PREDICTORS OF WELL-BEING AND DEPRESSION

AMONG LATINO COLLEGE STUDENTS

A Dissertation Presented to the
Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree

Doctor of Philosophy

by

Carolina A. Jimenez

July, 2011

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HIS plans are perfect, His grace is sufficient, and His goodness and unfailing love

pursue us every day of our lives (Jeremiah 29:11; Joshua 1:9; Samuel 16:7).

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ABSTRACT

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Latinos are one of the fastest growing minority groups in the United States. It is estimated that by the year 2050 approximately 25 percent of the United States population will be Latino (U.S. Department of Health & Human services, 2001). However, only approximately 10 percent of all Latinos in the United States possess a college degree (Saunders & Serna, 2004; Yazedjian & Towes, 2006). In addition to the typical college stressors faced by most students as they transition from high school to college, it is believed that Latino students experience unique challenges as an ethnic and cultural minority group within the academic community (Rodriguez, et al). These challenges produce stress which affects students' well-being. Psychological symptoms such as anxiety and depression result from stress; thus, the study of stress among Latino college students may assist in formulating prevention and intervention strategies to increase Latino students' college retention (Rosenthal & Schreiner, 2000).

The objectives of this study were to examine the relative contribution of general college stress and minority student college stress to depression and well-being among Latino college students, controlling for gender and college generational status. Three dimensions of general college stress (academic, social and financial) and two dimensions of minority college stress (interracial and achievement) were examined. Participants were 229 students (77% women) enrolled in the second most ethnically diverse major research university of the United States. Forty seven percent of participants were first generation college students, meaning that neither their fathers nor mothers had attended college. The measures used to examine the variables of interest included the College

Stress Scale (CSS), the Minority Student Stress Scale (MSSS), the Center for Epidemiological Studies Depression Scale (CES-D), and the General Well-being Schedule (GWBS).

Results of preliminary analyses revealed very few gender and college generational status differences in the variables of interest: males reported higher levels of well-being than females and first generation college students reported higher levels of achievement stress than non-first generation students. Results of two hierarchical regression analyses (that controlled for gender and college generational status) indicated that minority college stress contributed unique variance to well-being (R^2=.36, ΔR^2 =.05, p=.01) and depression (R^2=.38, ΔR^2 =.10, p=.001) above and beyond the variance contributed by the three general college stress variables. Inspection of the Beta coefficients in the two final models indicated that (a) one general stress variable (social) and two minority stress variables (interracial and achievement) contributed unique variance to well-being, and (b) one general stress variable (social) and one minority stress variable (achievement) contributed unique variance to depression. In all cases, higher levels of stress were associated to lower levels of well-being and to higher levels of depression symptoms.

In sum, findings suggested that as expected, stressors related to belonging to an ethnic minority group contributed uniquely to Latino college students' emotional well-being. Secondly, stress related to social relations (in general and among ethnic minority students) and to academic achievement emerged as most salient for Latino students. The implications of the findings for further research and service delivery to Latino college students are discussed.

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CHAPTER I

Introduction

Latinos are one of the fastest growing minority groups in the United States. It is estimated that by the year 2050 approximately twenty five percent of the United States population will be Latino (U.S. Department of Health & Human Services, 2001). Consistent with their growth in the population, from 1991 to 2006 the number of Latino students on college campuses increased by seventy five percent (Crockett, Iturbide, Torres Stone, McGinley, Raffaelli, & Carlo, 2007). However, between 1971 and 2008 the percentage of 25 to 29 year old Latinos who had completed a bachelor's degree increased only by seven percent (Planty, Hussar, Snyder, Kena, KewalRamani, Kemp, Bianco, & Dinkes, 2009). Approximately only ten percent of all Latinos in the United States possess a college degree (Saunders & Serna, 2004; Yazedjian & Towes, 2006). These statistics indicate that even though the efforts to recruit Latino college students have been successful, their graduation rates do not reflect their increase in college enrollment. The low college graduation rates for Latinos suggests that a large proportion of Latino students are first generation college students; that is, their parents are not college graduates or have never attended college.

The discrepancy in enrollment and graduation rates suggests that Latino college students face problems with degree completion (Crockett, et. al, 2007; Rodriguez, Myers, Morris, & Cardoza, 2000). Increasing college graduation rates is important because higher education provides Latinos an opportunity to improve their quality of life in the United States (Schneider & Ward, 2003). Higher levels of education are associated with lower unemployment rate, lower incarceration rates, and increased levels of civic

participation including volunteer work, voting, and donating blood (Baum & Paeya, 2005). In addition, increasing the college graduation rates for Latinos benefits the community at large by providing trained professionals who can serve the community and provide positive role models for Latino youth.

One approach suggested to increase the graduation rates of Latino students is to focus on the retention of students who have enrolled in colleges and universities. The majority of students who withdraw from college often cite personal reasons and lack of adjustment to their new environment as the main factors influencing their decision to leave school (Yazedjian & Towes, 2006). The transition to college is stressful for most high school students. Students must cope with the academic, social, and financial responsibilities they encounter in college (Kaczmarek, Matlock, & Franco, 1990; Rodriguez, et al. 2000). They must learn to manage studying for classes, interpersonal relationships, and economic resources. In addition to taking into account these general college stressors, increasing Latino students' college retention requires an in depth understanding of the challenges and unique experiences many of them encounter as first generation college students and ethnic and cultural minority group members of the academic community (Rodriguez, et al. 2000). These challenges produce stress which affects their well-being. Psychological symptoms such as anxiety and depression result from stress; thus, the study of stress among minority college students is an area of research that requires further exploration (Rosenthal & Schreiner, 2000).

Stress may develop from a set of environmental contexts including a system of social stratification based on race and ethnicity (Pearlin, 1989). The salience of such

environmental stressors among Latino students may depend on the ethnic and racial composition of the student body of the institution they attend. During 2007, only six percent of Latino students attended a college where they constituted seventy-five percent or more of total enrollment (Planty, et al., 2009). This means that the vast majority of Latino students attend colleges where they may have limited opportunities to meet other students of similar ethnic background. Consequently, most of the research that has examined the relation of stress to adjustment among Latino college students has been conducted in predominantly White institutions (Rodriguez et. al., 2000). It is important to conduct studies of Latino college students in institutions where the student population is not predominantly White in order to explore the association of risk factors, such as racism, and protective factors, such as social support, to the stress and well-being experienced by students in diverse institutional settings. The student-body ethnic composition may impact the levels of stress and well-being experienced by Latino college students because it shapes the cultural context of the academic institution they attend.

Researchers have distinguished between general college stress and stress associated with minority status (Rodriguez, et al, 2000; Smedley, Myers, & Harell, 1993). General college stress refers to challenging situations encountered by most students in the context of the college environment as they transition from adolescents to young adults. In addition to these normative challenges, Latino students may experience unique stressors associated to their ethnic/racial group membership, particularly if their parents did not attend college (Rosenthal & Schreiner, 2000). For example, having inadequate

academic preparation as a result of having attended schools with fewer resources in comparison to schools located in more affluent neighborhoods and lack of knowledge about the college experience, may contribute to the college stress reported by Latino students. Researchers have suggested that in addition to experiencing significant stress due to financial concerns and inadequate academic preparation, Latino students experience stress associated with discrimination as members of an ethnic/racial minority group (Crockett, et al., 2007; Rodriguez, et al. 2000). Academic problems associated with the family's lack of financial resources and experiences of ethnic/racial discrimination may lead Latino students to experience high levels of stress and alienation from the college experience, which in turn may be detrimental to their academic achievement and adjustment to the institution (Solberg, Hale, Villareal, & Kavanagh, 1993; Smedley, Myers, & Harell, 1993).

As indicated above, most existing studies have examined stress and well-being among ethnic minority students attending campuses where most of the students are of Caucasian descent. In these studies, researches have not always distinguished between general college stress and ethnic minority stress as predictors of psychological distress and well-being. Furthermore, researchers have not controlled for gender and being a first-generation college student when examining the relation of stress to the psychological well-being of Latino college students. To fill in these gaps in the literature, the objective of this study was to examine the relative contribution of general college stress and minority student college stress to depression and well-being among Latino college students controlling for gender and college generational status. The study was conducted

in the second most ethnically diverse major research university of the United States. The student population at this institution is 61.7% ethnic minority (19.9% Latino, 13.5% African-American, 19.8% Asian/Pacific Islander, 8.2% International, 0.3% Native American, 35.7% White, 2.6% Unknown) and the faculty is predominantly white (72%); only seven percent of the faulty identify as Hispanic (Facts and figures provided in the University's web site retrieved September 2009).

CHAPTER II

Literature Review

This chapter discusses the research literature relevant to depression, well-being and college stress among minority college students. It is organized into four sections: (1) definitions of depression and well-being, which are the criterion variables of the study (2) college stress (3) minority student college stress, and (4) demographic variables, specifically gender and college generational status. The contribution of the demographic variables to the depression and well-being experienced by Latino college students will be discussed at the end of each section.

Depression

Depression is a state of persistent sadness and hopelessness characterized by impairment in social, occupational, or other important areas of functioning such as academic work. A diagnosis of depression requires the presence of five or more of the following symptoms within a two week period: depressed mood, decreased interest or pleasure in activities, significant weight changes, sleep disturbances, psychomotor agitation or retardation, fatigue, difficulty concentrating, indecisiveness, low self-esteem or inappropriate guilt, and recurrent thoughts of death or suicidal ideation (DSM IV-TR, American Psychiatric Association, 2000). The symptoms cannot be accounted for by bereavement, substance use, or a medical condition and one of them must be depressed mood or decreased interest in usual activities. The incidence of depression related symptoms among college students is increasing (Deroma, Leach, & Leverett, 2009). Depression has been identified as one of the most common presenting concerns among racial and ethnic minority university students (Constantine, Chen & Ceesay, 1997);

therefore, further investigation of factors associated with depressive symptoms could prove helpful for practitioners working with these clients.

Well-being

Well-being is not only the lack of negative emotions and symptoms but also the presence of positive emotions and affect and feelings; it also includes vitality and a sense of being in control of one's emotions (Burris, Brechting, Salsman, & Carlson, 2009; Oishi, Diener, Suh, & Lucas, 1999). Well-being is different from depression in that the absence of depressive symptoms does not necessarily mean that an individual is experiencing vitality or general health. An example is a student who can be described as apathetic; he or she may not experience depressive symptoms but may also not experience excitement with school or learning. The student is simply going through the motions of attending class, doing school work and being in college while indifferent to the process. A sense of well-being is important because it is likely to increase the probability that minority students will fully benefit from the different aspects of their college experience, such as intellectual and professional development, instead of simply accumulating enough credit hours to obtain a degree.

College Stress

College is a time when students must negotiate the increased autonomy and responsibilities acquired during their transition from minors to young adults. This transition from the highly structured high school environment to the more flexible yet challenging college experience may lead some students to experience stress. Stress occurs when the demands of a task are assessed as exceeding the resources the person has

 to accomplish that task (Dyson & Renk, 2006; Golding, Potts & Aneshensel, 1988). High levels of stress can result in negative physical, emotional and psychological outcomes such as difficulties sleeping, decreased immune system efficiency, taxing cognitive resources, disruption of interpersonal relationships, drug use, and mental health concerns (DiRamio & Payne, 2007; Torres & Solberg, 2001; Skowron, Wester, & Azen, 2004). Researchers have proposed that in addition to the normative sources of stress experienced by all college students, Latino students are likely to experience unique stressors associated with their ethnic minority status (Rodriguez et al, 2000; Smedley et al., 1993). These two types of stress have been labeled general college stress and minority student college stress.

General College Stress. College stress, in general, arises from academic, social, and financial challenges. Academic stress may arise from challenging course loads and the discrepancy between high school students' expectations regarding college demands and the actual academic demands they encounter once they attend college (Skowron, et al., 2004; Hurtado, Carter & Spuler, 1996; Ying, Lee, & Tsai, 2004). For instance, high school students who graduated in the top ten percent of their class may experience significant stress if in their first semester in college they obtain a much lower grade point average than they obtained in high school. Social stress may arise from dealing with university bureaucracies, difficulties with time management and maintaining interpersonal relationships (Skowron, et al., 2004; Hurtado, et al, 1996). Financial stress refers to the pressure associated with paying tuition and other college expenses; for

instance, many students encounter decreased availability of financial aid and increasing tuition prices while in college (DiRamio & Payne, 2007).

Latino students reported higher levels of academic, social/personal, and financial stress than Caucasian students, after controlling for social class (Crockett, et. al, 2007). Researchers have found that college stress, particularly social and academic stress, is positively associated to   depression among college students in general (Dyson & Renk, 2006; O'Neill, Cohen, & Tolpin, 2004) and Latino students specifically (Rodriguez, et. al, 2000). Furthermore, findings also show that students who endorsed more depressive symptoms experienced decreased academic performance (Deroma, et al, 2009). Even though most of these studies included ethnically diverse samples, the majority of participants were Caucasian. Therefore, replication studies with greater number of Latino students may assist in better understanding the experience of stress among Latino college students. In terms of well-being, Latino students who reported higher levels of generic college stress reported decreased experience of well-being (Rodriguez, et. al, 2003). Social stress was a component of generic college stress particularly predictive of well-being (Rodriguez, et al, 2000). Overall, it appears that social stress is the component of generic college stress most predictive of distress and well-being.

Minority Student College Stress. Researchers have advocated for the use of a stress model, which proposes a reciprocal influence between person and environment, to conceptualize and study well-being among members of ethnic minority groups (Chavez & French, 2007).   The university environment provides the cultural setting for interpersonal factors to affect students' levels of stress (Yazedjian & Towes, 2006).

Because of the social and political disadvantages associated with ethnic minority status, Latino students must cope with the typical demands of college and with the demands resulting from belonging to an ethnic minority group. Minority status stresses, which include social climate stress, interracial stress, ethnic discrimination stress, within group pressure and achievement stress may compound the general college stressors experienced by most students (Rodriguez, et al., 2000; Rodriguez, et al., 2003, Smedley, et al., 1993).

Social climate stress arises from a racially hostile climate which leads to social isolation and a sense of incongruence with the university environment (Hutz, Martin & Beitel, 2007). However, social climate stress may be experienced differently by minority students depending on the ethnic composition of the campus they attend; students at a university with a greater percentage of minority students may feel they have more sources of support and feel less socially isolated than students attending a predominantly White university. Researchers have found that context plays an important role in the adaptation of minority freshmen students at predominantly White colleges (Ying, et al., 2004). For instance, Latino students at a predominantly White institution are apt to view the campus climate more negatively than White students (Hurtado, et al., 1996).

Interracial stress includes that arising from experiencing cultural self-consciousness and conflicting value systems (Chavez & French, 2007; Crockett, et al. 2007). For instance, minority students are likely to be aware of negative stereotypes associated with their ethnic group and may be concerned about confirming those stereotypes. They may also experience ethnic discrimination stress based on their ethnicity, including being called racist names or feeling that people do not respect them

because of their race. In a campus with a diverse student body, like the one in which the present study was conducted, Latino students may experience interracial stress in their interactions with students from other racial/ethnic groups and with the university's administration and faculty, which are predominantly White.

Within group pressure is experienced by minority students in their interactions with people from their own ethnic background. It includes cultural pressure to conform to the norms of their ethnic group; for Latino students this may include things such as the expectation to be fluent in Spanish, how they should act, or what to believe in (Chavez & French, 2007; Rodriguez et al., 2000). Other sources of intra-ethnic pressure originate from minority students' families. Many Latino students must balance the competing demands of school, work, and family responsibilities (Ong, Phinney, & Dennis, 2006). The collectivist nature of Latino culture, with its emphasis on family connections, may be disrupted during college attendance thus causing intra-ethnic pressure and affecting students' emotional dispositions (Torres & Solberg, 2001).

Achievement stress refers to concern over academic preparation and legitimacy as a student. Many minority students may feel they have to prove to others that they were accepted into college based on merit rather than to meet a quota (Ying, et al., 2004). Latino students may think they are not well prepared for higher education which may make them vulnerable to lower academic performance and college adjustment (Ramos-Sanchez & Nichols, 2007).

Although researchers have studied acculturative stress in relation to ethnic minority students' emotional health (Constantine, Okazaki & Utsey, 2004; Paukert, Pettit,

Perez & Walker, 2006), there have been fewer studies conducted studying minority

college student stress. Two studies were located that examined the relation of minority

student stress to distress and well-being among minority college students. In a regression

study with minority freshmen in a predominantly white university, the linear combination

of the five minority student stressors (social climate, interracial, discrimination, within

group pressure and achievement stress) were associated to psychological distress when

controlling for general college stress (Smedley, et al., 1993). However, of the five

minority stressors, only achievement stress contributed unique variance to psychological

distress. In a study conducted at a university where Latinos were the largest ethnic

group, Rodriguez, et al, (2000) found that acculturative stress but not minority status

stress contributed additional variance to Latino students' psychological distress when

controlling for general college stressors. In their measure of minority stress, Rodriguez,

et al, (2000) excluded achievement stress which may explain the difference in findings

with the Smedley study. However, in none of the two studies described here was

minority student stress related to students' well-being when controlling for general

college stress; Minority student stress was related to students' distress but not to their

well-being in these two studies (Smedley, et al, 1993; Rodriguez et al, 2000). In sum,

only two studies were located that examined the relative contribution of general and

minority student college stress to depression and well-being among ethnic minority

students, and only one of these studies focused on Latino students. Given, the limited

number of studies examining the contribution of minority student stress to Latino

students' well-being, it would be interesting to study if achievement stress contributes

unique variance to Latino students' psychological well-being in a university with an ethnically diverse student population.

Gender and College Generational Status

Research findings indicate that gender and college generational status are associated to depressive symptoms and well-being among college students. Therefore, it may be important to control for gender and college generational status when examining the relation of college stress to depression and well-being.

Gender. Research indicates that female students have more difficulty than male students adjusting to the college environment (Enochs & Roland, 2006). Among students from both majority and minority ethnic groups, female college students typically report higher academic stress, less support for their educational goals, lower college adjustment, and higher psychological distress and depression than men (Crockett, et al., 2007; Hudson, Towey & Shinar, 2008; Misra & McKean, 2000; Rayle, Arredondo, & Kurpius, 2005; Rodriguez et al., 2000). It is possible that women's increased access to educational and career opportunities causes strains within their interpersonal relations including those with their immediate family (Enochs & Roland, 2006). These conflicts may be exacerbated among women from traditional cultures which place significant emphasis on prescribed gender roles.

Latina students may find it difficult to balance the demands of traditional gender roles and the pursuit of their college education (Castillo & Hill, 2004). They may experience conflict or distress regarding their loyalty to their families and their desire to advance their education and may believe they are being selfish in pursuing personal goals

instead of subscribing to a family-first ideology. Gender role conflicts may create cultural incongruity among Latinas, the experience that their personal culture does not align with the university environment culture, which creates additional stressors such as questioning if their priorities are right (Rayle, et. al., 2005). The presence of these families versus education strains may contribute to female students' greater levels of college related stress compared to their male counterparts, particularly as it relates to intra-ethnic pressures, which refer to the demands of conformity to cultural expectations, such as prescribed gender roles. Therefore, information regarding gender differences as they relate to college stress and well-being among Latino students is needed to better understand their college experience and assist in increasing their graduation rates (Hernandez & Lopez, 2004).

College generational status. A significant percentage of Latino college students is comprised of those whose parents did not attend college. These students, who are referred to as first generation college students (Hsiao, 1992; Nunez & Cuccaro-Alamin, 1998; Ramos-Sanchez & Nichols, 2007; Shields, 2002; Tym, McMillion, Barone, & Webster, 2004), typically experience more difficulties prior to and during their college years than their peers with college educated parents (Ramos-Sanchez & Nichols, 2007). Researchers have found that first generation college students generally struggle with the unfamiliar expectations of the college environment (Torres, 2003); they also tend to achieve lower academic performance, report lower levels of adjustment to college and have higher levels of attrition than students whose parents have some college experience (Dennis, Phinney & Chuateco, 2005; Nunez & Cuccaro-Alamin, 1998; Phinney & Haas,

2003; Ramos-Sanchez & Nichols, 2007; Thayer, 2000). First generation college students may receive less familial support for their decision to attend college, as compared to non-first generation college students, due to their parents' lack of familiarity with the higher education system and the strategies needed for successful college adaptation (Dennis, et al., 2005; Klasner & Pistole, 2003; Ramos-Sanchez & Nichols, 2007; Torres, 2003; Yazedjian & Towes, 2006). Furthermore, students from cultural backgrounds emphasizing family interdependence may be expected to perform family duties which may conflict with academic responsibilities (Dennis, et al., 2005). First generation college students may experience stress arising from cultural conflict between their home life and the academic environment (Thayer, 2000). A college education promotes differentiation from the family by exposing students to diverse ideas and value systems which the students bring back home (Klasner & Pistole, 2003). These new views, ideas, and values may not be well received by family members who have not attended college, thus creating conflict in the family unit and placing the students under more stress. In addition, minority students report concerns over their families' expectations and feel that their families do not understand the demands of the college environment (Kalsner & Pistole, 2003). For example, first generation students may not have a designated space to study at home or may be criticized by family members for prioritizing academic activities over family responsibilities (Hsiao, 1992).

The literature reviewed above suggests that first generation college students are likely to experience additional stresses compared to students with college educated parents. A large proportion of Latino college students are first generation students

(Nunez & Cucarro-Alamin, 1998) and first generation college status was a significant indicator of school desertion before the sophomore year (Choy, 2001). Therefore, closer examination of the contribution of first generation college status to stress, depression, and well-being may assist in preventing academic desertion and increasing graduation rates among Latino students.

Summary

The literature suggests that college stress, minority student college stress, gender, and college generational status are related to depression and well-being among college students from ethnic minority groups. Research with Latino students in a predominantly Hispanic campus revealed that academic and social stress, two components of general college stress, predicted psychological distress, while social stress was the only predictor of well-being (Rodriguez, et. al, 2000). Two components of minority status college stress, achievement and discrimination stress, predicted depression among ethnic minority students (including Latinos) when controlling for general college stress (Ramos-Sanchez & Nichols, 2007; Smedley et al., 1993). Researchers have agreed that there is a need for further investigation of factors that contribute to depression and well-being among Latino students, specifically in ethnically diverse campuses (Crockett, et al., 2007; Hurtado, et al., 1996; Quintana, Vogel, & Ybarra, 1991; Yazedjian & Towes, 2006).

Limitations of Previous Research

Although some of the literature reviewed above employed large sample sizes and provides a foundation for the study of the adjustment and stress among Latino college students, the majority of the studies involved small sample sizes. Furthermore, there are

inconsistent findings regarding minority students' mental health during their college years; some studies report higher levels of college adjustment among minority students than among nonminority students, others report no difference in minority and majority students' adjustment while others report minority students' experiencing lower adjustment levels when compared to majority students (Hutz, Martin, & Beitel, 2007). Most importantly, the majority of studies compared Latino students to Caucasian students without considering the unique experiences of the Latino student population (Quintana, et al., 1991).The present study collected more recent data in an ethnically diverse university and focused on Latino college students in order to address some of the limitations of previous studies.

CHAPTER III

Method

The purposes of this study were; (a) to assess gender and college generational status differences in the dimensions of general college stress, minority student stress, depression, and well-being and (b) to examine the relative contribution of general and minority student college stress to depression and general well-being while controlling for gender, college generational status, and socioeconomic status among Latino college students. The following research questions were addressed:

1. Are there gender and college generational status differences in the three dimensions of college stress (academic, social, financial), the five dimensions of minority student college stress (social climate, interracial stress, ethnic discrimination, within group pressures, achievement), depression and well-being?

2. To what extent do the dimensions of college stress (academic, social, financial) are associated to depression and well-being when controlling for gender and college generational status?

3. To what extent do the dimensions of minority student college stress (college climate, interracial stress, ethnic discrimination, within group pressures, achievement) are associated to depression and well-being when controlling for gender, college generational status and the three dimensions of college stress (academic, social, financial)?

Hypotheses:

The following research hypotheses were tested:

1. Compared to men, women will report higher levels of:

a) depression

b) academic stress

2. Compared to non-first generation college students, first generation students will report higher levels of:

a) financial stress

b) achievement stress

3. Minority college stress will contribute unique variance to depression when controlling for   gender, college generational status, social class and general college stress.

4. Minority college stress will contribute unique variance to well-being when controlling for gender, college generational status, social class and general college stress.

No hypotheses regarding gender and college generational status differences in social stress, (a component of general college stress), achievement stress and interracial stress (components of minority student college stress) were proposed due to lack of previous theory and research in this area.

Participants

Participants were 229 undergraduate Latino students attending a major university in a large urban city in the southwest United States. For the purpose of this study the term "Latino" was used to denote students of Latin American ancestry including Central and South American countries. The sample included first generation college students, whose parents did not attend college, and non-first generation college students who have

at least one parent who attended college or completed a college degree (Ramos-Sanchez & Nichols, 2007).

Recruitment procedures

Participants were recruited from various departments at a four year institution. Students were informed of the study's topic and those who met the eligibility criteria (18 years of age and older, first and later generation Latino college students) were given instructions to complete the study's questionnaires on line.

Instrumentation

The variables under study included self-reported college stress, depression and well-being. The data was collected using established measures for each of the variables of interest. These measures included a demographic form, the College Stress Scale (CSS), the Minority Student Stress Scale (MSSS), the Center for Epidemiological Studies Depression Scale (CES-D), and the General Well-being Schedule (GWBS).

Demographic Form

Demographic information was obtained from each respondent including sex, age at completion of measures, place of birth of parents and of self, age of arrival in the United States for those not born in the U.S., religion, educational level, employment status, parental annual income, relationship status, academic classification, parents' education, parents' occupation, living arrangements, grade point average, and academic generational status. College generational status was operationalized based on parents' level of education. First generation college students were those whose neither parent attended college; non-first generation college students were those who have at least one

parent who attended some college or completed a college degree ranging from an associate's degree to a doctoral degree.

The College Stress Scale

The College Stress Scale (CSS; Rodriguez et al., 2000) was used to measure three dimensions of general college stress. The CSS consists of 18 items asking students to rate the stressfulness of an event based on their college experience. The items were rated on a 5 point scale ranging from 1 denoting "does not apply" to 5 indicating that the experience was "extremely stressful" (Rodriguez, et al., 2003). The CSS contains three subscales: academic stress (seven items), social stress (six items), and financial stress (five items). Sample items include: "knowing how to prepare for exams" (academic stress subscale), "handling personal relationships" (social stress subscale), and "paying for bills and living expenses" (financial stress subscale). Internal consistency as measured with of Cronbach's alpha ranging from .80 to .84 for the subscales has been reported (Rodriguez, et al., 2003).

The Minority Student Stress Scale

The Minority Status Stress Scale (MSSS; Smedley et al., 1993) was used to measure minority student stress. The MSSS consists of 33 items (five subscales) answered on a 5 point Likert scale ranging from 1 denoting "does not apply" to 5 indicating "extremely stressful." The MSSS includes four subscales that assess minority-specific stressors: 11 items comprise the social climate stress subscale (e.g. "this university does not have enough professors of my race"), 7 items are included in the interracial stress subscale (e.g. "negative relationships between different ethnic groups at

the university"), the racism and discrimination stress subscale has 5 items (e.g. "others lack respect for people of my race"), and the within-group stress subscale is comprised of 4 items (e.g. "pressures from people of my same race regarding how to act or what to believe"). The MSSS also includes a subscale that assesses achievement stress (6 items), a college stressor experienced by all students that may be compounded by ethnicity or social class background (e.g. "being the first in my family to attend a major university" "feeling less intelligent or less capable than others"). Smedley, et al. reported good internal consistency for the five subscales (Cronbach's alpha ranges of .76 to .93).

Center for Epidemiologic Studies Depression Scale (CES-D)

Distress was measured by the score obtained on the Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D consists of 20 self-report items that assess components of depression including mood, feelings of guilt, psychomotor retardation, and sleep and appetite disturbance (Locke & Putman, 2009). Respondents were asked to rate how often they experienced depressive symptoms in the past week using a four point scale; 0 denotes rarely experienced the symptoms (less than one day per week) and 3 experienced them most of the time (five to seven days a week). Sample items include "I felt that people dislike me" and "I was bothered by things that usually don't bother me". The possible total score range from 0 to 60 with higher scores indicating presence and persistence of depressive symptoms. Scores of 16 or higher indicate persistence of depressive symptoms (Eaton, Muntaner, Smith, Tien & Ybarra, 2004).

The CES-D was designed to be used with non-psychiatric respondents who are 18 years of age or older (Locke & Putman, 2009). Reliability based on internal consistency of .85, split-half correlation of .87 and a test-retest reliability of .45 to .70 for three to twelve months follow-up has been reported. It also correlates with other self-report measures of depression, for example it has shown a .72 correlation with the Zung Self-Rating Depression Scale and a .52 correlation with the Beck Depression Inventory. The CES-D has been used extensively in studies examining depression in several populations. The CES-D did not pose any biases in a sample of Mexican-Americans and Non-Hispanic Whites (Golding, Aneshensel, & Hough, 1991).

General Well-being Schedule

Well-being was measured by the score on the General Well-being Schedule (GWBS). The GWBS consists of 22 items rated on a six point scale with varying response options which are scored on a scale of 0 (denoting the most negative option) to 5 (indicating the most positive option) according to the frequency of the affective experience (Dupuy, 1984; Rodriguez, et al., 2000).   The scores can range from 0 to 110 for the overall scale and subscale scores ranging from 0 to 15, 20, or 25. Higher scores indicate the presence of well-being among respondents. The GWB measures positive adjustment and can be administered to people from age 14 to 90 (Dupuy, 1984; Rodriguez, et al. 2003). Respondents are asked their feelings of well-being in regards to six affective states: anxiety, depressed mood, sense of positive well-being, self-control, general health, and vitality (Taylor, Poston II, Haddock, Blackburn, Heber, Heymsfield, & Forey, 2003). Sample items include: "Have you been bothered by nervousness or your

'nerves' during the past month?" (anxiety), "I felt downhearted and blue during the past

month" (depressed mood), "How have you been feeling in general during the past

month?" (sense of positive well-being), "Have you been in firm control of your behavior,

thoughts, emotions or feelings during the past month?" (self-control), "How often were

you bothered by any illness, bodily disorder, aches or pains during the past month?"

(general health) and "How much energy, pep, or vitality did you have or feel during the

past month?" (vitality) (Grossi, Groth, Mosconi, Cerutti, Pace, Compare, & Apolone,

2006). Internal consistency of .87 has been reported for the GWBS (Rodriguez, et al.,

2000). The GWBS has been used with minority populations and appears to be a reliable

and valid measure of positive adjustment among Latino respondents (Carols Poston,

Olvera, Yanez, Haddock, Dunn, Harris, & Foreyt, 1998; Grossi, et al, 2006; Dornelas,

Stepnowski, Fischer, & Thompson, 2007).

Statistical Analyses

The following analyses were conducted to examine each of the proposed research

questions:

1. **Are there gender and college generational status differences in the three**

   dimensions of college stress (academic, social, financial), minority college stress

   (interracial and achievement stress), depression, and well-being?

   Two one-way MANOVAS were conducted to examine gender and college

   generational status differences in the measures of depression and well-being. Two

   additional one-way MANOVAS were conducted to examine gender and college

   generational status differences in the three general college stresses and the two

minority status stress subscales (one per independent variable). Statistically

significant MANOVAS were followed with ANOVAS   to determine the specific

variables that differed by gender and/or college generational status.

2. **To what extent do the three dimensions of college stress (academic, social,**

    financial) are associated to (a) depression and (b) well-being when controlling

    for gender, college generational status and SES?

3. **To what extent do the two dimensions of minority college stress (interracial**

    stress and achievement stress) are associated to a) depression and b) well-being

    when controlling for gender, college generational status and the three

    dimensions of college stress (academic, social, financial)?

    Two hierarchical regression analyses were conducted to assess questions 2a/3a

    (dependent variable depression) and 2b/3b (dependent variable well-being). In each

    regression gender, college generational status and SES were entered in step 1; the

    three dimensions of general college stress were entered in step 2 and the two

    dimensions of minority college stress were entered in step 3. The change in R^2 from

    step 1 to step 2 was examined to determine if the linear combination of the general

    college stress variables contributed variance to depression/well-being when

    controlling for gender, college generational status and SES.   The change in R^2 from

    step 2 to step 3 was examined to determine if the linear combination of the minority

    student college stress variables contributed unique variance to depression and to well-

    being when controlling for gender, college generational status, SES and the general

    college stress dimensions.   The standardized Beta coefficients were examined to

identify which specific dimensions of general college stress and of minority student college stress contributed unique variance to depression and to well-being when controlling for all the other variables in the model.

Before conducting the regression analyses described above, a bivariate correlation among all the predictor variables included in the study was examined to detect any possible problems with multicollinearity among these factors. Predictor variables with correlations larger than .70 were combined or excluded from the regression models based on this study's purpose and past research conducted examining these factors. Scale and subscale scores were calculated by adding the scores for the items in each of the subscales.

CHAPTER IV

Results

This section presents the results of the data analysis in two parts. The first part describes the demographic characteristics of participants including gender, academic classification, and college generational status and the study's preliminary analyses. The second part includes the results of the statistical analyses for the proposed research questions.

Sample Description and preliminary analyses

Frequency distributions were performed to determine the sample composition. Table 1 depicts the frequencies and percentages for gender, academic classification, college generational status, annual family income, age, and campus residency status. The sample was comprised of 229 participants; there were 53 male (23%) and 176 female (77%) students who participated in this study. The majority of the participants (53.3%) reported that they were not first generation college students; the other 46.7% stated that they were first generation college students - the first person in their immediate family to attend college. The respondents were 65% percent upper classmen, juniors and seniors, and 35% freshmen and sophomores. Participants in this study represented a wide range of income distributions; approximately half of the respondents reported annual family incomes ranging from $10,000 to $60,000, about 30% reported incomes between $60,000 to $100,000, and the remainder reported that their annual family income was over $100,000. Most of the students (approximately 62%) reported being 18-22 years old, a third of the respondents reported that they were between 23 and 29 years old and less

than ten percent reported being 30 years old or older. Most of the respondents resided off

campus (92.6%).

Table 1

Participants' Demographic Characteristics: Frequencies and Percentages (N=229)

Characteristic	Frequency	Percentage
Gender		
Female	176	77
Male	53	23
Academic classification		
Freshman	41	18
Sophomore	39	17
Junior	77	34
Senior	72	31
College generational status		
First generation	107	46.7
Non-first generation	122	53.3
Annual family income		
Less than $10,000	10	4.4
$10,001-20,000	63	27.5
$20,001-40,000	28	12.2
$40,001-60,000	14	6.1
$60,001-80,000	27	11.8
$80,001-100,000	45	19.6
$100,001-150,000	22	9.6
More than $150,000	10	4.4
Not reported	10	4.4
Age		
18-22 years old	141	61.6
23-29 years old	71	31.0
30 + years old	17	7.4
Campus resident status		
On campus	17	7.4
Off campus	212	92.6

Table 2

Means, Standard deviations, and Intercorrelations of predictor (stress) and criterion variables (depression and well-being).

Variable	Mean	Standard Deviation	1	2	3	4	5	6	7	8	9	10
1. Depression	15.96	11.21	1									
2. Well-being	70.30	17.86	-.82**	1								
3. Academic stress	25.04	4.61	.44**	-.40**	1							
4. Financial stress	15.69	4.62	.30**	-.29**	.34**	1						
5. Social stress	19.09	5.01	.48**	-.49**	.48**	.44**	1					
6. Interracial stress	13.53	4.64	.31**	-.07	.10	.14*	.20**	1				
7. Racism stress	12.18	5.12	.31**	-.19**	.10	.08	.21**	.68**	1			
8. Within group stress	9.19	3.36	.35**	-.23**	.16*	.20*	.35**	.73**	.61**	1		
9. Achievement stress	17.68	5.60	.58**	-.46**	.46**	.31**	.57**	.47**	.40**	.51**	1	
10. Social climate stress	23.17	7.98	.31**	-.11	.11	.11	.18**	.81**	.72**	.67**	.44**	1

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level

A bivariate correlation among all the predictor variables included in the study was performed. Table 2 summarizes the means, standard deviations, and correlations among key variables in the study.

Based on the results of the bivariate correlation analysis, predictor variables with correlations larger than .70 were excluded from the regression models in a manner that best corresponded with the study's purposes, in order to decrease potential problems with multicollinearity. All three components of general college stress (academic stress, social stress, and financial stress) were included as predictors in the regression analyses. The within group stress subscale was excluded from the regression model given its high correlation with interracial stress ($r = .73$, $p < .01$); the social climate stress subscale was also excluded from the regression analyses given its high correlation with interracial stress ($r = .81$, $p < .01$) and the racism and discrimination subscale ($r = .72$, $p < .01$). Excluding the within group stress, social climate stress and the racism and discrimination subscales and keeping the interracial stress subscale of the minority student stress scale appeared to be the best option for the regression analyses given the high correlation among the subscales and the fact that the institution where the data was collected is one of the most ethnically diverse universities in the United States (61.7% of the students enrolled, at the time the data was collected, identified themselves as members of an ethnic minority group). Keeping the interracial stress subscale seemed to be the most relevant option given the ethnic diversity present at the campus where the study was conducted (the ethnic composition of the students enrolled include 19.9% Latino, 13.5% African-American, 19.8% Asian, and 8.2% International). The ethnic diversity of the

campus was expected to provide a context conducive to positive and negative interactions among people from different ethnic backgrounds which may induce interracial stress in some students.

As expected, there was a negative correlation between well-being and depression and well-being and the stress subscales which indicates that well-being increases as stress and depression decrease. The strongest correlation was found between well-being and depression (r=-.82, p<.01) followed by well-being and social stress (r=-.50, P<.01) and well-being and achievement stress (r=-.46, p<.01). These findings suggest that the more well-being students experience the less likely they are to report depressive symptoms.

Main analyses

The main analyses included Multivariate Analysis of Variance MANOVAS and hierarchical regressions analyses.

Multivariate Analysis of Variance. Two one-way MANOVAS were conducted to examine gender and college generational status differences in the measures of depression and well-being. Results of the first MANOVA indicated that there was a small main effect for gender, Wilk's Lambda = .97, F(2, 194) = 3.57, p = .03 Eta Squared = .03. Follow-up univariate analyses showed (a) no gender effect for depression and (b) a small but statistically significant gender effect for well-being, F(1,195) = 6.22, p = .01, Eta Squared = .01. As may be observed in Table 3, men reported higher levels of well-being than women. Results of the second MANOVA indicated that there were no college generational status differences in either depression or well-being.

Two additional one-way MANOVAS were conducted to examine gender and college generational status differences in the three general college stress and the two minority student stress subscales. Results of the third MANOVA indicated that there were no gender differences in any of the five stress variables. Results of the fourth MANOVA indicated that there was a statistically significant effect for college generational status on the stress variables, Wilk's Lambda = .94, $F(5, 203) = 2.50$, $p = .03$ Eta Squared = .06. Follow-up univariate analyses showed college generational status differences for only one variable, minority achievement stress, $F(1, 207) = 8.33$, $p < .001$, Eta Squared = .39. As may be observed in Table 3, first generation college students reported higher levels of minority achievement stress than students who were not the first members of their immediate families to attend college.

Hierarchical regression models. Two hierarchical regression analyses were conducted to assess the extent to which general college stress and minority college stress are associated to depression and well-being when controlling for gender, college generational status, and socioeconomic status.

The first hierarchical regression analysis was conducted to assess the extent to which the three dimensions of general college stress and the two dimensions of minority college stress are associated to students' well-being when controlling for gender, college generational status, and socioeconomic status (SES). Gender, college generational status and SES were entered in step 1; the three dimensions of general college stress were entered in step 2, and the two dimensions of minority college stress (interracial and achievement stress) were entered in step 3. Table 4 summarizes the results for this

Table 3

Mean and Standard Deviations of Depression, General Well-being, and Stress Variables by Gender and College Generational Status

	Men (n= 51)		Women (n=158)		1st Generation (n= 95)		Non-first Generation (n=114)	
	M	SD	M	SD	M	SD	M	SD
Depression	13.9	10.4	16.8	11.6	16.2	11.8	15.9	10.9
Well-Being	76.1	15.2	68.9	17.9	71.3	18.4	70.0	16.8
Academic stress	24.4	4.8	25.1	4.5	24.9	4.5	24.9	4.6
Social stress	18.4	5.0	19.2	4.9	19.3	5.2	18.7	4.7
Financial stress	16.2	5.0	15.4	4.5	15.5	4.6	15.6	4.7
Interracial stress	14.4	5.9	13.3	4.2	13.7	3.9	13.5	5.3
Achievement stress	16.6	5.6	17.9	5.5	18.8	5.8	16.6	5.1

Note - Possible range of scores per scale:
Depression (20 items) 0-60
Well-being (22 items) 0-110
Academic stress (7 items) 5-35
Social stress (6 items) 5-30
Financial stress (5 items) 5-25
Interracial stress (7 items) 5-35
Achievement stress (6 items) 5-30

regression. The change in R^2 from step 1 to step 2 was statistically significant $R^2 = .31$, $\Delta R^2 = .27$, p<.001, indicating that the linear combination of the general college stress variables contributed additional variance to well-being when controlling for gender, college generational status, and SES. The change in R^2 from step 2 to step 3 was statistically significant $R^2 = .36$, $\Delta R^2 = .05$, p<.01, indicating that the linear combination of the two minority college stress variables contributed unique variance to well-being when controlling for gender, college generational status, SES, and general college stress. Inspection of the standardized Beta coefficients in the last step, indicated that gender, the social subscale of the general college stress scale, and the two minority college student stress subscales (interracial and achievement stress) contributed unique variance to well-being when controlling for all the other variables in the model. The sign of the Beta coefficients were in the expected direction; higher levels of stress were associated to lower levels of well-being.

The second hierarchical regression analysis was conducted to assess to what extent the three general college stress variables and the two minority college stress variables are associated to depression when controlling for gender, college generational status, and socioeconomic status (SES). Gender, college generational status and SES were entered in step 1; the three dimensions of general college stress were entered in step 2, and the two dimensions of minority college stress (interracial and achievement stress) were entered in step 3. Table 5 summarizes the results for this regression. The change in R^2 from step 1 to step 2 was statistically significant $R^2 = .28$, $\Delta R^2 = .27$, p<.001, indicating that the linear combination of the general college stress variables contributes

variance to depression when controlling for gender, college generational status, and SES. The change in R^2 from step 2 to step 3 was statistically significant $R^2 = .38$, $\Delta R^2 = .10$, $p<.001$, indicating that the linear combination of the two minority college stress variables contributes unique variance to depression when controlling for gender, college generational status, SES, and the general college stress dimensions. The standardized Beta coefficients in the last step indicated that only the social stress subscale of the general college stress scale and the achievement stress subscale of the minority college stress scale contributed unique variance to depression when controlling for all other variables in the model.

Table 4

Summary of Hierarchical Regression Analysis for Variables Predicting Well-being (N=229)

Variable	B	SEB	β	R^2	ΔR^2
Step 1					
Gender	8.5	2.9	.20**		
College Generational Status	.8	2.5	.02		
Socio Economic Status	-.1	.6	-.01	.04*	.04*
Step 2					
Gender	6.8	2.5	.16**		
College Generational Status	1.6	2.2	.04		
Socio Economic Status	-.4	.5	-.04		
College stress – Academic	-.7	.3	-.19**		
College stress – Social	-1.3	.3	-.35***		
College stress – Financial	-.3	.3	-.09	.31***	.27***
Step 3					
Gender	5.2	2.5	.12**		
College Generational Status	3.9	2.2	.11		
Socio Economic Status	-.3	.5	-.04		
College stress – Academic	-.4	.3	-.11		
College stress – Social	-.9	.3	-.24**		
College stress – Financial	-.3	.3	-.08		
Minority stress – Interracial	.6	.3	.14**		
Minority stress – Achievement	-1.1	.3	-.33***	.36***	.05**

Note: (Gender 1=male; 0=female)
(College generational status 1=first generation college student; 2=non-first generation college student)
*p<.05, **p<.01, ***p<.001

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting Depression (N=229)

Variable	B	SEB	β	R^2	ΔR^2
Step 1					
Gender	-2.20	1.9	-.09		
College Generational Status	-.30	1.7	-.01		
Socio Economic Status	-9.3E-02	.42	-.02	.01	.01
Step 2					
Gender	-1.74	1.7	-.07		
College Generational Status	-1.2	1.5	-.06		
Socio Economic Status	-1.7E-02	.36	-.00		
College stress – Academic	.57	.18	.23**		
College stress – Social	.71	.17	.32***		
College stress – Financial	.24	.17	.10	.28***	.27***
Step 3					
Gender	-1.52	1.6	-.06		
College Generational Status	-2.43	1.4	-.11		
Socio Economic Status	-4.6E-02	.34	-.01		
College stress – Academic	.32	.18	.13		
College stress – Social	.34	.17	.15*		
College stress – Financial	.23	.16	.10		
Minority stress – Interracial	.16	.17	.07		
Minority stress – Achievement	.74	.17	.37***	.38***	.10***

Note: (Gender 1=male; 0=female)
(College generational Status 1=first generation college student; 2=non-first generation college student)
*p<.05, **p<.01, ***p<.001

CHAPTER V

Discussion

The objective of this study was to investigate to what extent college stress, minority student stress, gender, and college generational status were predictors of depression and well-being among Latino college students. Findings from this study did not support the hypothesis that, compared to men, women would report higher levels of depression $F(1, 197) = 2.3$, $p = .14$. This is inconsistent with literature showing higher depression rates for women when compared to men (Crockett, et al., 2007; Hudson, Towey & Shinar, 2008; Misra & McKean, 2000; Rayle, Arredondo, & Kurpius, 2005; Rodriguez et al., 2000). This finding should be interpreted with caution given that this study's sample consisted of 176 (77% of the total sample) women and 53 (23% of the total sample) men. It is possible that the imbalance in gender representation could have affected the results. It is also possible that women who attend college may have certain characteristics, such as resiliency and determination, which decrease their propensity to experience depression while pursuing their higher education. Researchers have suggested that Latinas in higher education take an active approach to problem solving, seek more information about their challenges, and take a planned course of action (Gloria, Castellanos, & Orozco, 2005). Taking an active approach to problem solving may assist Latina college students in feeling that they have control over their situations and thus decrease their likelihood to experience depressive symptoms. Additionally, Latinas tend to have a higher representation in higher education compared to Latinos (Hernandez & Lopez, 2004; Gloria, Castellanos, Scull, & Villegas, 2009). Having other Latinas in university campuses may decrease the probability that women experience

depression because of the opportunity to interact with women of similar backgrounds is likely to be a source of social support.

Findings from this study did not support the hypothesis that, compared to men, women would report higher levels of academic stress $F(1, 209) =.94, p =.33$. This finding is inconsistent with previous research indicating that female students typically report higher academic stress than men (Misra & McKean, 2000). This finding should be interpreted with caution given the gender imbalance among participants mentioned earlier. In addition, the sample was comprised of 65% upper class men (34% students with Junior standing and 31% students classified as Seniors), who may be more familiar with the demands of college, than freshmen and sophomore students. Latinas have been reported to attend college and obtain their bachelor's degrees in higher proportions than Latinos which suggests that there are differences in their degree completion rates (Hernandez & Lopez, 2004). These differences in completion rates could suggest that there are more Latinas than Latinos classified as upper classmen and that Latinas are more likely to persist, than men, in pursuing higher education. Because Latinas with junior and senior standing are likely to know how to meet the academic demands of a college curriculum, they may be less likely to experience academic college stress. It is also possible that the students in this sample, being comprised of a greater number of women and upper classmen than men and students in the first two years of college, were confident in their ability to overcome educational obstacles, which decreased their experience of academic stress.

The hypothesis that, compared to non-first generation college students, first generation students will report higher levels of financial stress was not supported. This appears counter intuitive given that many first generation college students come from families with lower socioeconomic status and are expected to help support their families financially. It has been reported that first generation college students are more likely than non-first generation students to be employed full-time while enrolled in college (Tym, et. al. 2004). It is possible that first generation college students are accustomed to having limited financial resources and experiencing financial stress prior to entering college, thus they may not report increased financial stress while pursuing higher education. In addition, first generation students may view education as a long term investment with the potential to provide them with the ability to make a higher income in the future; maintaining this perspective may help first generation students to endure the temporary financial stress of attending college as part of reaching the long term goal of having higher income in the future.

The hypothesis that, compared to non-first generation college students, first generation students would report higher levels of achievement stress was supported. This is consistent with reports that first generation college students are prone to feel uncertain regarding their academic abilities and are likely to believe they are "not college material" (Tym, et al., 2004). This finding suggests that first generation college students are more likely to question their legitimacy as university students more often than students who are not the first members in their immediate family to attend college. First generation college students are more likely to have attended low income high schools which may not

have prepared them adequately for the demands of a college education, thus influencing their self-view and confidence in being able to meet the demands of college and making them more likely to experience achievement stress.

The results of the first hierarchical regression analysis indicated that general college stress contributed a substantial proportion of unique variance (R^2 = .27) to well-being when controlling for gender, college generational status, and SES. Two of the three general college stress variables – academic and social stress - contributed unique variance to well-being scores. Financial college stress was not uniquely associated to well-being. The results also indicated that minority college stress contributed unique additional variance (R^2 = .05) to well-being when controlling for gender, college generational status, SES, and general college stress. In the final model three of the five stress variables contributed unique variance to well-being: social stress (from the general college stress scale), and interracial and achievement stress (from the minority student stress scale).

The findings are similar to reports noting that social stress was predictive of well-being among Latino college students (Rodriguez, et al, 2000). They are also consistent with research noting that social support, which decreases the experiences of social stress, was predictive of well-being among Latino students (Rodriguez, et al, 2003). The findings indicate that the higher the levels of social stress experienced the less likely students were to experience well-being. It is possible that Latino students may be unsure regarding how to interact with others in a university context and thus feel isolated during their college years; these feelings of isolation may increase the experience of social stress

which affects the quality of the students' college experience and may undermine their well-being.

These findings support the hypothesis that minority college stress contributes unique variance to well-being when controlling for all the other variables in the model. Specifically, interracial and achievement stress predicted well-being among Latino students in this study. Interracial stress includes feelings of discrimination and being aware of negative stereotypes regarding one's racial or ethnic group. It is possible that Latino students may have experienced pressure to defy stereotypes which affected their likelihood of experiencing well-being. Students may have been so preoccupied with defying the negative stereotypes that they may have neglected to focus on the positive aspects of their ethnic group membership; undermining the positive aspects of their ethnic group membership may have decreased their likelihood of experiencing well-being.

Achievement stress was also predictive of well-being among the participants in this study. In general, students who reported higher achievement stress were less likely to report feelings of well-being. Students who experience higher achievement stress are preoccupied with their legitimacy as university scholars (Ying, et al, 2004); this preoccupation with proving that they deserve their place at the university may take the focus away from students' previous accomplishments and the positive qualities they possess and emphasize their perceived shortcomings.

The second hierarchical regression analysis indicated that general college stress contributed a substantial proportion of unique variance ($R^2 = .27$) to depression when

controlling for gender, college generational status, and SES. Two of the three general college stress variables – academic and social stress - contributed unique variance to depression scores. Financial college stress was not uniquely associated to depression. The results also indicated that minority student college achievement stress contributed unique additional variance (R^2 = .10) to depression when controlling for gender, college generational status, SES, and general college stress. In the final model two of the five stress variables contributed unique variance to depression: social stress (from the general college stress scale), and achievement stress (from the minority student stress scale). The findings are consistent with reports that achievement stress contributed unique variance to the psychological distress reported by minority freshmen students at a predominantly white university (Smedley, et al., 1993).

Implications

The results of this study have implications for student support services providers, counselors, and the community at large. Based on the results of this study, it appears that the most effective interventions may be those that address the academic, social, and achievement stress that may be experienced by Latino students. In addition, consideration of the experiences of Latino students as first generation students in particular may assist in making the acquisition of higher education more accessible to these historically under represented students.

Counseling which assists students in becoming familiar with all the resources they have available on campus and encourages them to fully utilize those resources, may assist students in having a greater sense of self-efficacy while in college and decrease the achievement stress they experience (Ramos-Sanchez & Nichols, 2007). Furthermore,

providing psycho educational support groups for first generation college students may decrease the achievement stress they experience and increase their likelihood of experiencing well-being. In addition, providing workshops for faculty to educate them regarding the experiences of underrepresented students may be a good step in diminishing interracial stress. Collaboration among various student service departments to promote dialogue among different student organizations regarding the advantages of being open to differences and learn from different diversity areas may assuage some of the detrimental effects of interracial stress. Encouraging students to learn from each other and appreciate the diversity they represent among the campus community may enrich their overall experience at the university.

Outreach and counseling services to help students understand how academic and social demands interact to affect their college experience may help in fostering a sense of achievement and satisfaction with those achievements (Thayer, 2000). Emphasizing the different areas of development while in college, (e.g. intellectual, social, personal) may assist students in feeling more connected to the university and increase their sense that they are fully benefiting from attending an institution of higher learning. In addition, culturally sensitive interventions developed to focus on individual students and at the policy and institutional level may create an institutional context where students feel valued. Fostering a greater sense of community between Latino students and their educational institutions and developing support services that culturally address the challenges Latino students face as members of a college community, minority group, and cultural group may assuage many of the potentially detrimental effects of the stress these

students experience while pursuing higher education (Smedley, et al 2003; Rodriguez et al, 2003).

Finally, programs aimed at preventing school desertion and promoting college attendance among under represented students should focus on creating a sense of community and collaboration between students and teachers, providing students with a sense that they have an achievable future, creating opportunities for students to work while attending school, providing academic assistance, and providing students with an opportunity to mentor younger students thus increasing their self-esteem (Fashola & Slavin, 1998). These measures may alleviate some of the achievement stress experienced by college students thus decreasing their likelihood of experiencing depression and increasing their likelihood of having a sense of well-being while pursuing higher education. Addressing the factors that contribute to school desertion among Latino college students has the potential to benefit these students and also the community at large by providing role models for younger students and capable professionals who can serve the community's needs.

Limitations

The limitations of this study include the recruitment of a convenience sample in an urban setting, data collected with self-report questionnaires via the internet, and the lack of corroboration of the self-report data with other data sources. In addition, 77 percent of the respondents were female and only 23 percent were male.

The use of a non-random sample may have introduced a self-selection bias. Undergraduate Latino students, at least 18 years of age, were invited to participate and those who decided to participate may differ from those who were not interested in

participating in the study. Students who participated may have been more invested in contributing to research examining the mental health of Latino students than those who declined to participate. Another possible self-selection bias is that some of the participants may have needed the extra credit awarded for participating in the study to improve their grades in certain classes thus having an added incentive for their participation.

The recruitment of participants in a large public research university in an urban setting in the Gulf coast region of the United States limits the applicability of the findings to universities in other settings. Students attending this university may differ from those attending community colleges, private universities, universities located in non-urban settings, or universities located in different regions of the United States therefore the results of this study should be interpreted with caution. In addition, attending a large public university in an urban setting may have exposed students to additional sources of stress, such as long commutes in traffic, limited available parking spaces, and disproportionate student to teacher ratios, which may not be experienced by students in other types of institutions. These possible additional stressors may have influenced the general well-being experienced by this study's participants and thus affected its results.

The use of self-report questionnaires collected via the internet may have introduced another self-selection bias in which students who are more comfortable using the internet or have the internet more readily accessible may have been more likely to participate than those who may not be as comfortable completing on line questionnaires. In addition, the use of the internet to collect responses may have influenced the data

collected by allowing students to complete questionnaires on their own without proctoring. This data collection method may increase the likelihood of random responding by participants.

Despite these limitations, this study adds to the literature on Latino students' mental health by utilizing a large sample size recruited at an ethnically diverse university with a significant Latino student enrollment. In addition, unlike some of the previous research studies on minority students, which primarily compared minority students to Caucasian students (Hutz, Martin, & Beitel, 2007; Quintana, et al., 1991), this study focused on Latino students and intra group rather than inter group differences. Furthermore, this study uses a relatively large sample size when compared to other studies that included less than 50 Latino participants in their samples (Lent, Brown, & Larkin, 1984; Lopez, Campbell, & Watkins, 1986; Paul & Brier, 2001; Smedley, et al, 1993). It also utilized data collected more recently than previous studies. It addressed the efforts to study how factors, such as gender and college generational status, may relate to the stress and well-being experienced by Latino students thus focusing not only on risk but also on protective factors experienced by Latinos in higher education. This study's consideration of factors contributing to well-being is in line with the field of counseling psychology's emphasis on prevention and clients' strengths.

Future Research

Future research utilizing random samples recruited in diverse university settings and corroborating self-report data with other data sources may assist in strengthening the generalizibility of the results and expanding the knowledge regarding Latino college

students' mental health. Conducting research at campuses that are not as ethnically diverse as the one where this research was conducted may be particularly helpful in examining if the campus ethnic composition serves to buffer any potential effects of general college stress and minority student stress. Furthermore, longitudinal methodologies which follow a random portion of a study's participants may assist in evaluating whether depression and well-being change over time and the possible factors influencing these changes. In addition, research utilizing more gender balanced samples may assist in clarifying some of the inconsistent findings regarding the experience of depressive symptoms and academic stress among Latino students.

More specifically, based on the results of this study, further examination of factors influencing the social, academic, achievement, and interracial stress experience by Latino students may prove particularly valuable in identifying potential prevention and intervention areas to better serve these historically under represented students and assist them in graduating.

As noted earlier, social stress may arise from a student's knowledge regarding how to navigate the university bureaucracies and maintain interpersonal relationships; therefore examining the possible differences in the experiences of students who had parents or siblings attend college prior to them, the level of family support received, and involvement in extracurricular activities and religious practices may provide additional information regarding factors that contribute to or buffer the effects of social stress. Research examining the possible effects of family cohesiveness in Latino college students' experiences could assist in determining if experiencing support or lack of

support from family members can be a protective or risk factor; it would be interesting to examine the factors that lead to this possible difference in level of support provided among families. In addition, it may be that older siblings' attendance in higher education may be more predictive of younger siblings' experience in college than if their parents attended college. It would be interesting to see if there are differences based on where and when Latino students' parents or siblings attended college; for example if students whose parents attended college in a country other than the United States share the experiences of those whose parents attended college in the United States. Another factor that may prove worthwhile to study is students' involvement in extracurricular activities. Students' involved in extracurricular activities may provide a source of social support by exposing them to other people with similar interest whom they can connect with and relate to. It would be interesting to examine if there are differences based on membership in organizations or involvement in activities that could be considered generic and those that may be considered of special interest for minority students. Finally, expression of faith and involvement in religious practices is important for many Latinos; it would be interesting to see if students who are more involved in religious practices on and off campus experience a higher level of social support and lower levels of social stress which may assist them during the challenging phases of obtaining their college education.

As noted earlier academic and achievement stresses were predictive of depression and well-being among Latino college students; these stresses refer to students' beliefs that they can successfully complete college related tasks and are legitimate university students. Examination of Latino students' college self-efficacy may prove helpful in

determining the levels of academic and achievement stress they experience. As noted previously, achievement stress is compounded by ethnic identity therefore studies that analyze the relation of ethnic identity development to academic and achievement in college may prove fruitful. Examination of academic and achievement stresses as they relate to college self-efficacy may provide information regarding Latino student's assessment of their abilities, performance, and quality of their experience in the higher education system.

In terms of continued study of the effects of interracial stress on Latino students' well-being, the examination of factors such as acculturation level, generational status in the United States, political tension directed towards members of minority groups, changes in immigration laws, and other constructs which take into account contextual factors which may affect the views people hold regarding Latinos may enrich the research regarding their overall college experiences.

Conclusion

The results of this study support notions that social and achievement stress are predictive of Latino college students' levels of depression and well-being. Efforts to promote higher education among Latinos should address their sense of adequacy and legitimacy as university students and provide them with academic and social support. Assisting Latino students' at the undergraduate level in coping with depression and promoting their well-being is crucial in order to promote their interest in graduate and professional programs. Promoting the completion of a college education among Latinos increases their chances of achieving a higher standard of living, provides role models for

younger students, and provides capable professionals to serve the community.

References

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders, text revision* (4th edition). Washington, DC: Author.

Baum, S., & Paeya, K. (2005). The benefits of higher education for individuals and society. The college board publications. Retrieved August 1, 2009 from: http://www.collegeboard.com/prod_downloads/press/cost04/EducationPays2004.pdf

Burris, J. L., Brechting, E. H., Salsman, J., & Carlson, C. (2009). Factors associated with the psychological well-being and distress of university students. *Journal of American college health,* 57, 536-543.

Campus Explorer retrieved on September 19, 2009 from http://www.campusexplorer.com/colleges/243C019C/Texas/Houston/University-of-Houston-Houston/

Carlos Poston, W. S., Olvera, N. E., Yanez, C., Haddock, C. K., Dunn, J. K., Harris, C. L., & Foreyt, J. P. (1998). Evaluation of the factor structure and psychometric characteristics of the general well-being schedule (GWB) with Mexican-American women. *Women and Health,* 27, 51-64.

Castillo, L. G., & Hill, R. D. (2004). Predictors of college distress in Chicana college students. *Journal of multicultural counseling and development*, 32, 234-248.

Chavez, N. R., & French, S. E. (2007). Ethnicity-related stressors and mental health in Latino Americans: The moderating role of parental racial socialization. *Journal of Applied Social Psychology, 37, 1*974-1998.

Choy, S. P. (2001). Students whose parents did not go to college: Postsecondary access, persistence, and attainment (NCES 2001-126) Washington, DC: U.S. Department

of Education, National Center for Education Statistics.

http://nces.ed.gov/pubs2001/2001126.pdf

Constantine, M. G., Chen, E. C., & Ceesay, P. (1997). Intake concerns of racial

and ethnic minority students at a university counseling center: Implications for

developmental programming and outreach. *Journal of Multicultural Counseling and*

Development, 25, 210-218.

Constantine, M. G., Okazaki, S., & Utsey, S. O. (2004). Self-concealment, social

self-efficacy, acculturative stress and depression in African, Asian, and Latin American

international college students. *American Journal of orthopsychiatry,* 74, 230-241.

Crockett, L. J., Iturbide, M. I., Torres Stone, R. A., McGinley, M., Raffaelli, M.,

& Carlo, G. (2007). Acculturative stress, social support, and coping: Relations to

psychological adjustment among Mexican American college students. *Cultural Diversity*

and Ethnic Minority Psychology, 13, 347-355.

Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation,

parental support, and peer support in academic success of ethnic minority first-generation

college students. *Journal of college student development*, 46, 223-235.

Deroma, V. M., Leach, J. B., & Leverett, J. P. (2009). The relationship between

depression and college academic performance. *College Student Journal*, 43, 325-334.

DiRamio, D. & Payne, R. (2007). Assessing the relationship between campus

programs, student self-efficacy, stress and substance abuse. *College Student Journal*, 41,

676-695.

Dornelas, E. A., Stepnowski, R. R., Fischer, E. H., & Thompson, P. D. (2007). Urban ethnic minority women's attendance at health clinic vs. church based exercise programs. *Journal of Cross Cultural Gerontology,* 22, 129-136.

Dupuy, H. J. (1984). The Psychological General Well-being (PGWB) Index. In N. K. Wenger, M. E. Mattson, et al. (Ed.), *Assessment of Quality of Life in Clinical Trials of Cardiovascular Therapies.* (pp.170-183) Le Jacq Publishing, Inc.

Dyson, R. & Renk, K. (2006). Freshmen adaptation to university life: Depressive symptoms, stress and coping. *Journal of Clinical Psychology,* 62, 1231-1244.

Eaton, W. M., Muntaner, C., Smith, C., Tien, A., & Ybarra, M. (2004). Center for Epidemiologic Studies Depression Scale: Review and Revision (CESD and CESDR). In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment: Instruments for adults* 3rd Edition Vol. 3 (pp.363-378) Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc, Publishers.

Enochs, W. K., & Roland, C. B. (2006). Social adjustment of college freshmen: The importance of gender and living environment. *College Student Journal*, 40, 63-73.

Fashola, O. S., & Slavin, R. E. (1998). Effective dropout prevention and college attendance programs for students placed at risk. *Journal of Education for Students Placed at Risk*, 3, 159-183.

Gloria, A. M., Castellanos, J., & Orozco, V. (2005) Perceived educational barriers, cultural fit, coping responses, and psychological well-being of Latina undergraduates. *Hispanic Journal of Behavioral Sciences*, 27, 161-183.

Gloria, A. M., Castellanos, J., Scull, N. C., & Villegas, F. J. (2009). Psychological coping and well-being of male Latino undergraduates. *Hispanic Journal of Behavioral Sciences*, 31, 317-339.

Golding, J. M., Aneshensel, C. S., & Hough, R. L. (1991). Responses to depression scale items among Mexican-Americans and non-Hispanic Whites. *Journal of Clinical Psychology*, 47, 61-75.

Golding, J., M., Potts, M. K., & Aneshensel. (1988). Stress exposure among Mexican Americans and non-Hispanic Whites. *Journal of Community Psychology*, 19, 37-59.

Grossi, E., Groth, N., Mosconi, P., Cerutti, R., Pace, F., Compare, A., & Apolone, G. (2006). Development and validation of the short version of the Psychological General Well-Being Index (PGWB-S). *Health and Quality of Life Outcomes,* 4, 88-95.

Hernandez, J. C., & Lopez, M. A. (2004). Leaking pipeline: issues impacting Latino/a college student retention. *Journal of college student retention*, 6, 37-60.

Hsiao, K. P. (1992). First generation college Students (ERIC ED351079) ERIC Digest. Office of Educational Research and Improvement. Los Angeles, CA: ERIC Clearinghouse products (071). www.eric.edu.gov

Hudson, R. Towey, J., & Shinar, O. (2008). Depression and racial/ethnic variations within a diverse nontraditional college sample. *College student Journal*, 42, 103-114.

Hurtado, S., Carter, D. F., & Spuler (1996). Latino student transition to college: Assessing difficulties and factors in successful college adjustment. *Research in higher education*, 37, 135-141.

Hutz, A., Martin, W. E., & Beitel, M. (2007). Ethnocultural person-environment fit and college adjustment: Some implications for college counselors. *Journal of college counseling*, 10, 131-141.

Kaczmarek, P. G., Matlock, C. G., & Franco, J. N. (1990). Assessment of college adjustment in three freshman groups. *Psychological Reports*, 66, 1195-1202.

Klasner, L., & Pistole, M. C. (2003). College adjustment in a multiethnic sample: Attachment, separation-individuation, and ethnic identity. *Journal of College Student Development*, 44, 92-109.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology*, 31, 356-362.

Locke, B. Z., & Putman, P. Center for Epidemiologic Studies Depression Scale (CES-D Scale) retrieved on June 21, 2009 from

http://www.friendsnrc.org/download/outcomeresources/toolkit/annot/cesd.pdf

Lopez, F. G., Campbell, V. L., & Watkins, C. E. (1986). Depression, psychological separation, and college adjustment: An investigation of sex differences. *Journal of Counseling Psychology*, 33, 52-56.

Misra, R. & McKean, M. (2000). College students' academic stress and its relationship to their anxiety, time management and leisure satisfaction. *American Journal of Health Studies*, 16, 41-51.

Nunez, A., & Cucarro-Alamin, S. (1998). First generation students: undergraduates whose parents never enrolled in postsecondary education (NCES 98-082). Washington, DC: U.S. Department of Education.

Oishi, S., Diener, E., Suh, E., & Lucas, R. E., (1999). Value as a moderator in subjective well-being. *Journal of Personality*, 67, 157-184.

O'Neill, S. C., Cohen, L. H., Tolpin, L. H., & Gunthert, K. C. (2004). Affective reactivity to daily interpersonal stressors as a prospective predictor of depressive symptoms *Journal of Social and Clinical Psychology*, 23, 172-194.

Ong, A. D., Phinney, J. S., & Dennis, J. (2006). Competence under challenge: Exploring the protective influence of parental support and ethnic identity in Latino college students. *Journal of Adolescence*, 29, 961-979.

Paukert, A. L., Pettit, J. W., Perez, M. & Walker, R. L. (2006). Affective and attributional features of acculturative stress among ethnic minority college students. *Journal of Psychology*, 140, 405-419.

Paul, E. L. & Brier, S. (2001). Friendsickness in the transition to college : Precollege predictors and college adjustment correlates. *Journal of Counseling & Development,* 79, 77-89.

Pearlin, I. (1989). The sociological study of stress. *Journal of Health & Social Behavior, 30,* 241-256.

Planty, M., Hussar, W., Snyder, T., Kena, G., KewalRamani, A., Kemp, J., Bianco, K., & Dinkes, R. (2009). *The Condition of Education 2009* (NCES 2009-081). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, DC.

Phinney, J. S., & Haas, K. (2003). The process of coping among ethnic minority first-generation college freshmen: A narrative approach. *Journal of Social Psychology*, 143, 707-726.

Quintana, S. M., Vogel, M. C., & Ybarra, V. C. (1991). Meta-analysis of Latino students' adjustment in higher education. *Hispanic Journal of Behavioral Sciences*, 13, 155-168.

Ramos-Sanchez, L; & Nichols, L. (2007). Self-efficacy of first generation and non-first generation college students: The relationship with academic performance and college adjustment. *Journal of college counseling*, 10, 6-17.

Rayle, A. D., Arredondo, P., & Kurpius, S. E. R. (2005). Educational self-efficacy of college women: Implications for theory, research, and practice. *Journal of counseling and development*, 83, 361-366.

Rodriguez, N., Mira, C., Myers, H. F., Morris, J. K., & Cardoza, D. (2003). Family or friends: who plays a greater supportive role for Latino college students? *Cultural diversity and ethnic minority psychology,* 9, 236-250.

Rodriguez, N., Myers, H. F., Morris, J. K., & Cardoza, D. (2000). Latino college student adjustment: Does an increased presence offset minority-status and acculturative stresses? *Journal of Applied Social Psychology*, 30, 1523-1550.

Rosenthal, B. S., & Schreiner, A. C. (2000). Prevalence of psychological symptoms among undergraduate students in an ethnically diverse urban public college. *Journal of American College Health*, 49, 12-18.

Saunders, M., & Serna, I. (2004). Making college happen: The college experience of first generation Latino students. *Journal of Hispanic Higher Education,* 3, 146-163.

Schneider, M. E., & Ward, D. J., (2003). The role of ethnic identification and perceived social support in Latinos' adjustment to college. *Hispanic Journal of Behavioral Sciences*, 25, 539-554.

Shields, N. (2002). Anticipatory socialization, adjustment to university life, and perceived stress: generational and sibling effects. *Social Psychology of Education*, 5, 365-392.

Smedley, B. D., Myers, H. F., & Harell, S. P. (1993). Minority-status stresses and the college adjustment of ethnic minority freshmen. *Journal of Higher Education*, 64, 434-52.

Solberg, V. S., Hale, J. B., Villareal, P., & Kavanagh, J. (1993). Development of the college stress inventory for use with Hispanic populations: a confirmatory analytic approach. *Hispanic journal of behavioral sciences*, 14, 490-497.

Solberg, V. S., O'Brien, K., Villareal, P., & Kennel, R., Davis, B. (1993). Self-efficacy and Hispanic college students: Validation of the college self-efficacy instrument. *Hispanic journal of behavioral sciences*, 15, 80-95.

Solberg, V. S., & Villareal, P. (1997) Examination of self-efficacy, social support, and stress as predictors of psychological and physical distress among Hispanic college students. *Hispanic journal of behavioral sciences*, 19, 182-201.

Skowron, E. A., Wester, S. T., & Azen, R. (2004). Differentiation of self mediates college Stress and adjustment. *Journal of Counseling and development,* 82, 69-78.

Syed, M., Azmitia, M., & Phinney, J. S. (2007). Stability and change in ethnic identity among Latino emerging adults in two contexts. *Identity: An international journal of theory and research,* 7, 155-178.

Taylor, J. E., Poston II, W. S., Haddock, C. K., Blackburn, G. L., Heber, D., Heymsfield, S. B., & Forey, J. P. (2003). Psychometric characteristics of the General Well-Being Schedule (GWB) with African-American women. *Quality of Life Research,* 12, 31-39.

Thayer, P. B. (2000). Retention of students from first generation and low income backgrounds (ERIC ED446633). *Opportunity Outlook* (May) 2-8.

Torres, V. (2003). Influences on ethnic identity development of Latino college students in the first two years of college. *Journal of college student development*, 44, 532-547.

Torres, J. B. & Solberg, V. S. (2001). Role of self-efficacy, stress, social integration, and family support in Latino college student persistence and health. *Journal of Vocational Behavior*, 59, 53-63.

Tym, C., McMillion, R., Barone, S., & Webster, J. (2004). First generation students: A review of the literature. Retrieved November 15, 2009 from http://www.tgslc.org/pdf/first_generation.pdf

U.S. Department of Health & Human services, (2001). Mental health: Culture, race, and ethnicity. A supplement to Mental Health: A report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.

University of Houston: Fact and figures retrieved on September 20, 2009 from http://www.uh.edu/about/uh-glance/facts-figures/index.php#distribution

Yazedjian, A. & Toews, M. L. (2006). Predictors of college adjustment among Hispanic students. *Journal of the first-year experience & students in transition,* 18, 9-29.

Ying, Y., Lee, P. A., & Tsai, J. L. (2004). Inventory of college challenges for ethnic minority students: Psychometric properties of an instrument in Chinese Americans. *Cultural Diversity and Ethnic Minority Psychology,* 10, 351-364.