the lack of cultural fit an individual may experience between his/her values and the values of the institution. Therefore, constructs such as cultural congruity appear to assess more proximally the cultural divide that Latina/os experience when attending a university (Gloria & Ho, 2003; Gloria & Robinson-Kurpius, 2001; Gloria & Rodriguez, 2000). Future research would benefit from not only recognizing the perceptions of the institution, but also the appraisal of the cultural fit between the individual and the institution.

Psychological Factors

Self-Beliefs

In addition to the unique sociocultural experiences of Latina/o undergraduates, self-beliefs also greatly contribute to their adaptation and psychological functioning in institutions of higher education. General self-efficacy may be understood as the individual’s judgments about his/her
ability to produce designated levels of performance (Bandura, 1986). These performances are viewed as having an influence over events that affect their lives. Further, self-efficacy theory proposes that a desired behavior will likely be produced when individuals believe that they are capable of organizing their behavior to produce the desired outcome. Self-efficacy theory also posits that self-efficacy expectations are not only related to outcomes, but also related to the persistence of attaining a desired outcome.

According to social cognitive theorists, self-efficacy beliefs contribute to self-regulation in four ways (Bandura, 1986). First, individuals’ self-efficacy beliefs influence goal setting. Higher goals will be set when individuals view themselves capable of reaching those goals. Secondly, self-efficacy beliefs will influence an individual’s decision to participate in goal-directed activities, in addition to the amount of effort and persistence the individual will put into that activity when he/she faces challenges. Individuals with high self-efficacy are less likely to become discouraged than individuals with lower self-efficacy beliefs. Third, according to theorists, self-efficacy augments problem-solving and decision-making when an individual is confronted with potential obstacles. Lastly, individuals with high self-efficacy beliefs are more likely to make realistic goals than individuals with lower self-efficacy beliefs.

Self-efficacy theory has been applied to academic settings to gain greater comprehension of the relationship between self-beliefs and performance (Betz, 1981). Further investigation has led to an understanding of the relevance of self-efficacy as it relates to academic success and persistence behaviors among undergraduates (Lent, Brown, & Larkin, 1984; Brown, Lent, & Larkin, 1989). More specifically, academic self-efficacy has been defined as an individual’s confidence in his/her performance in specific tasks such as reading, preparing for examinations, and inquiring about course material (Solberg, O’Brien, Villareal, Kennel, & Davis, 1993).
Lent et al. (1984) examined the relation of self-efficacy to participants’ persistence and academic success in science and engineering undergraduate majors. Results demonstrated that individuals with high self-efficacy beliefs generally earned higher academic marks and persisted longer in their respective majors than those who endorsed lower levels of self-efficacy.

Multon, Brown, and Lent (1991) conducted a meta-analysis on the relation between self-efficacy beliefs and academic outcomes and persistence of university undergraduates. The researchers gathered literature by surveying articles from three databases: Educational Resources Information Center (ERIC), Psychological Abstracts, and Dissertation Abstracts. Analyses of the surveyed studies revealed that self-efficacy accounted for 14% of the variance explained for academic performance and 12% of the variance explained for persistence. Age, achievement status, and type of performance assessed were found to be moderators within the studies examined. Based on the findings of the meta-analysis, we can conclude that academic self-efficacy is an integral component in the success of college students.

Research investigating the predictive nature of self-efficacy on academic performance and persistence has also yielded similar results in underrepresented groups. Gloria and Robinson Kurpius (2001) examined the influence of self-beliefs (i.e., self-efficacy), social support, and university comfort on the persistence decisions of 83 Native American students. Results from regression analyses revealed that greater self-efficacy beliefs led to decreased non-persistence behaviors among a Native American participant pool. Academic self-efficacy has also been associated with intentional persistence among Latina/o undergraduates (Bean & Eaton, 2002; Torres & Solberg, 2001).

Academic self-efficacy may also be associated with external factors such as the student’s surrounding environment. According to social cognitive theory, individuals are in a constant
reciprocal relationship with their environment. An individual and environment can both have great influence on each other. For instance, an individual’s beliefs and even physical characteristics may lead the environment to interact with that individual in a specific manner. Studies have found that an increase in perceived cultural congruity was associated with increased self-efficacy beliefs (Gloria et al., 2005; Gloria & Robinson-Kurpius, 2001). Therefore it seems that an individual’s comfort and cultural fit in their learning environment can have a significant impact on their beliefs in their capabilities and other consequent behaviors (i.e., persistence decisions).

Solberg and colleagues (1993) were among the first researchers to apply self-efficacy theory to the college adjustment of Latina/o undergraduates. A second purpose of the study was to validate a college self-efficacy measure for use with Latina/o undergraduates. The College Self-Efficacy Inventory (CSEI) was factor analyzed and three subscales were derived: course efficacy, social efficacy, and roommate efficacy. The researchers showed that the CSEI was not sensitive to acculturation, gender, and socioeconomic standing, suggesting that the scale remains consistent across different conditions. The authors recommended that future research focus on the relationship between self-efficacy and college adjustment and persistence decisions of Latina/o undergraduates. Additionally, the authors proposed that future research utilize the CSEI to investigate whether self-efficacy also mediates psychological distress.

Building on the research and recommendations of Solberg and colleagues (1993), Solberg and Villareal (1997) investigated the relationship between self-efficacy, social support, and stress and their impact on psychological/physiological distress. The CSEI, along with other research instruments, was administered to 311 Latina/o college students. Confirming the authors’ hypothesis, self-efficacy and social support were negatively correlated with
psychological/physiological distress and positively correlated with personal adjustment.

Torres and Solberg (2001) tested a model of persistence containing four pathways: self-efficacy, social integration, family support, and stress. Participants were 179 Latina/o college students from four-year universities. Torres and Solberg proposed a model in which family support impacted self-efficacy, while self-efficacy mediated social integration and stress. Path analyses confirmed the hypothesized model. When Latina/o undergraduates perceived themselves having familial support, they were likely to experience high college self-efficacy. These individuals reported higher levels of confidence when they perceived their family as readily available. Additionally, confidence in performing academic tasks was also associated with a greater connection to the academic environment and faculty, and was also associated with intentions to persist and graduate from college. While this study sheds light on the impact of self-efficacy on social integration and persistence decisions, the study did not include cultural variables such as acculturation.

Research demonstrates that college self-efficacy may contribute greatly to ethnic minorities’ mental health, university comfort, and their decisions to persist. Additionally, the study conducted by Torres and Solberg (2001) provided evidence for the importance of familial support on the college self-efficacy of Latina/o undergraduates. This finding is of particular interest, since familial support is a fundamental component of familismo.

In summary, in addition to the sociocultural variables, psychological factors such as self-efficacy impact the experiences of Latina/o undergraduates. When individuals believe that they are capable of successfully navigating their academic and non-academic experiences on campus, they are more likely to avoid experiencing psychological distress (Solberg & Villareal, 1997; Torres & Solberg, 2001). In accordance with Bandura’s beliefs on reciprocal interaction
between the self and the environment, emotional support from family may positively impact the college self-efficacy beliefs of Latina/os (Torres & Solberg, 2001). Studies by Torres and Solberg (2001) and Solberg and Villareal (1997) focusing on college self-efficacy of Latina/o undergraduates have been valuable but acculturation was not included. If researchers are to examine the association between college self-efficacy and social support, it is important that acculturation measures are included, since the association between acculturation and self-efficacy has not been established.

**Psychological Well-Being**

Psychological well-being has been operationalized in a variety of ways. For instance, it has been conceptualized as an individual’s evaluation of his or her life. From this viewpoint, individuals subjectively assess what is considered a fulfilling life. Myers and Diener (1995) indicated that cognitive appraisals of psychological well-being include a global judgment of life satisfaction. Further, individuals evaluate their emotional experiences as being pleasant, such as feeling happy, or unpleasant, such as experiencing anxiety, fear, or anger. Given the focus on evaluating emotional experiences, this operationalized definition has been regarded as subjective well-being.

Ryff (1989) departed from the classical definition of subjective well-being that existed in the literature. Rather, Ryff and Keyes (1995) conceptualized psychological well-being as encompassing a breadth of wellness that includes positive self-evaluation, a sense of continued development, a belief that one’s life is purposeful, maintaining positive quality relationships, a sense that one can effectively navigate his or her environment, and maintain a sense of self-determination. Psychological well-being can be conceptualized as a theoretically based and multidimensional construct defined as having six specific components: self-acceptance; personal
growth; purpose in life; positive relations; autonomy; and environmental mastery (Ryff, 1989; Ryff & Keyes, 1995). From this perspective, it is crucial to understand that psychological well-being is not equated with happiness. Although, happiness and life-satisfaction are a part of psychological well-being, researchers argue that certain aspects of well-being may require effort that is at odds with immediate feelings of happiness (Becker, 1992).

Self-acceptance is the first dimension of psychological well-being. Mental health, according to Ryff and Singer (1996), is highly dependent on positive attitudes toward the self. Individuals who are self-accepting accept various qualities about themselves, even those qualities that could be perceived as negative. Conversely, individuals who consistently construe their qualities negatively are viewed as maintaining low levels of self-acceptance and might maintain higher levels of psychological distress.

Maintaining positive relations with others is another dimension of psychological well-being. In addition to carrying positive attitudes toward the self, individuals benefit from maintaining positive interpersonal relationships with others (Keyes & Ryff, 1999). The dimension of positive relations is described as the development and maintenance of loving and trusting relationships. It is also described as feeling empathy for others, having a sense of responsibility to others, and being capable of love. Individuals who maintain positive relations with others are viewed as understanding the reciprocal and supportive nature of relationships. Conversely, an individual who does not maintain positive relations with others may be viewed as isolated, unempathic, and unwilling to reciprocate to maintain relationships.

Autonomy is the third domain of psychological well-being. Autonomy is characterized by an individual’s ability to lead independent and self-determined lives. Autonomous individuals are self-actualizing and they are able to self-regulate behavior when faced with
distress. Rather than seek approval from others, autonomous individuals are guided by their own belief systems. Conversely, individuals who have low autonomy may feel great pressure to give in to social conventions and might be more sensitive to the perceived evaluations of others.

The fourth dimension of psychological well-being is environmental mastery. Environmental mastery is viewed as an individual’s ability to modify his/her environment so that it is a greater reflection of his/her personality. Additionally, individuals who score high on environmental mastery of their environment do so to meet their psychological and physical needs. In contrast, individuals with low environmental mastery lack a sense of command regarding their environment, suggesting that these individuals may have difficulty managing daily tasks.

The final dimension of psychological well-being is personal growth (Ryff, 1989). Personal growth can be described as progressing to achieve one’s potential in maturing as a human being. An individual striving for personal growth will be open to new experiences and encounter new challenges. Moreover, individuals who seek personal growth view themselves as constantly developing and seeking self-enhancement over time. On the other hand, individuals who score low on personal growth might feel stagnant and lack interest in exposing themselves to new experiences geared toward growth.

Utilizing cross-sectional data, Ryff (1995) examined how dimensions of psychological well-being might be impacted by age differences. Individuals divided into young, middle-aged, and old-aged adults were asked to respond to the six subscales of the psychological well-being scale. Results indicated varied trends among different age groups. For instance, autonomy and environmental mastery increased with age, particularly from young adulthood to middle
adulthood. In contrast, personal growth and purpose in life decreased with age, especially evident from middle adulthood to late adulthood.

These findings suggest that certain dimensions of psychological well-being may be dependent on development across the lifespan for individuals. Ryff (1995) suggested that personal growth and purpose in life may decrease in age because individuals in late adulthood perceive themselves as having fewer opportunities for growth and development. Furthermore, it appears developmentally appropriate that dimensions of autonomy and environmental mastery increase as young adults transition into middle adulthood. However, it seems that further research is necessary given that results came from cross-sectional data, which could have been impacted by cohort effects (Ryff, 1995).

Although Ryff’s conceptualization of psychological well-being appears to be comprehensive, it is necessary to keep in mind that this conceptualization comes from a European-American worldview. As Markus and Kitayama (1991) have demonstrated, cultures may differ on their endorsement of values such as independence and interdependence. Whereas Latina/o societies may value interdependence, dominant U.S. culture may place a higher value on independence. Considering these differences in cultural values, it is conceivable that Latina/os may place a higher value on positive relations than environmental mastery.

Few studies have examined cultural differences on Ryff and colleagues’ construct of psychological well-being. Ryff (1995) reviewed findings from one of her earlier studies of midlife American and South Korean adults. Results from the study revealed that the American sample endorsed more positive self-evaluations than individuals from the Korean sample. Within the Korean sample, individuals highly endorsed positive relations with others in contrast to lower scores on self-acceptance and personal growth. These findings may suggest that the
values of individualistic and collectivistic societies may impact the constellation of scores on psychological well-being.

In summary, whereas there exists growing research on the psychological distress of Latina/o adolescents, few studies have focused on the impact of the campus climate on the psychological well-being of Latina/o undergraduates. Gloria and colleagues (2005) examined the impact of perceived educational barriers, cultural fit, and coping responses on psychological well-being among Latina female undergraduates. Results from regression analyses suggest that active coping and high levels of cultural congruity predict positive levels of psychological well-being. Consistent with previous findings (Torres & Solberg, 2001), Latina/os may experience more positive well-being when they feel that they belong on campus and they perceive their cultural values as being congruent with the institutions’ values.

Conclusions

Despite a growing literature on the factors impacting Latina/o adolescents and undergraduates, issues with mismeasurement and a lack of a holistic approach to investigating wellness have made it difficult to synthesize research findings and intervene when Latina/o undergraduates’ psychological well-being is compromised. For instance, researchers have assessed acculturation using unidimensional measures and have focused on linguistic preferences. In approaching acculturation from a unidimensional framework, researchers may have overlooked phenomena that bicultural Latina/os encounter (Zea et al., 2003). Furthermore, unidimensional measures of acculturation have also led to inconsistent results when exploring relationships with constructs such as familismo that are salient in the lives of Latina/os.

The literature review has confirmed that the marginalization that Latina/o undergraduates experience on campus negatively impacts their adjustment to college, their persistence decisions,
and may lead to psychological distress (Gloria & Rodriguez, 2000; Hurtado & Ponjuan, 2005). For instance, it seems that experiencing cultural incongruity on campus may also lower academic self-efficacy beliefs. Unfortunately, much of the literature has focused on the psychological distress of Latina/o undergraduates, while the psychological well-being of Latina/os has remained mostly unexplored. In the spirit of research emphasizing resiliency, it appears that investigating the impact of a core value, such as familismo, may help researchers better comprehend the positive effects familismo may have on a Latina/o undergraduate’s self-efficacy and resulting psychological well-being. Familismo, a core value for many Latina/os, has been demonstrated to be a protective factor against many forms of distress. For instance, the findings of Torres and Solberg (2001) shed light on the interactions between familial support and self-efficacy and their impact on psychological distress. A study addressing college self-efficacy, while including proximal sociocultural variables such as familismo, cultural congruity, and acculturation, may create a more accurate understanding of the psychological well-being of Latina/o undergraduates.

A multidisciplinary approach to the investigation of psychological well-being among Latina/o undergraduates, which takes into account psychological (academic self-efficacy) and sociocultural (acculturation, attitudinal familismo, cultural congruity) factors, may provide new insight into Latina/o undergraduates’ experiences in predominantly White institutions. Tinto’s social integration model overemphasizes sociological impacts of student adjustment while lacking psychological and cultural aspects (Tinto, 1987). Moreover, Bean’s (1995) student attrition model, while attending to the psychological factors of undergraduates, still ignores cultural factors. By gaining greater insight into the psychosociocultural realities of Latina/o undergraduates, administrators and psychologists may begin to finally alleviate the psychological
distress and academic non-persistence of Latina/o undergraduates by finding ways to accentuate cultural strengths (i.e., familial support) and create a more welcoming university atmosphere (Castellanos & Gloria, 2007; Gloria & Castellanos, 2006; Gloria & Rodriguez, 2000).

Overview of the Present Study

Theoretical Framework

The theoretical framework utilized for this study will be a psychosociocultural (PSC) model (Gloria & Rodriguez, 2000). The framework posits that psychological phenomena cannot be considered without examining the influences of sociocultural phenomena that surround the individual. The PSC model is an inclusive model that has been specifically developed for Latina/os undergraduates. The PSC model has been developed and used with other ethnic minority populations but it was first utilized with a Latina/o sample.

Research Questions

The proposed study seeks to answer several questions regarding Latina/os in higher education from a PSC framework. First, does acculturation/enculturation (i.e., AOS, MOS) level influence Latina/o undergraduates’ psychological well-being? If so, do psychosociocultural factors mediate the relationship between acculturation and psychological well-being? Regression analyses and Pearson’s r correlations, as outlined by Baron and Kenny (1986) were used to test the following hypotheses:

Hypotheses

1. Greater Anglo orientation will have a direct positive effect on self-acceptance, personal growth, purpose in life, autonomy and environmental mastery and a direct negative effect with maintaining positive relations with others.
2. Greater Anglo orientation will have an indirect positive effect on self-acceptance, personal
growth, purpose in life, autonomy and environmental mastery with Cultural Congruity,
perceptions of the University Environment, Academic Self-Efficacy, and Attitudinal
Familismo partially mediating the positive effect.

3. Mexican orientation will have a direct positive effect with maintaining positive relations with
others and a direct negative effect with self-acceptance, autonomy, personal growth, purpose
in life, and environmental mastery.

4. Mexican orientation will have an indirect negative effect with self-acceptance, personal
growth, purpose in life, autonomy, and environmental mastery through its negative
association with Cultural Congruity, perceptions of the University Environment, Attitudinal
Familismo and Academic Self-Efficacy.
Chapter III

Methods

Study Setting

The study was conducted at Washington State University (WSU) located in the Pacific Northwest, which is predominantly comprised of European Americans. Latina/o undergraduates make up approximately 4.1 percent of the university population, while European American undergraduates constitute approximately 72.2 percent of the university population (WSU Institutional Research, 2007).

Participants

Mexican/Mexican American/Chicana/o undergraduates attending WSU were the target participants for the study. Students were recruited by attending meetings of Chicana/o Latino/a student organizations such as the Chicana/o Student Center, the Student Support Services Program, and McNair Program. All undergraduates who had Mexican heritage from one or both parents and self-identified as Mexican/Mexican American/Chicana/o were included in the statistical analyses. The participants’ ethnicity was determined from the demographic portion of the survey that asks about their ethnicity and their parents’ ethnicity in order to determine if the students met criteria for participation. Students who did not identify as Chicana/o were excluded from participation in the study. Of the 149 returned surveys, there were 2 Asian Americans, 2 Caucasians, 1 who identified as other, and 6 who did not complete the survey packet. Since the focus of the study was on Chicana/o undergraduates, 138 Chicana/o undergraduates were retained for the analyses. Participation was voluntary; if at any time participants did not wish to participate, they had the option to withdraw from the study. Research ID numbers were assigned to participants in place of personal identifiers. Upon securing IRB approval, flyers were posted.
throughout campus as well as the Cross-Cultural Center to ensure participation campus wide. Leaders of Chicana/o Latina/o-based organizations were contacted via e-mail to inform possible participants of the research project. In addition, the researcher visited classes such as Chicano/Latino Studies courses and collected data at Chicana/o Latina/o Student Center. Survey packets included a demographics sheet as well as consent form.

The age of the 138 Chicana/o participants ranged between 18 and 25 years of age ($M = 19.25$ years, $SD = 1.45$). The majority of participants (61.6%) was female ($n = 85$). Fifty-three males (38.4%) participated in the study. Further, most participants (56.5%) identified as freshman ($n = 78$), followed by sophomore ($N = 21, 15.2%$), 4th year senior ($n = 17, 12.3%$), junior ($n = 14, 10.1%$), and 5th year senior ($n = 8, 5.8%$). Students’ reported academic major was evenly distributed across disciplines. The data for participants’ year in school is presented in Table 3.1 (p. 49). The data for fathers’ and mothers’ high level of education is presented in Table 3.1 (p. 49). In summary, on average, most participants’ parents did not complete high school or attend postsecondary education. The data for participants’ academic major is presented in Table 3.2 (p. 49).

With regard to family income, thirty-six participants (26.1%) reported a family income ranging from $21,000-$30,000, twenty-seven (19.6%) reported an income ranging from $41,000-$50,000; twenty-six reported an income ranging from $31,000-$40,000. Twenty-five participants (18.6%) reported an income over $51,000. The family income of participants is presented in Table 3.3 (p. 50).

A majority (77.5%, $N = 107$) of the participants were born in the United States. Thirty-one participants (22.5%) were born in Mexico. The participants who were born in Mexico arrived in the United States at an average age of 3.78.
Table 3.1

*Descriptive Statistics of Interval Data*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>19.24</td>
<td>19.00</td>
<td>1.44</td>
<td>18-25</td>
</tr>
<tr>
<td>Year in school</td>
<td>1.95</td>
<td>1.00</td>
<td>1.30</td>
<td>1-5</td>
</tr>
<tr>
<td>Father’s level of education</td>
<td>2.36</td>
<td>2.00</td>
<td>1.36</td>
<td>1-6</td>
</tr>
<tr>
<td>Mother’s level of education</td>
<td>2.65</td>
<td>2.00</td>
<td>1.58</td>
<td>1-7</td>
</tr>
</tbody>
</table>

*Note: Level of education: 1= some elementary; 2=elementary graduate; 3=some high school; 4=high school graduate; 5=some college; 6=college graduate; 7=postgraduate*

Table 3.2

*Participants’ Academic Major*

<table>
<thead>
<tr>
<th>Academic Major</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>9</td>
<td>6.5</td>
</tr>
<tr>
<td>Biological &amp; Physical Sciences</td>
<td>9</td>
<td>6.5</td>
</tr>
<tr>
<td>Business</td>
<td>10</td>
<td>7.2</td>
</tr>
<tr>
<td>Communications</td>
<td>9</td>
<td>6.5</td>
</tr>
<tr>
<td>Computer Technology</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td>Education</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Engineering</td>
<td>16</td>
<td>11.6</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>21</td>
<td>15.2</td>
</tr>
<tr>
<td>Humanities</td>
<td>11</td>
<td>8.0</td>
</tr>
<tr>
<td>Performing Arts</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>25</td>
<td>18.1</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>8.7</td>
</tr>
<tr>
<td>Did not Report</td>
<td>4</td>
<td>2.9</td>
</tr>
</tbody>
</table>
Table 3.3

*Participants’ Family Income*

<table>
<thead>
<tr>
<th>Family Income</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10,000</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td>10,000-20,000</td>
<td>17</td>
<td>12.3</td>
</tr>
<tr>
<td>21,000-30,000</td>
<td>36</td>
<td>26.1</td>
</tr>
<tr>
<td>31,000-40,000</td>
<td>26</td>
<td>18.8</td>
</tr>
<tr>
<td>41,000-50,000</td>
<td>27</td>
<td>19.6</td>
</tr>
<tr>
<td>51,000-75,000</td>
<td>16</td>
<td>11.6</td>
</tr>
<tr>
<td>75,000-99,000</td>
<td>8</td>
<td>5.8</td>
</tr>
<tr>
<td>over 100,000</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>Did Not Report</td>
<td>4</td>
<td>2.9</td>
</tr>
</tbody>
</table>

*Instruments*

*Consent Form.* A consent form was included in the survey packet to describe the nature of the study. Participants were also informed of their rights as research participants, what they were being asked to do. They were also given contact information to the researchers if they had any questions or concerns regarding the contents of the survey packet (See Appendix A).

*Demographic Sheet (DS).* A demographic sheet was included in the survey packet to gather participants’ background variables including self-reported age, ethnicity, parental ethnicity, parental education, income, and gender (See Appendix B).

*Cultural Congruity Scale (CCS) and University Environment Scale (UES; Gloria & Kurpius, 1996).* The CCS and UES are two scales typically used jointly that consist of twenty-seven items. Gloria and Kurpius (1996) reported alpha coefficients of .81 and .89, respectively, for the two scales. The scale was originally validated using a Chicano/Latino sample and has been used multiple times with Latina/o undergraduates. Sample items of the UES include: “The university encourages/sponsors ethnic groups on campus.” Sample items of the CCS include: “I often feel like a chameleon, having to change myself depending on the ethnicity of the person I
am with at school.” The CCS and UES were piloted with 454 Chicana/o undergraduates and demonstrated sufficient predictive validity (Gloria & Kurpius, 1996). The CCS and UES yielded alpha coefficients of .84 and .84, respectively, for the current study.

*Psychological Well-Being Scale* (PWBS, Ryff, 1989). The PWBS is comprised of six 14-item scales of psychological well-being created to measure dimensions of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Individuals record their responses on a 6-point Likert-type scale. Ryff (1989) reported alpha coefficients of .93 for self-acceptance, .91 for positive relations with others, .86 for autonomy, .90 for environmental mastery, .90 for purpose in life, and .87 for personal growth. The PWBS has demonstrated strong convergent validity with other measures of well-being and life satisfaction (Ryff, 1989). Gloria, Castellanos, and Orozco (2005) used a shortened measure of the PWBS, containing 18 items, with Latina/os, reporting a Cronbach’s alpha of .71. For the present study I obtained two scores for the PWBS, which I labeled components A and B. Component A consisted of items from the self-acceptance, autonomy, environmental mastery, purpose in life, and personal growth subscales and yielded a Cronbach’s alpha of .60. Component B consisted of the 14-item positive relations with others subscale and yielded a Cronbach’s alpha of .80. Components A and B were utilized to test hypotheses 1-4. However, due to the low internal consistency of component A, I also used the total score for all 29 items I administered in a subsequent hierarchical regression. The total score of this modified version of the PWB yielded an acceptable alpha coefficient of .79.

*College Self-Efficacy Inventory (CSEI).* The CSEI (Solberg et al., 1993) is a 20-item inventory designed to measure the level of confidence in performing various academic tasks commonly associated with college success. Examples of items include: “Talk with your
professors,” “Make new friends at college,” and “Manage time effectively.” Each item was preceded by the statement “How confident are you that you that you could successfully complete the following tasks.” The items are rated on a 10-point scale from 0 (Not at all confident) to 9 (Very confident). Factor analyses derived three subscales: course efficacy, social efficacy, and roommate efficacy. The CSEI has demonstrated sufficient validity by significantly predicting college satisfaction (DeWitz & Walsh, 2008). The CSEI has also been used previously with Latina/o undergraduates (Solberg et al., 1993; Torres & Solberg, 2001). A coefficient alpha estimate of .93 for the total scale was found while each subscale yielded a coefficient alpha estimate of .88 (Solberg et al., 1998). The CSEI total score yielded an alpha coefficient of .88 for the current study.

**Attitudinal Familism Scale.** The Attitudinal Familism Scale (Steidel & Contreras, 2003) is an 18-item survey comprised of four subscales: Familial Support, Familial Interconnectedness, Familial Honor, and Subjugation of Self for Family. Respondents record their responses along a 10-point Likert-type scale. An example Familial Support item is: “A person should rely on his or her family if the need arises,” An example Familial Honor item is: “A person should feel ashamed if something he or she does dishonors the family name.” An example Familial Interconnectedness item is: “A person should often do activities with his or her immediate and extended families, for example, eat meals, play games, go somewhere together, or work on things together.” An example Subjugation of Self for Other item is: “A person should respect his or her older brothers and sisters regardless of their differences in views. Steidel and Contreras (2003) reported Cronbach’s alphas of .83, while yielding alphas of .72 for Familial Support, .69 for Familial Interconnectedness, .68 for Familial Honor, and .56 for Subjugation of Self for Family. Steidal and Contreras reported significant negative correlations with the AOS of the
ARSMA-II and conversely, a significant positive correlation with the Mexican orientation scale (MOS) of the ARSMA-II. Although a relatively new measure, the AFS has demonstrated moderate convergent and discriminant validity (Steidel & Contreras, 2003). I used only the total AFS score, which yielded an alpha coefficient of .86 for the current study.

The Acculturation Rating Scale for Mexican Americans II (Cuellar, Arnold, & Maldonado 1995). The ARSMA-II will be used to measure the acculturation level of participants. The ARSMA-II, unlike the original ARSMA, was constructed with the intention of measuring acculturation orthogonally. The ARSMA-II is predominantly a behavioral measure of acculturation, assessing for (a) language use and preference, (b) ethnic identity and classification, (c) cultural heritage and ethnic behaviors, and (d) ethnic interaction. The aforementioned factors are measured along an Anglo Orientation Scale (AOS) and a Mexican Orientation Scale (MOS) to produce two separate scores. The scores of the AOS and MOS scales are provided by Scale 1 of the ARSMA-II, which is comprised of 30 total items. Thirteen items make up the AOS, while 17 items make up the MOS. The AOS score is obtained by summing the items in the AOS and dividing the sum by 13. Similarly, the MOS score is obtained by summing the items in the MOS and dividing by 17. The ARSMA-II has demonstrated strong validity in many studies (See Cuellar & Roberts, 1997; Ponce & Atkinson, 1989; Steidel & Contreras, 2003). The MOS has yielded an alpha coefficient of .88, while the AOS has yielded an alpha coefficient of .83 (Cuellar, Arnold, & Maldonado 1995). The AOS and MOS yielded alpha coefficients of .56 and .77 for the current study, respectively.

Procedures

I informed the participants of the nature of the study in accordance with IRB standards. They were informed that participating in the study was voluntary. To ensure confidentiality, a
research identification (RID) number was generated to separate identifying information from data. The consent form, demographic information form, and aforementioned instruments were provided to the participants in a single packet. Participants filled out survey packets during meeting times and handed completed survey packets to the researcher. Participants were also given the option of completing the survey on their own time and returning the completed survey packet in a manila envelope. In order to control for response sets or fatigue, the survey packet was given in two orders. Order 1 contained the survey packet in the following sequence: Consent Form, Demographic Information Sheet, ARSMA-II, CCS/UES, CSEI, AFS, and PWB. Order 2 contained the survey packet in the following sequence: Consent Form, Demographic Information Sheet, PWB, AFS, CSEI, CCS/UES, and ARSMA-II. To ensure greater student participation, the researcher also elected to give students the option to complete the survey online. Student leaders and instructors were given a link to an online survey, which was forwarded to student groups and classes. Students completed the survey online and their identities remained anonymous.
Chapter IV

Results

Results for the current study were analyzed using PASW Statistical Package 18. Given the limited sample size attained in the current study, regression analyses were used rather than structural equations modeling to test the mediation hypotheses (Baron & Kenny, 1986). Furthermore, a 29-item total score for the PWB scale was used in place of the proposed components A and B scales in a hierarchical regression analyses after hypotheses 1-4 were not supported.

Descriptive Statistics.

The means and standard deviations were computed for each of the measures in the current study (see Table 4.1, p. 56). With regards to acculturation (AOS), the sample mean was 3.86 on a 5-point likert-type scale. The sample mean for enculturation (MOS) was 3.99 on the same 5-point likert-type scale. These means suggest that the sample was bicultural-oriented, on average. Cultural Congruity and Perceptions of the University Environment were 5.59 and 5.61, respectively, on a 7-point likert-type scale, suggesting that, on average, participants perceived the university as welcoming and believed their values were congruent with those of the university. The mean score for the AFS was 7.35 on a 10-point likert-type scale, suggesting that students endorsed values consistent with attitudinal familism. The mean score for CSEI was 6.58 on a 10-point likert-type scale ranging from 0-9, suggesting that participants experienced a moderate level of self-efficacy in a college setting. Lastly, the mean score for PWB was 4.77 on a 6-point likert-type scale, indicating that participants endorsed a moderate level of psychological well-being.
In summary, the sample appears to be bicultural-oriented. This bicultural sample seems to view the university environment positively and view their values as congruent to those of the university. The participants endorse values consistent with attitudinal familism. The participants also reported experiencing moderate self-efficacy engaging in the university environment and experiencing moderate levels of psychological well-being. Of course, this describes the average participant and there was some variability or individual differences in all of the study variables.

Table 4.1

Descriptives of Constructs

<table>
<thead>
<tr>
<th>Construct</th>
<th>M</th>
<th>SD</th>
<th>α</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglo Orientation (AOS)</td>
<td>3.86</td>
<td>.37</td>
<td>.56</td>
<td>2.69-4.84</td>
</tr>
<tr>
<td>Mexican Orientation (MOS)</td>
<td>3.99</td>
<td>.48</td>
<td>.77</td>
<td>3.38-4.88</td>
</tr>
<tr>
<td>Cultural Congruity (CCS)</td>
<td>5.59</td>
<td>1.01</td>
<td>.84</td>
<td>2.92-7.00</td>
</tr>
<tr>
<td>University Environment (UES)</td>
<td>5.61</td>
<td>.86</td>
<td>.84</td>
<td>2.71-7.00</td>
</tr>
<tr>
<td>Attitudinal Familism (AFS)</td>
<td>7.35</td>
<td>1.21</td>
<td>.86</td>
<td>3.39-9.44</td>
</tr>
<tr>
<td>College Self-Efficacy (CSEI)</td>
<td>6.58</td>
<td>1.26</td>
<td>.88</td>
<td>2.60-9.05</td>
</tr>
<tr>
<td>Psychological Well-Being (PWB)</td>
<td>4.77</td>
<td>.49</td>
<td>.79</td>
<td>3.34-5.86</td>
</tr>
</tbody>
</table>

Hypothesis 1

I hypothesized that greater Anglo orientation would have a direct positive effect on PWB component A (self-acceptance, personal growth, purpose in life, autonomy and environmental mastery) and a direct negative effect with PWB component B (maintaining positive relations with others).

Anglo orientation was measured using the Anglo orientation scale (AOS) of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II). Three-item subscales from the self-acceptance, personal growth, purpose in life, autonomy, and environmental mastery
subscales comprised PWB component A and the 14-item maintaining positive relations subscale comprised the PWB component B.

Consistent with the procedures outlined by Baron and Kenny (1986), I utilized a regression analysis to test hypothesis 1 and determine the direct effects of the independent variable, AOS, on the PWB component A. Results from the regression analysis were not significant (β=.10, p > .05). A second regression analysis was conducted to test the direct negative effect of the AOS on the PWB component B. Results from the regression analysis were not significant, (β=.13, p > .05). Therefore hypothesis 1, positing a direct positive effect on PWB component A and direct negative effect on PWB component B was not supported.

**Hypothesis 2**

I hypothesized that greater Anglo orientation would have an indirect positive effect on the PWB component A and indirect negative effect on PWB component B with cultural congruity, perceptions of the university environment, academic self-efficacy, and attitudinal familismo partially mediating the positive effect.

Anglo orientation was again measured using the Anglo orientation scale (AOS) of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II). Three-item subscales from the self-acceptance, personal growth, purpose in life, autonomy, and environmental mastery subscales again comprised PWB component A and the 14-item maintaining positive relations subscale comprised the PWB component B. Cultural congruity was measured using the Cultural Congruity Scale (CCS), perceptions of the university environment was measured using the University Environment Scale (UES), academic self-efficacy was measured using the College Self-Efficacy Inventory (CSEI), and attitudinal familismo was measured using the Attitudinal Familism Scale (AFS).
As Anglo orientation did not predict PWB components A or B, hypothesis 1 was not supported, and an indirect relationship as described in hypothesis 2 could not be tested. However, Pearson’s $r$ correlations were computed to determine the associations among Anglo orientation, the mediating variables (college self-efficacy, cultural congruity, university environment, and attitudinal familism), and the total score on the PWB, which combined components A and B. (see Table 4.2, p. 61). Results from Pearson’s correlations indicate that the AOS correlated positively with the CSEI ($r=.26$, $p<.01$), UES ($r=.29$, $p<.01$), and the CCS ($r=.32$, $p<.01$). Specifically, individuals who reported higher levels of Anglo orientation also experienced higher levels of college self-efficacy, greater cultural congruity, and viewed the university more positively. Further, attitudinal familism was positively correlated with college self-efficacy. That is, individuals who endorsed higher values consistent with attitudinal familism also experienced higher levels of college self-efficacy. Significant positive correlations were also found between the CSEI, UES, and CCS. Further, the AFS ($r=.17$, $p<.05$), CSEI ($r=.49$, $p<.01$), UES ($r=.29$, $p<.01$), and CCS ($r=.31$, $p<.01$) were all significantly and positively correlated with the PWB total score. Specifically, individuals who experienced higher levels of college self-efficacy, more positive perceptions of the university environment, and higher levels cultural congruity also experienced higher levels of psychological well-being.

Hypothesis 3

I hypothesized that Mexican orientation would have a direct negative effect on the PWB component A and direct positive effect on PWB component B.

Mexican orientation was measured using the Mexican orientation scale (MOS) of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II). Three-item subscales from the self-acceptance, personal growth, purpose in life, autonomy, and environmental mastery
subscales comprised PWB component A and the 14-item maintaining positive relations subscale comprised the PWB component B.

Consistent with the procedures outlined by Baron and Kenny (1986), I utilized a regression analysis to test hypothesis 3 and determine the direct negative effects of the MOS on the PWB component A. Results from the regression analysis were not significant ($\beta=.07, p > .05$). Therefore hypothesis 3, positing a direct negative effect between on the PWB component A was not supported. A second regression analysis was utilized to test the direct positive effects of the MOS on the PWB component B. Results from the regression analysis were not significant ($\beta=.13, p > .05$). Therefore hypothesis 3, positing a direct positive effect on the PWB component B was not supported.

Hypothesis 4

I hypothesized that Mexican orientation would have an indirect negative effect with the PWB component A and indirect positive association with PWB component B through its negative association with cultural congruity, perceptions of the university environment, attitudinal familism and academic self-efficacy.

Mexican orientation was again measured using the Mexican orientation scale (MOS) of the Acculturation Rating Scale for Mexican Americans-II (ARSMa-II). Three-item subscales from the self-acceptance, personal growth, purpose in life, autonomy, and environmental mastery subscales again comprised PWB component A and the 14-item maintaining positive relations subscale comprised the PWB component B. Cultural congruity was again measured using the Cultural Congruity Scale (CCS), perceptions of the university environment was measured using the University Environment Scale (UES), academic self-efficacy was measured using the
College Self-Efficacy Inventory (CSEI), and attitudinal familism was measured using the Attitudinal Familism Scale (AFS).

Hypothesis 3, which predicted a direct negative relationship between Mexican orientation and the PWB component A and direct positive relationship between Mexican orientation and PWB component B, was not supported. Therefore, an indirect relationship between Mexican orientation and PWB through the mediation of cultural congruity, perceptions of the university environment, attitudinal familism and academic self-efficacy could not be tested. Instead, I conducted Pearson’s $r$ correlations to test the associations among MOS, AOS, the mediating variables (college self-efficacy, cultural congruity, perceptions of the university environment, and attitudinal familism), and the PWB total score. Mexican orientation was not significantly correlated with any of the mediating variables, Anglo orientation or PWB (see Table 4.2, p. 61).

*Hierarchical regression*

Since the AOS and MOS did not significantly predict PWB components A and B, partial mediation as outlined in hypotheses 2 and 4 could not be tested. Instead, a hierarchical multiple regression analysis was conducted to determine the ability of the predictor variables to predict the total score of the Psychological Well-Being Scale (PWB) (See Table 4.3, p. 62). The total score of the PWB scale was used rather than the proposed components A and B due to the low internal consistency of the PWB component A. The first step of the regression model included age and gender. The second step included attitudinal familism, cultural congruity, perceptions of the university environment, and college self-efficacy. The last step included the AOS and MOS of the ARSMA-II. Results of the first step were not significant. However, adding additional predictors in Step 2 resulted in a statistically significant improvement in prediction of psychological well-being, $R^2 = .31$, $R^2$ adj = .28, $F(6, 131) = 9.70$, $p<.001$. This
A regression model accounted for 27.6% of variance in psychological well-being among Chicana/o undergraduates. A summary of the coefficients for the final regression model (see Table 4.3, p. 62) indicates that only gender and college self-efficacy significantly contributed to the model. Step 3, which included the AOS and MOS of the ARSMA-II, did not significantly contribute to prediction of psychological well-being.

Table 4.2

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>--</td>
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<td>-.04</td>
<td>.26**</td>
<td>.29**</td>
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<td>.14</td>
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<td>2. Mexican Orientation Scale (MOS)</td>
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<td>.12</td>
<td>.16</td>
<td>.08</td>
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<td>.08</td>
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<tr>
<td>3. Attitudinal Familism Scale (AFS)</td>
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<td>.30**</td>
<td>-.04</td>
<td>-.15</td>
<td>.17*</td>
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<td></td>
</tr>
<tr>
<td>4. College Self-Efficacy Inventory (CSEI)</td>
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<td>.46**</td>
<td>.37**</td>
<td>.49**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. University Environment Scale (UES)</td>
<td>--</td>
<td>.69**</td>
<td>.29**</td>
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<td></td>
</tr>
<tr>
<td>6. Cultural Congruity Scale (CCS)</td>
<td>--</td>
<td>.31**</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7 Psychological Well-Being Scale (PWB)</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level (2-tailed).
Table 4.3

*Results of Hierarchical Regression Analysis*

<table>
<thead>
<tr>
<th>Step</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE b</td>
<td>β</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
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</tr>
<tr>
<td>Constant</td>
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<td>.58</td>
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</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>.03</td>
<td>.14</td>
</tr>
<tr>
<td>Gender</td>
<td>.12</td>
<td>.09</td>
<td>.12</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
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<td>.69</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>.03</td>
<td>.15</td>
</tr>
<tr>
<td>Gender</td>
<td>.17</td>
<td>.08</td>
<td>.17*</td>
</tr>
<tr>
<td>College Self-Efficacy (CSEI)</td>
<td>.14</td>
<td>.04</td>
<td>.36***</td>
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<tr>
<td>Attitudinal Familism (AFS)</td>
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<td>.03</td>
<td>.13</td>
</tr>
<tr>
<td>University Environment (UES)</td>
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<td>.00</td>
<td>.02</td>
</tr>
<tr>
<td>Cultural Congruity (CCS)</td>
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<td>.21</td>
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<tr>
<td><strong>Step 3</strong></td>
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</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>.03</td>
<td>.15</td>
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<tr>
<td>Gender</td>
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<td>.08</td>
<td>.17*</td>
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<tr>
<td>College Self-Efficacy (CSEI)</td>
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<td>.04</td>
<td>.36***</td>
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<tr>
<td>Attitudinal Familism (AFS)</td>
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<td>.13</td>
</tr>
<tr>
<td>University Environment (UES)</td>
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<td>.02</td>
</tr>
<tr>
<td>Cultural Congruity (CCS)</td>
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<td>.00</td>
<td>.21</td>
</tr>
<tr>
<td>Anglo Orientation (AOS)</td>
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<td>.00</td>
<td>.01</td>
</tr>
<tr>
<td>Mexican Orientation (MOS)</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .03$ for Step 1, (p>.05); $R^2 = .31$ for Step 2 (p < .001). * p < .05, ** p < .01, *** p < .001
Chapter V

Discussion

In the present study, I attempted to investigate whether the impact of Anglo orientation and Mexican orientation on psychological well-being is partially mediated by attitudinal familism, college self-efficacy, cultural congruity, and perceptions of the university environment. Participants (N = 132) were recruited at Washington State University, a 4-year public university in the Pacific Northwest. Research participants were asked to complete a research packet that included a consent form, demographic information sheet, the Acculturation Rating Scale for Mexican-Americans-II (ARSMA-II, Cuellar et al., 1995), the Attitudinal Familism Scale (AFS, Steidal & Contreras, 2003), the CSEI (Solberg et al., 1993), the Cultural Congruity Scale/University Environment Scale (CCS and UES, Gloria & Robinson-Kurpius, 1996), and a modified version of the Psychological Well-Being Scale (PWB, Ryff, 1989).

Hypothesis 1

I hypothesized that greater Anglo orientation would have a direct positive effect on the PWB component A (self-acceptance, personal growth, purpose in life, autonomy and environmental mastery) and direct negative effect on PWB component B (positive relations).

Consistent with the procedures outlined by Baron and Kenny (1986), I utilized a regression analysis to test hypothesis 1 and determine the direct positive effects of the AOS on the PWB component A. I also used a regression analysis to test the direct negative effects of the AOS on PWB component B. Contrary to hypothesis 1, the AOS did not significantly predict the PWB component A. It is possible that AOS did not significantly predict the PWB scores due to the low internal consistency that the AOS in the current study. Secondly, the current sample is comprised mostly of first- and second-year students, who may experience the university more
positively and thus their psychological-well-being is not adversely affected. For instance, Hurtado and Carter (1997) found that third-year students experience a lower sense of belonging as they are exposed to a hostile racial climate. Further, it might be difficult to assess some aspects of psychological well-being with a younger sample. Developmentally, they are still attempting to find a sense of autonomy and gain environment mastery. For example, Ryff (1989) found that young adults between the ages of 18-29 years old scored lower on environmental mastery and autonomy than did their older counterparts. Lastly, there was limited variability with regards to acculturation within the sample, which could have made it difficult to obtain strong correlations.

**Hypothesis 2**

I hypothesized that greater Anglo orientation would have an indirect positive effect on PWB component A (self-acceptance, personal growth, purpose in life, autonomy and environmental mastery) and negative indirect effect on PWB component B (positive relations) with cultural congruity, perceptions of the university environment, academic self-efficacy, and attitudinal familism partially mediating the positive effect.

Since direct effects were not observed between Anglo orientation and psychological well-being components A or B in testing hypothesis 1, indirect mediation as described in hypothesis 2 could not be tested. Therefore, the indirect positive effect of Anglo orientation on the PWB component A and negative effect on component B, as mediated by cultural congruity, perceptions of the university environment, attitudinal familism, and college self-efficacy, was not supported.

This researcher also tested the associations between Anglo orientation, cultural congruity, perceptions of the university environment, and college self-efficacy, attitudinal familism, and
psychological well-being. Results from Pearson’s $r$ correlations indicated that Anglo orientation correlated positively with college self-efficacy, perceptions of the university environment, and cultural congruity.

The finding that college self-efficacy was positively associated with Anglo orientation is contradictory to research by Solberg and colleagues (1993) who found no significant relationship between college self-efficacy and acculturation to mainstream American society. Whereas Solberg and colleagues utilized five language items and three peer ethnicity items from the ARSMA-I (Cuellar, Harris, & Jasso, 1980), the present study utilized the full Anglo orientation scale from the ARSMA-II, which may have allowed for greater sensitivity and accuracy in measuring Anglo orientation. Although this finding that Anglo orientation is positively associated with college self-efficacy is contradictory, it is reasonable that there is a positive relationship. Social cognitive theory (Bandura, 1986) posits that individuals are in a constant reciprocal relationship with their environment. If Chicana/o participants attend a predominantly White institution (PWI) and also endorse Anglo orientation, it seems probable that they would also be able to experience the comfort to effectively navigate their environment with confidence.

Anglo orientation was also positively correlated with cultural congruity and perceptions of the university environment. The finding that cultural congruity is positively associated with acculturation corroborates previous research conducted by Miville and Constantine (2006), who found that cultural congruity was significantly and positively correlated with dominant society immersion as measured by the Stephenson Multigroup Acculturation Scale. Conceptually the finding is understandable as Gloria and Robison-Kurpius (1996) developed the CCS and UES in order to measure the cultural similarities or discrepancies between students of color and the institutions they attend. The participants in the present study attended a PWI and endorsed a
moderately high level of acculturation, which likely contributed to their high endorsement of cultural congruity.

No significant relationship was found between Anglo orientation and attitudinal familism. Previous research has been mixed regarding the relationship between acculturation and familism. Some studies have found an increase in the value of familism through acculturation process (e.g., Rodriguez & Kosloski, 1998), while others have found a negative relationship (e.g., Marin, 1993). Portes and Rumbaut (2001) suggested that family values decline through the acculturation process.

College self-efficacy was found to have a significant positive correlation with cultural congruity and perceptions of the university environment. Freeman, Anderman, and Jensen (2007) found that college students reported higher levels of academic self-efficacy when they experienced higher levels of sense of belonging. Further, this finding supports previous research by Gloria and Robinson-Kurpius (2001) who also found a positive association between perceptions of the university environment and college-related self-efficacy among Native American undergraduates at a predominantly White institution. This finding may suggest that Chicana/o undergraduates experience greater self-efficacy in navigating the university when they experience the university as welcoming and congruent with their values. That is, when Chicana/os feel integrated with the university, they are more likely to have the confidence to speak with faculty, participate in university organizations, and utilize university resources. This greater comfort may additionally help students to interact more with the university and capitalize on its resources.

Attitudinal familism was also found to have a significant and positive correlation with college self-efficacy. This finding appears to offer new insights into the role that attitudinal
familism plays in the lives of Chicana/o undergraduates. It is likely that attitudinal familism is positively correlated with college self-efficacy due to familism’s protective qualities. Since previous studies have found that increased familism is associated with healthier outcomes (e.g., Smokowski & Bacallao, 2006), it is plausible that the support and encouragement students receive from their families allows them a sense of confidence to pursue their academic goals. For instance, Torres and Solberg (2001) found a positive association between family support and college self-efficacy and posited that receiving family support likely helps students view themselves as being capable of overcoming challenges. Despite the fact that students may be far from their parents while attending school, these students still benefit from their emotional support regardless of physical distance (Hovey & King, 1996). Furthermore, it is possible that Chicana/o students attempt to recreate their family support system within the university system with their peers.

Additionally, Pearson’s $r$ correlations were computed to identify significant relationships between the predictor variables (i.e., attitudinal familism, college self-efficacy, cultural congruity, and perceptions of the university environment) and psychological well-being. Attitudinal familism, college self-efficacy, cultural congruity, and perceptions of the university environment were all positively correlated with psychological well-being, though Anglo orientation and Mexican orientation were not correlated with psychological well-being. The finding that attitudinal familism is positively correlated with psychological well-being supports previous research conducted by Smokoski and Bacallao (2006), whose regression analyses revealed that attitudes associated with familism predicted higher levels of self-esteem and lower levels of internalizing problems. Additionally, Rodriguez and colleagues (2007) found that Mexican participants who maintained higher levels of family support tended to experience higher
levels of well-being. It is likely that values associated with attitudinal familism, such as familial interconnectedness and familial support provide reassurance for Chicana/o undergraduates, thus providing a higher level of psychological well-being.

Cultural congruity and perceptions of the university environment were also found to be positively correlated with psychological well-being, though they were not statistically significant in a hierarchical regression indicating that they did not provide unique prediction of psychological well-being beyond self-efficacy. This positive correlation is consistent with previous studies, which have found that individuals with higher levels of cultural congruity and more positive perceptions of the university environment also experience higher levels of psychological well-being and academic persistence decisions (Gloria, Castellanos, & Orozco, 2005; Gloria & Robinson-Kurpius, 2001). The finding that cultural congruity and perceptions of the university environment are positively correlated with psychological well-being speaks to the importance of the university’s role in providing a culturally inclusive and warm environment for Chicana/o undergraduates.

College self-efficacy was positively correlated with psychological well-being. College self-efficacy also predicted psychological well-being as part of a hierarchical regression. This second step of a hierarchical regression significantly predicted psychological well-being, mostly due to college self-efficacy, which supports previous research by Solberg and Villareal (1997) and Torres and Solberg (2001) who found that college self-efficacy negatively predicted psychological distress in Chicana/o undergraduates. Further, self-efficacy was associated with greater persistence intentions. As individuals experience a sense of confidence in their ability to manage academic and socially-related tasks in a university environment, individuals experience increased psychological well-being and higher persistence intentions (Gloria et al., 2005; Solberg
& Villarreal, 1997). It seems that Chicana/o undergraduates have a greater chance for academic success and experience greater psychological well-being when they have a sense that they can navigate the academic and social spheres of the university. As Bandura (1989) asserts, “self-efficacy beliefs function as an important set of proximal determinants of human motivation, affect, and action (p. 1175).” Therefore, universities need to continue to make it a priority to increase opportunities for mentorship of Chicana/o undergraduates and make efforts to make university resources available that will help these students feel more confident in their abilities to navigate the university environment.

**Hypothesis 3**

In hypothesis 3, it was hypothesized that Mexican orientation would have a direct negative effect on self-acceptance, personal growth, purpose in life, autonomy and environmental mastery and a direct positive effect with maintaining positive relations with others. However, results were not significant and the hypothesis was not supported. Although research has highlighted the collectivistic values of Mexican culture (Cuellar, Arnold, & Maldonado, 1995), the present study did not find that Mexican orientation significantly predicted maintaining positive relationships as measured by PWB component B. However, it is possible that Mexican orientation did not significantly predict PWB component A or B due to developmental reasons. Unger and colleagues (2007) suggested that an adolescent’s identity formation complicates the measurement of acculturation, particularly ethnic identity formation. This complication may have made it difficult to assess Mexican orientation’s prediction of psychological well-being. Moreover, it is probable that an acquiescence response bias accounted for higher endorsement of Mexican orientation (Marin, Gamba, & Marin, 1992), which may have made it difficult to assess the directionality of the relationships between Mexican
orientation and PWB. Lastly, the variability of Mexican orientation in the sample was limited, which may have attenuated any correlations with other variables.

Hypothesis 4

I hypothesized that Mexican orientation would have an indirect negative effect with self-acceptance, personal growth, purpose in life, autonomy, and environmental mastery through its negative association with cultural congruity, perceptions of the university environment, attitudinal familismo and academic self-efficacy. As hypothesis 3, which predicted a direct relationship between Mexican orientation and PWB components A and B, was not supported, an indirect relationship between Mexican orientation and PWB through the mediation of cultural congruity, perceptions of the university environment, attitudinal familismo and academic self-efficacy could not be tested. Therefore hypothesis 4 was not supported.

As described in hypothesis 2, I conducted Pearson’s $r$ correlations to test the associations among the MOS, AOS, the mediating variables (college self-efficacy, cultural congruity, perceptions of the university environment, and attitudinal familism) and the PWB scale, combining components A and B. Mexican orientation was not significantly correlated with any of the mediating variables, Anglo orientation or PWB. It is possible that Mexican orientation was not significantly correlated with cultural congruity and perceptions of the university environment due to a modest sample size. Though the associations were not statistically significant at the .05 level, Mexican orientation’s negative association with cultural congruity and perceptions of the university environment was approaching significance. Conceptually, it would be conceivable that Mexican orientation would be negatively associated with cultural congruity and perceptions of the university environment when Chicana/o undergraduates are attending a PWI. Mexican orientation was not positively associated with attitudinal familism. Findings in the research
literature have been mixed regarding the relationship between enculturation and familism as many previous studies have measured acculturation/enculturation unidimensionally (Rodriguez & Kosloski, 1998; Sabogal et al., 1987). The present sample endorsed moderate levels of attitudinal familism regardless of their scores on Anglo orientation and Mexican orientation. This suggests that attitudinal familism is a core value that stays with Chicana/os throughout the acculturation process.

Mexican orientation was not significantly associated with college self-efficacy. There have not been studies investigating the relationship between enculturation and college self-efficacy. Solberg and colleagues (1993) only measured acculturation and not enculturation. Although students endorsed Mexican orientation, perhaps their bicultural identity allowed them to experience a sense of comfort with their environment. Also, it may have also been difficult to assess the correlation between Mexican orientation and college self-efficacy due to the limited variability of Mexican orientation within the sample.

Cultural congruity and perceptions of the university environment did not significantly predict psychological well-being. Previous studies have found that cultural congruity and perceptions of the university environment successfully predict college adjustment, persistence decisions, and psychological well-being among ethnic minority samples (Gloria, Castellanos, Lopez, & Rosales, 2005; Gloria, Castellanos, & Orozco, 2005). The discrepancy between these previous findings and the current study could be due in part to developmental differences. Whereas the previous studies had an even distribution with regard to class standing, the majority of participants in the current study were underclassman. Hurtado and Carter (1997) noted that underclassmen might report a higher sense of belonging in comparison to their upperclassmen peers due to the accumulation of microaggressions that upperclassmen may have experienced.
Further, it appears that the participants in the current study view the university positively, which may be due to the resources the university provides.

In summary, the present study found that: (a) increased college self-efficacy predicted increased psychological well-being; (b) increased Anglo orientation is associated with increased cultural congruity, more positive perceptions of the university environment, and increased college self-efficacy; and (c) attitudinal familism, college self-efficacy, perceptions of the university environment, and cultural congruity were significantly and positively correlated with psychological well-being. Lastly, increased attitudinal familism was associated with increased college self-efficacy. Although mediation between enculturation/acculturation and psychological well-being was not supported, the present study supported previous research regarding the increased adjustment of Chicana/o undergraduates when they feel integrated with the university. Further the current study sheds light on the impact of college self-efficacy on psychological well-being among Chicana/o undergraduates and its association with relevant psychosociocultural variables. When Chicana/o undergraduates experience a sense of college self-efficacy, it is likely that they experience a greater sense of autonomy, environmental mastery, a sense of purpose in life, personal growth, self-acceptance, and more positive relations with others.

Furthermore, the findings speak to the necessity to investigate Chicana/os’ undergraduate experiences from a holistic perspective, taking into account psychological, sociological, and cultural factors (Gloria & Rodriguez, 2000). Gloria and Castellanos (2003) state that taking such a holistic perspective “would hold universities accountable for creating inclusive learning environments for all students (p. 77).” With regards to the present studies findings, students appear to experience greater confidence and psychological well-being when they view their
values as being congruent with the institutions and view the institution as accessible. Therefore, it appears necessary for universities to continue to consider the needs of Chicana/o undergraduates. It is possible that the current sample benefited from programs that the university has in place such as TRIO programs and Multicultural Student Services, where students have access to peer and faculty mentors.

**Strengths and Limitations**

A strength of the present study was its holistic approach to assessing the college experiences of Chicana/o undergraduates. The present study attempted to build upon previous research conducted by Gloria, Castellanos, and Orozco (2005) and Solberg, Valdez, & Villarreal (1994), who have attempted to understand the psychological well-being of Latina/o undergraduates.

The present study aimed to observe psychosociocultural variables, which are relevant to the experiences of Chicana/o undergraduates. For instance, the present study was one of few studies that examined the role of attitudinal familism in association with other psychosociocultural variables and psychological well-being. The unique finding that attitudinal familism was positively associated with college self-efficacy and psychological well-being could help university administrators and officials understand how Chicana/o undergraduates’ value systems help them persist and feel capable in their surroundings. As such, it is imperative that university administrators and counseling center staff continue to find ways in which the university can mimic the family system. For instance, Chicana/o undergraduates are likely to succeed when they have a peer group, which values interdependence and have access to mentors (Castellanos & Gloria, 2007; Gloria & Rodriguez, 2000).
Overall, the measures used in the study, with the exception of the modified version of the PWB component A and AOS, showed strong internal consistency. For instance, the AFS is a relatively new measure examining attitudinal familism among Latina/o populations. The present study adds to the support that the AFS is a reliable measure for Chicana/o populations.

The present study does have its limitations. A significant limitation was the small sample size. The small sample size is likely to have impacted the predictive power of the regression analyses, which require a larger sample size to handle the robust calculations. Further, the sample size may have contributed to the modest alpha coefficients of the AOS and PWB component A. Additionally, the researcher did not assess the generational status of the participants’ parents or grandparents, which could have provided more insight into the participants’ generational status and subsequent relationship with acculturation and enculturation. Furthermore, there was an imbalance in regards to gender representation. The majority of participants in the study were females, which did not allow for possible investigation of gender roles. As argued by Gloria, Castellanos, and Orozco (2005), Chicana/Latinas seem to experience different gender role considerations than their male counterparts, which may lead to greater stress for Chicana/Latinas. Lastly, it is necessary to consider the limited variability on the acculturation levels of the participants, which may have made it difficult to test the direct and indirect effects of Anglo orientation and Mexican orientation on the psychological well-being components A and B.

Future Directions

The present study was an initial step in assessing a mediation model explaining psychological well-being among Chicana/o undergraduates. Future research could attempt to gain a greater sample size in order for the mediation model to have greater predictive power.
This area of research may also benefit from gaining a wide distribution of Chicana/o undergraduates with different generational and acculturation statuses.

It would also be beneficial for future research to attempt to investigate the predictive power of psychosociocultural variables, such as cultural congruity and college self-efficacy, on the 9-item or 14-item PWB subscales as they yield greater internal consistency in comparison to the 3-item subscales (Ryff, 1989; 1995). Assessing Chicana/o undergraduates on the full subscales would allow researchers to investigate the predictive power of relevant psychosociocultural variables on autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. I hypothesize that cultural congruity, university environment, and college self-efficacy would significantly predict each subscale of the Psychological Well-Being Scale as each these predictor variables are related to an individual’s comfort and belief that they can successfully navigate their environment.

A majority of participants in the current study were in their first two years of college. Future studies could incorporate a cross-sectional or longitudinal analysis to investigate how Chicana/o undergraduates perceive their university environment, their self-efficacy, and psychological well-being. For instance, Hurtado and Carter (1997) found that students in their first two years experience the university more positively than they do in their third year as they are exposed to a hostile racial climate. It would be worth knowing how the psychological well-being of Chicana/o undergraduates is affected over time as they progress through their education.

The present study found positive correlations among Anglo orientation, cultural congruity, perceptions of the university environment, and college self-efficacy. Future research could potentially investigate the predictive power of acculturation/enculturation on college self-
efficacy. Furthermore, it might be beneficial to examine the potential moderating or mediating effects of cultural congruity and perceptions of the university environment.

In addition to quantitative analyses, a mixed method approach could lend insight into the factors that contribute or diminish the psychological well-being of Chicana/o undergraduates. For instance, it may be helpful to understand the role that attitudinal familism might play in the experiences of Chicana/o undergraduates, in addition to knowing what other factors help Chicana/os feel culturally congruent with their institution and help to increase their college self-efficacy. This knowledge could help university administrators such as academic advisors, professors, and counseling center staff to assist in maintaining their psychological well-being.
References


Gonzalez, K.P. (2002). Campus culture and the experiences of Chicano students in a


Kamimura (Eds.), *The Latina/o pathway to a Ph.D.: Abriendo caminos* (pp. 112-133).

Madison, WI: University of Wisconsin-Madison Press.

Weitzel, M.H., Waller, P.R. (1990), Predictive factors for health-promotive behaviours in white, Hispanic, and black blue-collar workers. *Family and Community Health, 13,* 23-34.


APPENDIX A

Research Participant Consent Form

Title of Research Study:
Psychosociocultural investigation of psychological well-being among Chicana/o undergraduates

Humberto Hernandez is a doctoral student at Washington State University, and is a pre-doctoral intern in the USD Counseling Center. As part of his doctoral studies, he is conducting a research project for the purpose of exploring the psychological well-being of WSU Chicana/o undergraduates. You are invited to participate in the project.

What You Are Being Asked To Do
The project will involve completing a brief survey using pencil and paper. The survey asks questions about your attitudes toward family, beliefs about your college experiences, cultural background, and psychological well-being. Completing the survey will require approximately 20-30 minutes; the survey will also include some questions about you, such as your age, class year, ethnicity, and your major or intended major.

Do I Have To Participate? What Will Happen to My Information if I Participate?
Participation is entirely voluntary and you can refuse to answer any question and/or withdraw at any time. Should you choose to withdraw, no one will be upset with you and your information will be destroyed immediately. If you decide to withdraw, nothing will change about grades or standing at WSU, or any other services to which you are entitled at WSU. The information you give will be analyzed and studied in a manner that protects your identity. That means that a code number will be used and that your real name will not appear on any of the study materials. All information you provide will remain confidential and locked in a file cabinet in the researcher’s office for a minimum of five years before being destroyed.

Are There Any Risks? What Should I Do If Risks Occur?
There may be a risk that completing the survey may make you feel tired. You can stop to rest or choose to complete it at another time. Sometimes when people are asked to think about
their cultural background or well-being, they feel anxious. If completing the form makes you feel anxious, you can call or visit WSU Counseling Services. Remember, you can stop completing the survey at any time if you feel tired or for any other reason.

**Are There Any Benefits?**

The benefit to participating will be in knowing that you helped USD and university departments understand more clearly and learn how to better serve Chicana/o undergraduates.

**What If I Have More Questions?**

If you have any questions about this research, please contact Humberto Hernandez (e-mail: hhernandez@wsu.edu) or his supervisor, Brian McNeill, Ph.D. at (509) 335-6477 (e-mail: mcneill@wsu.edu).

Thank you for your assistance.

I have read and understand this form, and consent to the research it describes to me. I have received a copy of this consent form for my records.

___________________________   ____________________
Signature of Participant     Date

___________________________
Name of Participant (Printed)

___________________________   ____________________
Signature of Co-Investigator     Date
APPENDIX B

Demographic Information Form

Please circle your answers where appropriate

1. Gender: Female  Male  Other

2. Age ______

3. Year in college: 1st  2nd  3rd  4th  5th  Other_________

4. Please place an X next to your major area of study:

   _____ Agricultural Sciences  _____ Engineering
   _____ Architecture, Visual Arts, Design  _____ Environmental/Natural Resource Sciences
   _____ Biological, Physical, Mathematical Sciences  _____ Health Sciences
   _____ Business  _____ History, Languages, Literature, Philosophy
   _____ Communication  _____ Performing Arts
   _____ Computer Technologies  _____ Social Sciences
   _____ Education  _____ Other

5. How do you prefer to identify yourself? (Circle one)

   Caucasian  Chicana/o/Mexican-American/Mexican  Other Latina/o (e.g., Cuban
   Asian/Asian-American/Pacific Islander  African descent/African American
   Native American  Other_________

   Other_________

6. In what country were you born?______________________________________

7. If you were not born in the United States, what was your age when you arrived in the
   United States?____
8. Father’s ethnicity:
Caucasian    Chicana/o /Mexican-American/Mexican    Other Latina/o (e.g., Cuban
Asian/Asian-American/Pacific Islander    African descent/African American
Native American    Other__________

9. Mother’s ethnicity:
Caucasian    Chicana/o /Mexican-American/Mexican    Other Latina/o (e.g., Cuban)
Asian/Asian-American/Pacific Islander    African descent/African American
Native American    Other__________

10. Family’s income:
Less than $10,000    $10,000-20,000    $21,000-30,000    $31,000-40,000
$41,000-50,000    $51,000-75,000    $75,000-99,000    over $100,000

11. Father’s highest level of education attained:
Some elementary    elementary graduate    some high school    high school graduate
Some college    college graduate (i.e., B.A., B.S.)    Graduate/Professional (i.e., M.A.,
Ph.D., M.D.)

12. Mother’s highest level of education attained:
Some elementary    elementary graduate    some high school    high school graduate
Some college    college graduate (i.e., B.A., B.S.)    Graduate/Professional (i.e., M.A.,
Ph.D., M.D.)