INTERPERSONAL FACTORS RELATED TO THE PURSUIT OF A HIGHER EDUCATION AMONG FIRST GENERATION UNDERGRADUATE STUDENTS

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The typical educational stressors experienced by college students, in conjunction with developmental stressors such as separation from parents, individuation, and perceived social support, can interact to impact adaptation significantly. First generation college students (students who are the first in their family to attend college) can experience stressors beyond the typical educational stressors experienced by later generation college students, including lack of support from family and peers as well as financial difficulties that can interact to impact the pursuit of an education beyond the undergraduate level. The present study examined factors that may be especially influential in the pursuit of a higher education for first generation college students. Results indicated that aspects of family enmeshment were related to academic motivation for first generation students, but not for later generation students. Exploratory analysis showed that family and finances were mentioned more often among first generation students when compared to later generation students as stressors that strongly influence the desire to continue beyond the undergraduate level.
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INTERPERSONAL FACTORS RELATED TO THE PURSUIT OF A HIGHER EDUCATION AMONG FIRST GENERATION GRADUATE STUDENTS

The ability to successfully adapt to life transitions is especially important when considering a young adult’s ability to adapt to college and at the same time achieve academic success. A number of factors contribute to the academic adaptation and success of college students. The transition from high school to college results in significant life changes, including changes in important relationships (e.g., parental relationships and friendships), changes in financial status, and changes in living arrangements that can also contribute to increased stress. The typical stressors experienced by college students, in conjunction with developmental stressors such as parental separation, individuation, and perceived social support, can interact to impact adaptation significantly.

The present study is designed to assess the impact of interpersonal factors, such as attachment, family enmeshment, and perceived support, on the motivation of first generation college students to continue pursuing a college education. There may be associations among family variables, support, academic motivation, and academic success for first generation students, but not for later generation students, and these might explain differences between first generation and later generation students on academic motivation and academic success. Finally, the present study examined stressors that may strongly influence first generation students’ desire to pursue an education beyond the undergraduate level.

College Student Stress

Ross, Niebling and Heckert (1999) showed that one source of stress among
college students is interpersonal stress. Students classified the majority of the interpersonal stress as “daily hassles” that included changes in social activities, conflicts with roommates, conflicts with significant others, and trouble with parents. Among these stressors, changes in social activities (71%) was the stressor most often mentioned. Trouble with parents was a stressor that was mentioned only 21% of the time. Intrapersonal stressors such as changes in sleep patterns (89%), changes in eating habits (74%), new responsibilities (73%) and financial difficulties (71%) were most often mentioned among the sample. Results indicate that events that directly impact the student are more relevant and therefore create a greater amount of stress.

While it is important to recognize the sources of stress for college students, it is also important to recognize factors that contribute to a student’s well-being and academic adaptation. Chemers, Hu, and Garcia (2001) discovered a significant positive relationship between academic self-efficacy and performance in college. Other studies have shown that parental attachment and familial structure play an important role in the psychological well being of college students, which can then promote a healthy adaptation to college (Hoffman & Weiss, 1987; Lapsley, Rice, & Shadid, 1989; Kenny & Donaldson, 1991).

First generation college students and ethnic minority college students often experience the academic and developmental stressors experienced by most college students in addition to stressors related to family dependence and peer relationships. Ethnicity includes factors separate from socioeconomic status, such as cultural norms, family relationships, and family responsibilities that can significantly impact college adaptation. For example, Constantine, Chen, and Cessay (1997) examined intake
concerns among Hispanic American, African American, and Asian American students attending a predominantly European American southwestern university. Results reinforce the idea of difficulties with adaptation, as approximately 45% of their ethnically diverse college sample reported relationship difficulties with family members as a primary concern compared to other concerns such as difficulties with romantic relationships, stress management concerns, academic concerns, and difficulties with depression or anxiety. Within families who are financially dependent upon each other for survival, family responsibilities could conflict with academic achievement. In addition, conflicts may arise within peer groups if the majority of an individual’s peers are not attending college. Family and peer conflicts could result in a perceived lack of support and understanding of the student’s college experience, which could then affect academic adaptation and success.

Independence vs. Attachment

The following sections discuss the importance of independence in the role of adolescent development. Separation from parents and family helps foster a sense of autonomy and self-sufficiency. When young adults achieve independence from family, they develop individual beliefs and manage personal affairs without excessive concern about parental support or approval. On the other hand, studies show that parental attachment and support are a crucial factor in college adaptation. The following examines independence and attachment, and describes the need for a balance between the two in order to achieve successful college adaptation.

Psychological separation from parents is a critical developmental task that can greatly affect late adolescent adaptation. During late adolescence, as an individual
prepares to begin college there is a developmental struggle toward independence from parents and individuation. Hoffman (1984) perceived psychological separation as a multidimensional construct defined by four dimensions: functional independence, conflictual independence, emotional independence, and attitudinal independence. Functional independence refers to the ability of an individual to manage his or her personal and practical affairs without the assistance of mother or father. Conflictual independence is freedom from excessive guilt, resentment and anxiety concerning parental relationships. Emotional independence refers to freedom from an excessive need for togetherness, emotional support or approval. Finally, attitudinal independence concerns the extent to which an individual views him or herself as being unique and having personal beliefs, values and opinions.

Hoffman (1984) examined each dimension of psychological separation and discovered that among college students emotional independence was related to academic adaptation, whereas conflictual independence was positively related to personal adaptation. Hoffman and Weiss (1987) also showed that students who reported greater conflictual independence reported fewer problems related to depression, anxiety, interpersonal problems (including family and sexual problems), academic problems (including motivational difficulties), physical, and substance abuse problems. The number of problems between parents were also correlated with presenting problems among students, which indicates that college students can be adversely affected by interparental conflict despite separation from parents.

Lapsley, Rice, and Shadid (1989), using the same dimensional model established by Hoffman (1984), compared college freshman with upperclassmen
(juniors and seniors) on functional, emotional, attitudinal and conflictual independence. Results indicated that freshman showed more functional and attitudinal dependency on both mother and father. In addition, freshman showed more emotional dependency on mother when compared to upperclassmen. It appears that adolescents beginning college continue to depend upon their parents, and are struggling with the process of individuation. Adolescent dependence upon parents as a source of primary support is important to understand, especially when considering how parents’ lack of support and understanding of the college experience could impact academic adaptation and success.

While achieving independence from parents is important, research also indicates the importance of parental attachment in college adaptation and academic success. Fass and Tubman (2002) examined the relationships among measures of parent and peer attachment and measures of academic achievement, cognitive abilities and psychosocial functioning. Attachment was assessed using the Inventory for Parent and Peer Attachment, a self-report questionnaire that includes subscales for trust, alienation, and communication. Results indicated positive correlations for both parental and peer attachment with global self-esteem, locus of control, scholastic competence, intellectual ability, and optimism. This suggests that attachment quality may be a significant factor that augments other characteristics necessary for developing and maintaining a competency in the various transitions that occur during college.

Kenny, Gallagher, Alvarez-Salvat, and Silsby (2002) examined associations between parental attachment, academic success, and psychological distress among a sample of inner-city high school students of different ethnicities. Results indicated that
the affective quality of maternal attachment was positively associated with academic
achievement as measured by grade point average. Regarding paternal attachment,
results showed a negative association between affective quality of paternal attachment
and depressive symptoms.

Results of the above mentioned studies note the significance of separation from
parents as well as the value of parental attachment in successful college adjustment
and academic achievement. Although research notes that importance of both concepts,
few research studies compare which concept is more critical to adaptation and
academic success. A balance may need to exist between parental separation and
attachment.

College Adaptation in Relation to Parental Relationships

Kenny (1987) noted that for adolescents, secure parental attachments are
viewed as providing a sense of security and support for personal independence during a
period of life characterized by multiple transitions. There is considerable evidence that
the role of parental support and attachment is crucial to academic achievement.
Research has emphasized that a positive, supportive parental relationship can promote
a higher grade point average (GPA), cognitive engagement, general academic
attainment, and academic persistence among children and adolescents (Bell, Allen,
Hauser, & O'Connor, 1996; Finn & Rock, 1997; Hoffman & Weiss, 1987; Moss & St.-
Laurent, 2001; Peng, 1994). To demonstrate the importance of parental support,
Curtrona, Cole, Colangelo, Assouline, and Russell (1994) examined whether perceived
social support from parents would predict academic success and adaptation. Results
indicated that parental support was a significant predictor of academic success, measured by college grade point average.

Strong academic support can maintain the lines of communication open between the student and the parent. Open communication can create an opportunity for feedback and encouragement. In addition, open communication can foster a working relationship between the parent and student which can result in an increase in academic motivation and success. On the other hand, low levels of parental attachment along with poor parent-child relationships and communication (Ekstron, Goertz, Pollack & Rock, 1986; Finn, 1989) and low educational expectations and encouragement (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Odun, Benin, & Brandt-Williams, 1996) have all been identified as potential risk factors for poor academic performance.

Although research showed no gender difference with regards to the quality of attachment, Kenny and Donaldson (1991) found that college women described themselves as being more attached to their parents than did college men on three dimensions of attachment: affective quality of attachment, parental fostering of autonomy, and parental role in providing emotional support. On self-report measures, women described the affective quality of their parental attachment as more positive and viewed their parents as having a greater role in providing emotional support than did men.

While college women report a greater affective attachment to parents than men do, positive attachment to parents, for both genders, seems to be associated with social competence and low psychological symptoms (Kenny and Donaldson, 1991).
Furthermore, Rice, Cole and Lapsley (1990), suggested that if both students and parents are emotionally prepared for the eventual separation that results from attending a college away from home, it can lead to a mastery of separation related to close familial relationships and a high level of adaptation during the first year of college.

Overall, it appears that a positive and supportive parental relationship involves parents encouraging adolescents to explore new environments and various opportunities independently, while remaining available as a source of primary support. Strong academic support gives parents the opportunity to encourage the student, which is important to academic achievement. Emotional support promotes communication between parent and child and provides parents with the opportunity to encourage autonomy. Encouraging autonomy and emotional support are critical to successful adaptation, which may also influence academic success.

Family Connectedness as a Predictor of Adaptation

Structural family theory describes the healthy family as one that provides its members with feelings of belongingness and differentiation (Minuchin, 1974). Excessively close family relationships provide a great sense of belongingness at the expense of differentiation, which can lead to dysfunction. On the other extreme, disengaged families provide feelings of differentiation with little sense of belongingness. The key is to find an adaptive degree of differentiation between parents and children, a relationship with interpersonal boundaries that are neither too rigid nor diffuse. When boundaries are too diffuse, family members tend to be overly involved in each other's personal lives, often intruding on the privacy of other family members and limiting
independence. These families are likely to be anxious about the separation or independence of other family members.

Holmbeck and Wandrei (1993), with the use of self-report measures, measured attachment to parents, family cohesiveness, personality traits, and adaptability as predictors of adaptation in a sample of primarily European American first year college students. Results indicated that the ability to maintain a close relationship with significant others, while continuing to foster a sense of autonomy, is crucial to the students' emotional well being during the first year of college. For first generation college students, especially for those students who derive from a more collectivist culture, this balance between interpersonal relationships and autonomy becomes a critical component to their academic adaptation and success. The quality of family attachment also plays a role in the level of adaptation. For both men and women, positive family relations as measured by the Family Environment Scale (FES), high levels of adaptability, and instrumentality were correlated with positive adaptation across all outcomes. However, Holmbeck and Wandrei also suggest that if these valued qualities are exaggerated it may lead to maladjustment; for example, women who may be excessively connected to significant others can experience high levels of separation anxiety.

Hock, Eberly, Bartle-Haring, Ellwanger, and Widaman (2001) developed and validated measure that assessed parents’ emotions regarding adolescent separation. Two primary parent concerns emerged including concerns regarding adolescent distancing and concerns regarding comfort with being a secure base role. Anxiety regarding adolescent separation refers to parents’ concerns about the adolescent
becoming self-sufficient and identifying more with peers. According to the measure, high scores suggest that the parent’s inability to accept the adolescent’s need for autonomy. Parents are also reluctant to give control to the adolescent. Hock et al. (2001) hypothesize that parents who exhibit high scores on the Anxiety about Adolescent Distancing (AAD) scale may have a difficult time accepting that adolescent distancing and autonomy are a normal part of development, which may result in parents personalizing the adolescent’s attempt to develop relationships outside the family. On the other hand, parents with low AAD scores understand that autonomy is normal and appropriate and may experience less tension with the process.

Comfort with Secure Base Role (CSBR) refers to a parent’s commitment to being available to the adolescent both physically and psychologically as the adolescent becomes more independent (Hock et al., 2001). High scores on this scale indicate that although parents may openly express sadness or anxiety about their child becoming independent, parents are able to provide emotional support in their child’s endeavors to become independent.

A healthy attachment, early in life, appears to be necessary for late adolescent adaptation and provides adolescents with a sense of security and the ability to strive for autonomy. By allowing the adolescent to freely explore their environment, while remaining a source of support, parents assist in nurturing the qualities necessary for an individual to achieve a sense of autonomy. Peers provide a sense of social acceptance, which can positively impact an adolescent’s academic success. A healthy parental attachment and peer acceptance work together to create qualities that are important to academic adaptation and satisfaction. It is important to gain a better understanding of
how parental attachment and peer acceptance differ among first generation students, especially for those first generation students who are a part of a culture in which higher education may be an encouraged, but unfamiliar, process.

College Adaptation in Relation to Peer Relationships

Family relationships are crucial to development because those relationships provide the foundation for further psychosocial development; however, equally important is the role of peers. As adolescents grow older, their peer groups begin to have an important influence over various aspects of the individual's life. Recognizing the extent to which adolescents can influence each other is critical to understanding the role that peer groups can play in the motivation to continue the pursuit of a higher education.

Several studies have examined the importance of peer relationships with regard to academic achievement, usually measured by grade point average. Studies have discovered positive relationships between adolescents’ peer support and acceptance from peers and academic achievement (Cotterell, 1992; Holahan, Valentiner, & Moos, 1994; Kupersmidt, Coie, & Dodge, 1990). Additionally, Bean (1983) and Hearn (1985) found that a significant determining factor in college satisfaction was positive interactions with friends.

The school ambiance, especially peer social groups, can play a crucial role in defining a student's educational priorities, such as academic achievement, extracurricular activities, and involvement in sports. During adolescences, especially during high school, peer acceptance often becomes more important than parental acceptance (Shin, Daly, & Vera, 2007), so the perceived pressure of attending college may still exist for that individual within the peer group even though attending college
might be an uncommon occurrence within the family. For example, if almost all of an individual’s friends are planning on attending college, then the individual may feel an added sense of pressure to attend college also. The extent of perceived peer influence may also affect an individual’s decision to communicate with their peers about his or her desire to pursue a higher education, especially if no one in their peer group has a similar desire. Considering the extent to which both parents and peers can influence adolescents with regards to academic motivation and achievement, it is important to review the influence of each form of attachment separately.

First Generation Status in Higher Education

First generation college students face a number of stressors beyond those identified for the general college population (Ross, Niebling, & Heckert, 1999). Most hold part-time or full-time jobs and are forced to balance work and school demands. Students who are first generation may also encounter a lack of support or empathy from family members who are inexperienced, unaware, and may not have a complete understanding of the problems or pressures that encompass the student’s college experience. For example, parents who have not attended college may not understand how academic demands and deadlines may interfere with family obligations or responsibilities (Fuligni, Tseng, & Lam, 1999). Therefore, family relationships can become a major source of stress for ethnic minority first generation college students.

When individuals are in need of understanding and emotional support, they often turn to those who know them best, families and peers; however, what happens when their central support system cannot relate to or does not identify with their present situation? It may lead to feelings of frustration, isolation, and a lack of self-efficacy.
Phinney and Hass (2003) found that when students were attempting to cope with stress, seeking out support was the most successful coping strategy when compared with other strategies such as proactive problem solving, positive reframing, accepting the problem as a part of life, and distancing oneself or avoiding the problem. However, coping strategies were less successful when students were confronted with difficulties in which they reported needing understanding and emotional support. Students who utilized a successful coping strategy reported a stronger sense of self-efficacy. The results of Phinney and Hass are central to the idea of the present study.

Ethnic Minority Experiences in Higher Education

In 2005, around 16% of the 38.1 million families with children under 18 residing in the United States were living in poverty (National Center for Education Statistics, 2007). The overall percentages of families with children living in poverty were higher for African Americans, American Indians/Alaskan Natives, Hispanics, and Native Hawaiians or other Pacific Islanders (ranging between 20 and 30%). In addition, Asian/Pacific Islander and European American children were more likely to have a parent with a higher level of educational attainment, at least a bachelor's degree, than African American, Hispanic, and American Indian/Alaska Native children (National Center for Education Statistics, 2007). The above mentioned statistics are possible indications that the ethnic minority experience may be very different from that of the typical European American experience. With regards to education, most ethnic minority students are a part of a family where higher education is not the norm. The lack of education typically results in a low socioeconomic status (Archer & Lamnin, 1985). Although higher education may be encouraged, factors of family survival and basic well being must also
be considered, and often have priority. In addition, ethnic minority students are often part of poorly funded and under-resourced school districts, coupled with frustrated educators who may be disillusioned by the lack of student success. The ethnic minority experience of college must be treated as a unique experience, which creates a significant number of additional stressors that place an individual at risk for discontinuing the pursuit of a graduate education.

The above mentioned research notes that there are a number of psychosocial stressors that are unique to the ethnic minority experience of college. This information becomes particularly important when considering the continuously changing demographic information among the college population. Regarding college enrollment, differences exist for the number of ethnic minority students enrolling in college. Between 1976 and 2004, the percentage of minority students, African Americans, Hispanics, Asian/Pacific Islanders and American/Indian or Alaska Native, increased from 17% to 24% (National Center for Educational Statistics, 2007). In addition, each individual group saw their raw numbers double over time. Despite the increase in enrollment, members of underrepresented minority groups continue to lag behind European American and Asian American peers attending college. For instance, in 2004, 60.3% and 41.7% of Asian/Pacific Islander and European American 18- to 24-year olds, respectively, were enrolled in college. While percentage rates were lower for other groups such as African Americans (31.8), Hispanics (24.7) and American Indian/Alaska Natives (24.4). There is an obvious disadvantage in enrollment number for ethnic minority students; however, the reason for the disadvantage is unclear. Is it a question
of the ethnic minority student’s decision not to enroll or is it a question of the ethnic minority student's inability to get into college?

Furthermore, there is evidence of negative outcomes when comparing who completes and who drops out for major and minority groups. Ethnic minority status is considered a risk factor for stress and negative outcomes in the area of educational attainment. In 2005, only 11% of Hispanic young adults between the ages 25 and 29 had completed a college degree compared to the 28% of young adults in the United States who had completed a college degree (National Center for Educational Statistics, 2007). Similarly, only 39% of African American students who enrolled in a 4 year public university graduated in six years compared to the 63.1% of Asian American students and 56% of European American students (Chronicle of Higher Education Almanac, 2007).

Regarding non-completion rates, Hispanic students enrolled in a 4-year public university in 2000, approximately 57% did not graduate within six years. Furthermore, college dropout rates are 1.5 times higher for African Americans than for European Americans (U.S. Census Bureau, 1993). The additional stressor of ethnic minority status could combine with first generation status (students who are the first in their family to attend college) to result in additional stress because of a lack of support or understanding, possibly even ridicule, received from family and peers for the pursuit of higher education and ultimately, an improvement in socioeconomic status. Although the number of students enrolling in universities continues to increase, the number of students who actually complete their college education is declining, particularly among ethnic minority students (National Center for Educational Statistics, 2007).
Foundational studies that established predictors of academic success were based on samples of non-minority students from middle-class backgrounds whose parents attended college (Strage, 1999). The question becomes, what are the predictors of academic adaptation and success of ethnic minority students, whose experience is drastically different from non-minority students? The following is a brief review of factors that appears to influence academic adaptation among ethnic minority students.

Past research resulted in two motivational profiles of college success, “mastery oriented” and “learned helpless.” The mastery oriented student is one who welcomes challenges, is able to maintain focus in the face of adversity, and believes that his or her intelligence can be increased through diligent efforts. The learned helpless student is one who shies away from challenges, fears and is easily distracted by inadequate performance, and believes that there is no way to increase their intelligence (Covington, 1984; Dweck, 1985; Dweck and Leggett, 1988). Typically the two profiles do not differ in grade point average (GPA); however, the mastery oriented students seem to enjoy rising to the challenges presented in education and are more likely to obtain a college degree. While there may be no difference between the two profiles with regard to academic success, profiles may be related to adaptation. For example, ethnic minority students that exhibit a mastery oriented profile may view college as an opportunity to challenge themselves and may be less likely to drop out. A mastery oriented profile may even be related to the students’ desire to continue with their education beyond the undergraduate level. On the other hand, a student that exhibits a learned helpless
profile may be more likely to drop out of college or decide not to pursue a graduate education.

Among ethnic minorities, college adaptation appears to be associated with a combination of personal attributes and social influences. For example, Strage (1999) demonstrates the importance of factors such as social confidence, as well as the ability of individuals to remain focused and persistent in the face of adversity. In a sample that included 27% Asian Americans and 23% Hispanics, Strage found that compared to Asian American students, Hispanic students were more socially confident, had better rapport with instructors, felt as though they were seen as leaders by their peers, and reported a better internal locus of control. Hispanic students appeared to be more persistent in the face of adversity. There was also a tendency for Hispanic students to remain focused and task-involved. Within the sample examined by Strage (1999), Hispanic students exhibited the mastery oriented profile, which more than likely influenced their ability to move forward when faced with adversity.

Zea, Jarama, and Bianchi (1995) show the connection between personal characteristics, such as internal locus of control and active coping, and satisfaction with social support as important factors for college adaptation among ethnic minorities. The study examined how satisfaction with social support and psychosocial competence (defined as the ability to function effectively and having a moderate sense of self-control) contributed to ethnic minority students’ college adaptation. They also examined interrelationships among satisfaction with social support, locus of control, and active coping, as well as the ethnic differences in such interrelationships. Results indicated that both active coping, defined as the ability for an individual to use current resources
or seek out the resources necessary to solve a problem, and the perception of a supportive social context play an important role in adaptation for African Americans, Asian Americans, Hispanics, and European Americans. African American, European American, and Hispanic students who identified themselves as having an internal locus of control, as measured by the Internal-External Locus of Control Scale, had the tendency to be more adapted to college than those who identified themselves as having an external locus of control. Despite the fact that college dropout rates are typically high for both African American and Hispanic students, after controlling for socioeconomic status, ethnicity was not significantly related to college adaptation among Zea, Jarama, and Bianchi's sample of students. Although ethnicity and socioeconomic status are often interrelated, controlling for socioeconomic status may not be a reflection of the extent to which ethnicity can impact college adaptation.

Zea, Reisen, Beil, and Caplan (1997) emphasize the significance of academic success, and highlight academic integration as a factor that greatly influences an individual’s commitment to remain in college, even greater than social integration. Overall, ethnic minority students’ success in the academic domain was related to greater levels of commitment to remain in college than for European American students. Nonminority students appeared to have a higher level of self-esteem and coping, a higher grade point average, and a greater identification with the university. In contrast, a greater proportion of ethnic minority students reported having felt alienated or disrespected. Identification with the university was positively correlated to commitment; those students who reported higher levels of identification with the university also reported a greater commitment to remain in college. Alternatively, those who reported
experiences of disrespect from their peers, who were mainly minority students, reported lower levels of commitment to remain in college. Thus, social integration appears to influence both minority and nonminority students’ commitment to remain in college. However, a lack of social integration seems to have a more negative effect for minority students, since it is minority students who appear to report more experiences of disrespect or alienation from peers. In addition, Zea et al.’s findings also revealed that compared to nonminority students, academic achievement or lack of it had a greater impact on the commitment of ethnic minority students to remain in college. Even though social adaptation to college is important and can impact the desire to remain in school, academic success seems to have greater importance.

When looking at factors that predict graduation from college among African American and European American students, Hershberger and D’Augelli (1992) found that first year college grade point averages and precollege performance are the most useful predictors of graduation from college. Because more African American students enter college with lower high school grades, fewer tend to graduate. Students who enter a large university with uncertain academic skills appear to be at a higher risk for leaving college prior to completing their degree. If minority students feel as though the university is not sensitive to or focused on their needs, social adaptation may be more difficult, resulting in a diminished satisfaction that could interfere with academic skills.

It seems that there are a variety of factors that influence academic adaptation. Intrapersonal characteristics include a better sense of focus in the face of adversity, the ability to welcome challenges, belief in one’s own abilities, higher self-esteem, and greater self-confidence. Interpersonal and achievement factors include the availability of
social support and satisfaction with social support, as well as academic performance. These factors are related to the abilities of the individual to function socially and academically within the college environment. However, for ethnic minority students, who are often a part of collectivist cultures or cultures that emphasize the significance of family togetherness, family interdependence becomes a crucial resource for college adaptation.

Family Interdependence and Its Implications for College Adaptation

Familial interdependence provides for harmonious relationships between all family members. Built into the idea of family interdependence is a lifelong obligation to care for family members both emotionally and financially. The emotional aspect of this obligation becomes more difficult to fulfill as a family member moves away in an attempt to receive a higher education. The emotional and financial obligations begin to conflict. At one end, an individual who is pursuing a higher education is striving to improve the financial situation of his or her family. However, that struggle for improvement also comes with additional financial sacrifice on the part of both the individual and his or her family. It also involves a shift in focus from the emotional needs of the family to the emotional and academic needs of the student. The cultural norm of family interdependence can create great interpersonal, as well as great intrapersonal conflict.

Recent research has shown that Asian Pacific American and Latino adolescents, especially those from immigrant families, express a stronger orientation toward family interdependence when compared to their later generation peers or European Americans (Fuligni, Tseng, & Lam, 1999; Phinney, Ong, & Madden, 2000). Interdependence of an individual emphasizes the person in relation to others within harmonious relationships.
whereas independence emphasizes individualism and the person as unique and separate from others (Markus & Kitayama, 1991). Asian Pacific and Latin American families place emphasis on family interdependence (Chao & Tseng, 2002; Harrison, Wilson, Pine, Chan, & Buriel, 1990). In both cultures, children are expected to spend a considerable amount of time with their families, providing emotional or financial support to family members. Support is expected to be a lifelong obligation (Cheung, Lee, & Chan, 1994; Sung, 1995; Wolf, 1997) and as adults, individuals are expected to continue to care for and live near or with their parents (Almirol, 1982; Feldman, Mont-Reynaud, & Rosenthal, 1992; Freeburg & Stein, 1996; Fuligni et al., 1999). Parental authority, treating parents and elders with respect is also important; children should always consider and consult family members when making important decisions (Arroyo, 1997; Sabogal et al., 1987).

Family interdependence can be the result of adaptation to immigration. Valenzuela (1998) noted that because of cultural, linguistic, and economic challenges, immigrant children are often depended upon to assist their families in adjusting to a new country. Furthermore, a collectivist culture may emphasize the importance of family interdependence. Within a collectivist culture, every individual has a role that contributes to the functioning of the group as whole, and the actions of an individual are a direct reflection of the group. This view contributes to the idea of individuals having to consult group members when making decisions.

While in high school, immigrant students often express a stronger academic motivation and receive higher grades when compared to their later generation or U.S.-born peers (Fuligni, 1997; Gibson, 1988; Matute-Bianchi, 1991; Rumbaut, 1997). This
strong orientation toward academic success could be the result of a desire to repay their parents for their hard work and sacrifice. However, Portes and Rumbaut (2001) noted that the higher level of academic achievement attained by immigrant students begins to decline as high school draws to an end. In general, college is a time of increased conflict between an adolescent’s family and academic demands. The conflict is increased for individuals from immigrant families, as they transition into adulthood retaining an enduring emphasis on family interdependence, but acquiring U.S. ideologies of independence from parents (Lapsley et al., 1989; Quintana & Kerr, 1993). These individuals must learn to balance or negotiate cultural expectations regarding interdependence and U.S. expectations of independence, while still being confronted with academic demands.

Although a family’s high expectations may contribute to academic motivation, the behavioral aspects or responsibilities may have a negative effect on academic achievement. The time required to meet family demands may be especially difficult in college, when academic challenges increase. Suarez and Orozco (1991) found that even in high school, immigrant children began to feel torn between their desire to attain academic success for the future of their family and their need to work to help with their family’s current financial difficulties. Immigrant children are expected to assist their parents with interpretation and paperwork, look after grandparents, help younger siblings with homework, help parents with their jobs, or work in the family business. With all the family responsibilities, these individuals may find less time to study or may feel overwhelmed with time demands. Tseng (2004) found that indeed youth from immigrant families had greater academic motivation and achievement than their U.S.-born peers.
However, they also had greater family demands that detracted from academic achievement. The two processes counteracted each other making adaptation to college even more difficult.

The concept of family interdependence is a defining characteristic of most ethnic minority cultures. It is an idea that inevitably leads to a sense of a lifelong obligation to care for one’s family both emotionally and financially. An individual can be torn between the overall wellbeing of their family and their personal well being. Familial responsibilities become especially important to individuals who are members of immigrant families. Within immigrant families, adult family members often depend upon younger family members to become familiar with and function within the new culture. This obligation results in familial demands that often impede the attainment of a higher education. For some individuals, a strong sense of family obligation can result in the added stress of family conflict, a sense of guilt regarding abandoning one’s role within the family, and a possible loss of family belongingness, as the individual chooses the pursuit of a higher education over his or her family responsibilities.

The Present Study

Although several studies have focused on predictors of adaptation and academic success among college students, mostly college freshman, few have focused on the role of these factors among ethnic minority students or even first generation college students. Therefore the present study is designed to identify factors, such as family interdependence or enmeshment that may be especially influential in the first generation student’s college experience and that can impact the individual’s motivation to pursue an education beyond the undergraduate level.
1. It was hypothesized that academic motivation and academic success would be correlated with family interdependence for first generation students, but not for later generation students. Family interdependence promotes a lifestyle where each family member strives toward and is expected to contribute to meeting the basic biological needs that are crucial to the survival of the family. Family interdependence can create a strong sense of a lifelong obligation to care for family members both emotionally and financially. The pursuit of a higher education can prevent an individual from meeting family obligations including assisting with financial difficulties, caring for siblings and elderly family members, and assisting with daily household tasks. The extent to which families foster a sense of interdependence could greatly influence academic motivation and success. Thus, it was theorized that stressors, including the pressure to meet family responsibilities, create a conflict with the student’s desire to obtain a higher education, which can negatively impact the individual’s academic motivation.

2. It was also hypothesized that academic motivation would be correlated with academic success for both first generation and later generation students. Those students who are considering pursuing education beyond the undergraduate level should be aware of the importance of a high grade point average.

3. It was hypothesized that generation status, attachment, and family support would account for a significant portion of the variance in a student’s academic motivation to pursue a higher education for first generation students, but not for later generation students. In addition, it was hypothesized that the previously

24
mentioned factors would account for a significant portion of the variance in academic success among first generation students, but not for later generation students. Increasing the amount of stress is the transition from high school to college, which is a significant period of adaptation that can be made even more difficult if the individual is unable to share their experiences with someone who can identify with their situation. Family and peers may be supportive of the individual, but may not be able to understand or empathize with them because of a lack of experience.

4. Exploratory analysis also examined stressors that may be influential to first generation students’ desire to continue with their education beyond the undergraduate level.

Method

Participants. A sample of 575 participants, who had at least one semester of college experience, was recruited to participate in the present study. Participants were undergraduate students attending a state funded 4-year public university located in the Dallas and Fort Worth metropolitan area of Texas. The participants’ ages ranged between 18 and 55 years old, with a mean age of 21 (SD = 3.96). Participants between the age of 18 and 23 years old made up 86.6% of the sample while 9.6% and 3.5% of participants were between the age of 24 through 29 and 30 years or older, respectively (Table 1). Three hundred ninety-nine participants, 69.4%, were women and 176, 30.6%, were men. The gender discrepancy is not surprising considering that all participants were recruited from psychology courses, and the majority of students enrolled in psychology classes are women.
Regarding ethnic identification, participants were asked to define their ethnicity both by using United States Census Bureau categories and by defining it in their own words. Nine ethnic categories were created to identify the participant’s race or ethnicity. The nine categories are as follows: African American/Black, Asian/Pacific Islander, European American/Anglo/White, Hispanic/Mexican or Latino/Latina, South/Central American, Middle Eastern, Native American/Alaskan Native, other, and mixed ethnicity (Table 2). The “other” category was marked by participants that did not identify themselves using the categories provided. Participants were permitted to identify themselves using more than one racial or ethnic category. Therefore, the “Mixed Ethnicity” category was created to identify those individuals who marked more than one racial or ethnic category. In the current sample, 12.9% were African American, 6.8% were Asian or Pacific Islander, 60% were European American or Anglo, 8.9% were Hispanic or Latino(a), 1.2% marked the ‘other’ category, and 8.5% fell into the “mixed ethnicity” category. Less than 1% of the sample identified themselves as South or Central American, Middle Eastern, and Native American or Alaskan Native, respectively.
Table 2

*Ethnic Distribution*

<table>
<thead>
<tr>
<th>Ethnic Category (N = 575)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American/Black</td>
<td>74</td>
<td>12.9</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>39</td>
<td>6.8</td>
</tr>
<tr>
<td>European American/Anglo/White</td>
<td>345</td>
<td>60.0</td>
</tr>
<tr>
<td>Hispanic/Latino/Mexican</td>
<td>51</td>
<td>8.9</td>
</tr>
<tr>
<td>South/Central American</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>Native American/Alaskan Native</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>1.2</td>
</tr>
<tr>
<td>Mixed Ethnicity</td>
<td>49</td>
<td>8.5</td>
</tr>
</tbody>
</table>

One hundred eighty-one participants, 31.5%, were identified as first generation college students and the remaining 394 participants, 68.5%, were non-first generation students. First generation status was defined as those students whose parents and grandparents did not receive a college degree or graduate degree (see Appendix A). Education information was gathered for the participant’s mother, father, and both maternal and paternal grandparents. When participants could not provide complete education information for parents or grandparents, only the information provided was used to determine first generation status. In instances that education information was missing it was assumed that the family member or members for whom the information was missing did not attend college.

Participants were also asked to provide their school classification. Students
ranged from freshman with at least one semester of college experience to more advanced students who were classified as seniors. Students who classified themselves as freshman with at least one semester of college experience made up 24.2% of the sample. Students classified as sophomores made up 27.5% of the sample while juniors and seniors made up 26.8% and 21.6% of the sample respectively.

Table 3

*Student Classification*

<table>
<thead>
<tr>
<th>Classification</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman (at least one semester experience)</td>
<td>139</td>
<td>24.2</td>
</tr>
<tr>
<td>Sophomore</td>
<td>158</td>
<td>27.5</td>
</tr>
<tr>
<td>Junior</td>
<td>154</td>
<td>26.8</td>
</tr>
<tr>
<td>Senior</td>
<td>124</td>
<td>21.6</td>
</tr>
</tbody>
</table>

Responses provided by the participant regarding their major were placed in categories identified by the College Board. Approximately 60% of participants majored in social sciences, which included psychology, sociology, anthropology, education, development and family studies, gerontology, and rehabilitation studies. About 13% of participants majored in humanities, which included art, theatre, photography, music, literature, languages, philosophy, and liberal arts and sciences. Those majoring in the natural sciences, which included astronomy, biology, chemistry, earth science, and physics made up 7.7% of the sample. One percent majored in the formal sciences, which included logic, math, systems theory, computer science, and statistics. Four percent were business majors, 7% were kinesiology or exercise science majors, and
less than half of 1% were engineering majors. Three percent of participants had not
decided on a major and 4% were double majoring.

Table 4

*Student Majors*

<table>
<thead>
<tr>
<th>Major</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>73</td>
<td>12.7</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>44</td>
<td>7.7</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>343</td>
<td>59.7</td>
</tr>
<tr>
<td>Formal Sciences</td>
<td>8</td>
<td>1.4</td>
</tr>
<tr>
<td>Business</td>
<td>25</td>
<td>4.3</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>38</td>
<td>6.6</td>
</tr>
<tr>
<td>Engineering</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>Double Major</td>
<td>21</td>
<td>3.7</td>
</tr>
<tr>
<td>Undecided</td>
<td>20</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Measures**

*Demographics.* Participants completed a brief demographics questionnaire that
included questions concerning age, gender, ethnicity, family structure (marital status of
parents, relationship of individuals living in household), socioeconomic status, and
grade point average (GPA) (see Appendix A). Additionally, the demographics
questionnaire contained questions concerning the education status of parents and
grandparents. The responses to the education questions were used to identify first
generation and non-first generation status.

*Parental and peer attachment.* Parental and peer attachment was measured
using the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg,
Permission to use the measure was granted by co-creator Mark Greenberg, Ph.D. The IPPA was developed to measure parental and peer attachment in adolescence and young adults. It assesses positive and negative affective and cognitive dimensions of adolescents' relationships with their parents and close friends. Scores on the IPPA are correlated with the tendency to seek out parents in time of need, levels of family support, conflict, and cohesiveness (Armsden & Greenberg, 1987). For each of the 25 items that individually assessed attachment to mother and father and the 25 items that assessed peer attachment, respondents were required to rate the degree to which each item was true for them on a 5-point Likert-like scale with responses ranging from almost never or never true (1) to almost always or always true (5).

The questionnaire consists of separate Trust, Communication, and Alienation scales for mother, father and peers. Trust items reflect the degree of mutual respect and understanding, Communication items assess the extent of verbal communication, and Alienation items tap into feelings of anger and interpersonal isolation. On a sample of college students ranging in age from 16 to 20, mostly European American, alpha coefficients of .91, .91, and .86 were reported for Trust, Communication, and Alienation parent subscales, respectively. Coefficients for the peer subscales were .91, .87, and .72, respectively. There was a reported 3-week test-retest reliability of .93 and .86 for parent and peer attachment measures respectively (Armsden & Greenberg, 1987).

For the present study, the mother and father attachment scales had alpha coefficients of .96. The peer attachment scale had an alpha coefficient of .95. Coefficients for the current study closely match those of previous studies. Regarding subscale reliabilities for the current study, the parent Trust and Communication
subscales had alpha coefficients of .91 and .92 respectively. The parent Alienation subscale had an alpha coefficient of .83. The peer Trust subscale had an alpha coefficient of .93 while the Communication subscale had a coefficient of .92. The peer Alienation subscale had an alpha coefficient of .74.

*Family relationships.* In the present study the Family Relations Scale (FRS) was used to measure family interdependence or enmeshment (Barbarin & Gilbert, 1985) with permission from creator Oscar Barbarin, Ph.D. The FRS is designed to assess family interdependence, the family’s ability to provide an environment that fosters healthy psychological development and a sense of emotional well-being, and the dynamic homeostasis within the family. The FRS includes 50 items, which are on a 5-point Likert-type scale ranging from *strongly agree* to *strongly disagree*. Respondents were asked to indicate the extent to which each statement accurately described how they perceive their family. It consists of four validated scales: Family Support, Family Differentiation, Boundary Maintenance, and Family Satisfaction. Hierarchy and Idealization are two supplemental scales.

Family Support refers to the degree of concern expressed by family members and help and encouragement provided to other family members during difficult times. High scores on this scale suggest that the family is nurturing, understanding, and accepting while low scores suggest that the individual perceives the family as failing to provide support and encouragement. The Support scale is correlated (.55) with the FES Expressiveness scale and with the FACES Cohesion scale (.75) (Barbarin & Tirado, 1985). Cronbach’s alpha for the Family Support scale ranges from .87 to .91 (Barbarin, 1996). Cronbach’s alpha for the support subscale in the present study was .92.
The Differentiation/Enmeshment scale refers to the similarity of family member’s attitudes, feelings, and perceptions of the world. High scores on this scale suggest that family members encourage differences and tolerate disagreements among family members. Low scores suggest that family members suppress individual identities. The Differentiation/Enmeshment scale significantly correlates with the Cohesion scale on the FACES (-.39) and the Cohesion scale on the FES (-.33) (Barbarin, 1996). Cronbach’s alpha for the Differentiation/Enmeshment scale is .87 (Barbarin, 1996). Cronbach’s alpha on the current study is .07.

Due to the unacceptably low Cronbach’s alpha of the Differentiation/Enmeshment subscale of the FRS, a factor analysis of the original scale was conducted to create the three factor based scale used in the present study. The Communication factor based scale includes items that describe difficulties discussing problems, secrets, and emotions with other family members. The Emotional Sharing factor based scale includes items concerning sharing emotions with others, the similarity of emotions across family members, and knowing other family members’ hopes and desires. The Family Differences factor based scale includes items that assess differences in family expectations and differences in reactions or responses.

The Boundary Maintenance scale assesses the ability for family members to easily interact with individuals outside the family. High scores suggest that family boundaries are permeable and low scores suggest that family members have limited contact with individuals outside of the immediate family. Cronbach’s alpha ranges from .70 to .82 (Barbarin, 1996). Cronbach’s alpha for the Boundary Maintenance scale in the present study is .38. Thus, this scale was not used in the present study.
The Family Satisfaction scale reflects a favorable appraisal of how well the family meets the individual’s need for love, support, and acceptance. In addition, the scale assesses an individual’s perception of the quality of their family life. High scores indicate that an individual is happy with their family life. Low scores imply low happiness. Cronbach’s alpha for the family satisfaction scale is .87 (Barbarin & Tirado, 1985). Cronbach’s alpha for the satisfaction scale in the present study is .69.

The Family Hierarchy scale includes five items that measure the extent to which there is a hierarchy or power structure. The hierarchy is responsible for making important decisions, leading the family, and creating rules or setting limits. High scores indicate that a particular family member is the authority figure and holds control within the family. Cronbach’s alpha for the Family Hierarchy scale range from .68 to .79 (Barbarin, 1996). Cronbach’s alpha in the present study was .39. Thus, this scale was not used in the present study.

The Family Idealization scale is a family lie scale that assesses the extent to which an individual is likely to exaggerate or emphasize the more positive aspects of their family life. Although the scale does not measure obvious attempts to deceive, it does measure subtle tendencies to present the family in a favorable manner. Cronbach’s alpha for the scale range from .85 to .92 (Barbarin, 1996). Cronbach alpha for the Family Idealization scale in the present study was .88.

For the present study a total score was created for each scale by summing the scores for each question relevant to the scale.

_Evaluation of ethnic minority experience in college._ A 40-question, open-ended questionnaire was created specifically for this study to identify significant stressors (see
Appendix B). Stress is defined as a physiological and psychological response to events that upset one’s personal balance in some way. Questions used to identify stressors in the present study include:

1. What, if anything, do you feel has made things in school harder for you or held you back?
2. What has been one of your most stressful experiences since you started college? Please describe what made it stressful for you.
3. Other than the stressful experience described above, are there any other stressors that are hard for you to deal with?
4. Is there anything in particular that you’ve struggled with about yourself? Please describe.

Other questions assess what factors, if any, affect an individual’s desire to continue with school and complete their educational goals. Questions that assess the students’ desire to pursue a degree beyond the undergraduate level include:

1. Do the above mentioned stressors sometimes affect your desire to continue with school?
2. Is there anything that might keep you from achieving your educational goals? If yes, please describe.

Academic motivation was measured using a linear code for Question 26 from the demographics questionnaire, which asked students to identify the degree, if any, they planned to pursue after completing college. In addition, academic success was measured using the participant’s current grade point average (GPA).
Procedures

Participants were recruited from undergraduate psychology courses utilizing the university SONA System. The psychology department requires that students enrolled in introductory psychology courses participate in research studies. In some cases, more advanced psychology classes allow students to participate in research studies for extra credit. The SONA System website allows students to access information concerning current studies being conducted and sign up to participate in research studies. Additionally, once the student has completed the research study, researchers can grant credit to the student on the SONA System website.

A description of the present study was placed on the SONA System website. Students were given a brief description of the study and were informed of the estimated amount of time it would take for them to complete the questionnaires. A link to the online questionnaires used in the current study was also provided. All questionnaires were posted on Survey Monkey. Students could log in at any time to complete the questionnaires; however all questionnaires had to be completed and submitted in one session. Sessions could not be saved; therefore, logging in a second time would result in starting the study from the beginning. Once the participant submitted all questionnaires, the extra credit was granted using the SONA System website. Once data collection was completed a drawing was completed in which four participants received $20 gift cards to Wal-Mart.

Data Analysis Plan

The following study includes descriptive statistics in order to summarize, organize, and simplify the data, as well as to identify any significant sample
characteristics and important covariations that might need controlling in hypothesis tests.

_Hypothesis 1A: Motivation._ Academic motivation would be correlated with family enmeshment for first generation students, but not for later generation students. Family enmeshment was measured using the factor based scales of the Differentiation scale of the FRS. Partial correlations controlling for gender and ethnicity were obtained for first generation students and later generation students separately. Fischer’s z values were calculated in order to assess the significance of the difference between correlation coefficients for first generation students and later generation students.

_Hypothesis 1B: Success._ Academic success would be correlated with family interdependence for first generation students, but not for later generation students. Partial correlations that controlled for gender and ethnicity were obtained for first generation students and later generation students and compared using Fischer’s z values.

_Hypothesis 2._ Academic motivation would be correlated with GPA for both first generation and later generation students. Once again partial correlations were obtained, which controlled for gender and ethnicity, for first generation and later generation students. Fischer’s z values were calculated to compare first generation students with later generation students.

_Hypothesis 3A: Motivation._ Generation status and the amount of support from family and peers would explain differences in academic motivation. A multiple regression analysis was conducted to determine if generation status, attachment, and family support accounted for a significant portion of the variance in a student’s
motivation to continue pursuing an education beyond the undergraduate level. Measures of attachment included the Mother Attachment scale, Father Attachment scale, and Peer Attachment scale of the IPPA. Family support was measured using the Support subscale of the FRS. Gender and Ethnicity were controlled for due to significant correlations with scales of the IPPA and the Support scale of the FRS.

Hypothesis 3B: Success: Generation status and the amount of support from family and peers would explain differences in academic success. A multiple regression analysis was conducted to determine if generation status, attachment, and family support accounted for a significant portion of the variance in a student's GPA. Gender and ethnicity were controlled for in the regression.

Exploratory Analysis

The present study was designed to conceptualize factors that might be unique to gender and/or the first generation student’s college experience and that could influence academic motivation and success. Using a qualitative data analysis technique described by Boyatzis (1998), a content analysis was conducted using responses from questions on the college experience questionnaire in order to identify response patterns that are unique to a specific gender or to first generation college students. Patterns that might be related to the amount of stress a student experiences were also identified. The primary researcher created data driven themes for each open-ended question that asked participants to identify various stressors that made school difficult. Then undergraduate research assistants scored each response scored based on the presence or absence of verbal content described by a specific category. A response could be scored in more than one category if the response included more than one
theme. For each question, frequencies were used to determine how often each category was mentioned. Similar subcategories were combined if the frequency of a category was low. Low frequency was defined as a frequency of less than two.

Similar themes were generated for each question, usually including academics, family, finances, health, job, personal, relationships, and miscellaneous responses. Responses concerning academic performance, difficulty of courses, coursework load, study skills, lack of motivation, difficult or unhelpful teachers, language barriers and academic logistics such as too many classes or exams were included in the academic theme. Family factors included in the family theme were competing family responsibilities, grief, family illness, parental expectations, living away from family, lack of family support or understanding, and family conflicts. The finance theme included responses concerning a lack of money, problems paying for tuition or lack of scholarship funds, and being financially responsible for oneself. Health included responses regarding both physical and mental health issues. The job theme included responses concerning working a part-time or full-time job and problems finding a job. The personal theme included responses concerning time management, procrastination or laziness, spending more time partying and less time studying, stress, and general distractions. Included in the category of relationship factors were responses regarding problems with significant others, lack of friendships, lack of social support, and friendship “drama.” Miscellaneous responses included those responses that indicated no difficulties or no stressors experienced by the participant, those that left the question blank, or responses that did not fit into any other category.
Five questions from the open-ended questionnaire were used. Question 5 asked participants to identify what factors made school more difficult for them. Based on the response patterns for Question 5, each of the above mentioned themes were relevant. Three research assistants scored 575 participant responses to Question 5. Interrater reliabilities ranged from .75 to .85. Scoring precedents were established and utilized throughout the scoring process. Disagreements among scores were resolved by the principal investigator.

Question 6 asked participants to identify one of their most stressful experiences since starting college. The following themes were derived from the responses provided: academics, family, finances, health, personal, relationships, and miscellaneous. For each theme, categories similar to those mentioned in Question 5 were used. The health theme included physical illness and mental illness, as well as becoming pregnant. Three research assistants scored 575 participant responses. Interrater reliabilities ranged from .67 to .77.

Question 7 asked the participant to identify additional stressors not already mentioned. Question 7 included themes and categories similar to those mentioned in Question 6. Two research assistants scored 575 responses for Question 7. Interrater reliabilities ranged from .72 to .92.

Question 9 asked whether the above mentioned stressors affect the student’s desire to continue with school. The following themes were derived based on participant responses: academics, finances, health, personal, relationships, and miscellaneous. Two research assistants scored 575 responses. Interrater reliability ranged from .60 to .68.
Finally, Question 38 asked the individual to identify what might keep him or her from achieving their educational goals. Themes for Question 38 included academics, family, finances, health, personal, relationships, and miscellaneous. Two research assistants scored 575 responses. Interrater reliability ranged from .77 to .83. For the present study, a 2x2 factorial analysis of variance (ANOVA) was conducted in order to identify the effects of gender and generation status on the number of times a specific category was mentioned.

**Results**

*Preliminary analysis.* In the present study, total mother, father, and peer attachment scores were created by summing the scores for each section of the IPPA. As shown in Table 5, the mean score for the mother attachment scale \( (n = 574) \) was 96.8 \( (SD = 19.8) \). The mean score for the father attachment scale \( (n = 560) \) was 84.9 \( (SD = 23.7) \). The mean score for the peer attachment scale \( (n = 573) \) was 98.8 \( (SD = 15.8) \).

Table 5

**IPPA Attachment Scores**

<table>
<thead>
<tr>
<th>Attachment Subscale</th>
<th>( n )</th>
<th>( M )</th>
<th>( SD )</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPPA Mother</td>
<td>574</td>
<td>96.79</td>
<td>19.83</td>
</tr>
<tr>
<td>IPPA Father</td>
<td>560</td>
<td>84.90</td>
<td>23.66</td>
</tr>
<tr>
<td>IPPA Peer</td>
<td>573</td>
<td>98.75</td>
<td>15.75</td>
</tr>
</tbody>
</table>

For the FRS, a mean score was obtained for each subscale. As shown in Table 6, the mean score for each subscale was based on an \( n \) of 572. The mean score for the Support scale was 32.9 \( (SD = 6.2) \). Previous studies showed a mean of 30 among
participants on the Support scale ($SD = 5.0$) (Barbarin, 1996). The mean score for the Differentiation scale in the present study was $24.9$ ($SD = 2.8$). Previous research showed a mean score of $30$ with a standard deviation of $2.4$ (Barbarin, 1996). In the current study the mean score for the Boundary Maintenance scale was $27.6$ ($SD = 3.6$). Previous research showed a mean of $25$ ($SD = 4$) (Barbarin, 1996). The current sample yielded a mean score of $27.5$ ($SD = 4.1$) on the Family Satisfaction scale. Mean scores and standard deviations were not reported in previous research for the Family Satisfaction Scale. The Family Hierarchy scale has a mean score of $13.02$ ($SD = 2.3$). Previous research showed a mean score of $12$ ($SD = 3$) (Barbarin, 1996).

Table 6

**FRS Subscale Scores**

<table>
<thead>
<tr>
<th>Scales</th>
<th>Present Study ($N = 572$)</th>
<th>Barbarin (1996)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Support</td>
<td>32.9</td>
<td>6.2</td>
</tr>
<tr>
<td>Differentiation/Enmeshment</td>
<td>24.9</td>
<td>2.8</td>
</tr>
<tr>
<td>Boundary Maintenance</td>
<td>27.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>27.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>13.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**p < 0.01. a. $N$, means and standard deviation not provided in previous research.

In the present study, the mean self-reported GPA was $3.0$ with a standard deviation of $0.61$. The motivation to pursue a higher education was measured by a participant’s desire to obtain a graduate degree or professional certification.

Approximately 8% of participants reported a desire to obtain a certification or
paraprofessional license \((n = 565)\). Fifty-five percent of participants reported a desire to obtain a masters degree, while 25% expressed a desire to obtain a doctorate degree. Eleven percent of participants were undecided whether they wanted to pursue a higher education (see Table 7).

Table 7

*Motivation*

<table>
<thead>
<tr>
<th>Degree Goals</th>
<th>Frequency ((N = 565))</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification, Paraprofessional License</td>
<td>47</td>
<td>8.3</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>312</td>
<td>55.2</td>
</tr>
<tr>
<td>Doctor/Doctorate</td>
<td>142</td>
<td>25.1</td>
</tr>
<tr>
<td>Undecided/No additional education</td>
<td>64</td>
<td>11.3</td>
</tr>
</tbody>
</table>

Descriptive Associations

Pearson and point biserial correlations or phi were obtained to identify associations between demographic variables. Results of demographic correlations showed that gender was significantly correlated point biserial with GPA and motivation. Binary coded ethnicity was significantly correlated with generation status, parental income, GPA, and motivation. Results also demonstrated that generation status was significantly correlated with parental income. The results of the present study showed no additional correlations between demographic variables (see Table 8).

Pearson correlations were also obtained to identify associations among predictor variables and among outcome variables. In the current study, predictor variables include the mother attachment, father attachment, and peer attachment scales of the IPPA, as well as the Support (SUPP) and Differentiation (DIFF) scales of the FRS. As previously
noted, the Differentiation scale was divided into three factor based subscales:

Communication (DIFF1), Emotional Sharing (DIFF2), and Familial Differences (DIFF3).

Table 8

Demographic and Outcome Variables Correlations

<table>
<thead>
<tr>
<th></th>
<th>Gendera</th>
<th>Ethnicityb</th>
<th>Generation Statusc</th>
<th>Age</th>
<th>Parental Income</th>
<th>GPAd</th>
<th>Motivatione</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gendera</td>
<td>1</td>
<td>-.06</td>
<td>-.01</td>
<td>.06</td>
<td>.07</td>
<td>-.12**</td>
<td>-.09*</td>
</tr>
<tr>
<td>Ethnicityb</td>
<td>-.06</td>
<td>1</td>
<td>-.16**</td>
<td>.05</td>
<td>-.13**</td>
<td>-.09*</td>
<td>.08*</td>
</tr>
<tr>
<td>Generation Statusc</td>
<td>-.01</td>
<td>-.16**</td>
<td>1</td>
<td>-.00</td>
<td>.21**</td>
<td>.06</td>
<td>.02</td>
</tr>
<tr>
<td>Age</td>
<td>.06</td>
<td>.05</td>
<td>-.00</td>
<td>1</td>
<td>.00</td>
<td>.05</td>
<td>.09*</td>
</tr>
<tr>
<td>Parental Income</td>
<td>.07</td>
<td>-.13**</td>
<td>.21**</td>
<td>.00</td>
<td>1</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>GPAd</td>
<td>-.12**</td>
<td>-.09*</td>
<td>.06</td>
<td>.05</td>
<td>.01</td>
<td>1</td>
<td>.14**</td>
</tr>
<tr>
<td>Motivatione</td>
<td>-.09*</td>
<td>.08*</td>
<td>.02</td>
<td>.09*</td>
<td>.01</td>
<td>.14**</td>
<td>1</td>
</tr>
</tbody>
</table>

**p < 0.01. *p < 0.05. a. Coded 1 = Female, 2 = Male. b. Coded 1 = European American/Anglo/White, 2 = Other. c. Coded 1 = First generation, 2 = Later generation. d. Coded 6 = 4.00 to 3.50, 5 = 3.49 to 3.00, 4 = 2.99 to 2.50, 3 = 2.49 to 2.00, 2 = 1.99 to 1.50, 1 = 1.49 to 1.00. e. Coded 0 = Undecided/No additional education, 1 = Certification, Paraprofessional license, 2 = Masters Degree, 3 = Doctor/Doctorate Degree.

Also included were the outcome variables of the participant’s grade point average (GPA) and motivation to pursue a higher education (MOT). Results showed significant correlations among all scales of the IPPA. In addition, the Support scale of the FRS was significantly correlated with all subscales of the Differentiation scale (see Table 9).

Finally, Pearson and point biserial correlations and phi were obtained to identify associations between demographic variables and predictor and outcome variables.

Women scored significantly higher on the Peer Attachment scale of the IPPA (point biserial \( r = -.19, p < .01 \)) and slightly lower on the Emotional Sharing factor based scale (DIFF2) of the Differentiation scale (point biserial \( r = .11, p < .01 \)) than men did.
Table 9

*Predictor Variables and Outcomes Zero-Order Correlations*

<table>
<thead>
<tr>
<th></th>
<th>IPPA Mother</th>
<th>IPPA Father</th>
<th>IPPA Peer</th>
<th>FRS SUPP</th>
<th>FRS DIFF1</th>
<th>FRS DIFF2</th>
<th>FRS DIFF3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>1</td>
<td>.22**</td>
<td>.22**</td>
<td>.69**</td>
<td>-.45**</td>
<td>-.57**</td>
<td>-.23**</td>
</tr>
<tr>
<td>Father</td>
<td>.22**</td>
<td>1</td>
<td>.15**</td>
<td>.45**</td>
<td>-.37**</td>
<td>-.33**</td>
<td>-.21**</td>
</tr>
<tr>
<td>Peer</td>
<td>.22**</td>
<td>.15**</td>
<td>1</td>
<td>.28**</td>
<td>-.25**</td>
<td>-.22**</td>
<td>.02</td>
</tr>
<tr>
<td>SUPP</td>
<td>.69**</td>
<td>.45**</td>
<td>.28**</td>
<td>1</td>
<td>-.62**</td>
<td>-.70**</td>
<td>-.31**</td>
</tr>
<tr>
<td>DIFF1</td>
<td>-.45**</td>
<td>-.37**</td>
<td>-.25**</td>
<td>-.62**</td>
<td>1</td>
<td>.43**</td>
<td>.30**</td>
</tr>
<tr>
<td>DIFF2</td>
<td>-.57**</td>
<td>-.33**</td>
<td>-.22**</td>
<td>-.70**</td>
<td>.43**</td>
<td>1</td>
<td>.24**</td>
</tr>
<tr>
<td>DIFF3</td>
<td>-.23**</td>
<td>-.21**</td>
<td>-.02</td>
<td>-.31**</td>
<td>.30**</td>
<td>.24**</td>
<td>1</td>
</tr>
<tr>
<td>GPAa</td>
<td>.02</td>
<td>-.01</td>
<td>.06</td>
<td>.01</td>
<td>-.01</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td>MOTb</td>
<td>-.08</td>
<td>-.03</td>
<td>.02</td>
<td>-.04</td>
<td>-.02</td>
<td>.05</td>
<td>.06</td>
</tr>
</tbody>
</table>

**p < 0.01. *p < 0.05. a. Coded 6 = 4.00 to 3.50, 5 = 3.49 to 3.00, 4 = 2.99 to 2.50, 3 = 2.49 to 2.00, 2 = 1.99 to 1.50, 1 = 1.49 to 1.00. b Coded 0=Undecided/No additional education, 1 = Certification, Paraprofessional license, 2 = Masters Degree, 3 = Doctor/Doctorate Degree.**

First generation students were slightly lower on the Familial Differences factor based scale (DIFF3) of the Differentiation scale (point biserial $r = -.10, p < .05$) than were later generation students. In addition, age correlated significantly with the Mother Attachment scale of the IPPA ($r = -.10, p < .05$), with the Support scale of the FRS ($r = -.10, p < .05$), and with the Emotional Sharing factor based scale (DIFF2) of the Differentiation scale ($r = .09, p < .05$). Parental income was significantly correlated with the Familial Differences factor based scale of the Differentiation scale ($r = -.10, p < .05$) (see Table 10).
Table 10

Demographic and Predictor Variables Associations

<table>
<thead>
<tr>
<th></th>
<th>IPPA Mother</th>
<th>IPPA Father</th>
<th>IPPA Peer</th>
<th>IPPA SUPP</th>
<th>FRS DIFF1</th>
<th>FRS DIFF2</th>
<th>FRS DIFF3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gendera</td>
<td>.05</td>
<td>.06</td>
<td>-.19**</td>
<td>.00</td>
<td>.00</td>
<td>.11**</td>
<td>-.07</td>
</tr>
<tr>
<td>Generation Statusb</td>
<td>.07</td>
<td>-.02</td>
<td>-.01</td>
<td>.06</td>
<td>-.01</td>
<td>-.05</td>
<td>-.10*</td>
</tr>
<tr>
<td>Ethnicityc</td>
<td>-.11**</td>
<td>-.12**</td>
<td>-.13**</td>
<td>-.09</td>
<td>.08*</td>
<td>-.05</td>
<td>.02</td>
</tr>
<tr>
<td>Age</td>
<td>-.10*</td>
<td>.03</td>
<td>-.00</td>
<td>-.10*</td>
<td>-.04</td>
<td>.09*</td>
<td>-.07</td>
</tr>
<tr>
<td>Parent Income</td>
<td>.01</td>
<td>.04</td>
<td>-.00</td>
<td>.01</td>
<td>.00</td>
<td>.04</td>
<td>-.10*</td>
</tr>
</tbody>
</table>

**p < 0.01, *p < 0.05. a. Coded 1 = Female, 2 = Male. b. Coded 1 = First generation, 2 = Later generation. c. Coded 1 = European American/Anglo/White, 2 = Other

Hypothesis Tests

_Hypothesis 1A: Motivation._ Academic motivation would be correlated with family enmeshment, as measured by the factor based scales of the Differentiation scale of the FRS, for first generation students, but not for later generation students. Partial correlations were conducted in order to control for gender and ethnicity due to the significant correlations reported in Table 10. As seen in Table 11, there was a significant correlation between academic motivation and the Emotional Sharing factor based scale (DIFF2) for first generation students \((n = 164)\). Additionally, there is a significant correlation between academic motivation and the Familial Differences factor based scale (DIFF 3) for first generation students \((n = 164)\). As expected, there was no significant correlation between family enmeshment and academic motivation for later generation students \((n = 367)\) (see Table 12). Fischer’s z showed no significant difference between the two groups for the Communication factor based scale (DIFF 1 z = 0.07, \(p = ns\)). However there was a significant difference between the two groups for
the Emotional Sharing factor based scale (DIFF2 \( z = 1.62, p = 0.05 \)) and the Familial Differences factor based scale (DIFF3 \( z = 2.02, p < 0.05 \)).

Table 11

*Partial Correlations for First Generation Students*

<table>
<thead>
<tr>
<th></th>
<th>DIFF1</th>
<th>DIFF2</th>
<th>DIFF3</th>
<th>GPA</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF1</td>
<td>1</td>
<td>.49**</td>
<td>.30**</td>
<td>-.02</td>
<td>-.03</td>
</tr>
<tr>
<td>DIFF2</td>
<td>.49**</td>
<td>1</td>
<td>.33**</td>
<td>.08</td>
<td>.17*</td>
</tr>
<tr>
<td>DIFF3</td>
<td>.30**</td>
<td>.33**</td>
<td>1</td>
<td>.05</td>
<td>.19**</td>
</tr>
<tr>
<td>GPA</td>
<td>-.02</td>
<td>.08</td>
<td>.05</td>
<td>1</td>
<td>.15</td>
</tr>
<tr>
<td>Motivation</td>
<td>-.03</td>
<td>.17*</td>
<td>.19**</td>
<td>.15</td>
<td>1</td>
</tr>
</tbody>
</table>

**\( p < 0.01 \), *\( p < 0.05 \).

Table 12

*Partial Correlations for Later Generation Students*

<table>
<thead>
<tr>
<th></th>
<th>DIFF1</th>
<th>DIFF2</th>
<th>DIFF3</th>
<th>GPA</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF1</td>
<td>1</td>
<td>.40**</td>
<td>.36**</td>
<td>.01</td>
<td>-.04</td>
</tr>
<tr>
<td>DIFF2</td>
<td>.40**</td>
<td>1</td>
<td>.27**</td>
<td>.05</td>
<td>.02</td>
</tr>
<tr>
<td>DIFF3</td>
<td>.36**</td>
<td>.27**</td>
<td>1</td>
<td>.05</td>
<td>.00</td>
</tr>
<tr>
<td>GPA</td>
<td>.01</td>
<td>.05</td>
<td>.05</td>
<td>1</td>
<td>.14**</td>
</tr>
<tr>
<td>Motivation</td>
<td>-.04</td>
<td>.02</td>
<td>.00</td>
<td>.14**</td>
<td>1</td>
</tr>
</tbody>
</table>

**\( p < 0.01 \), *\( p < 0.05 \).

**Hypothesis 1B: Success.** Academic success would be correlated with family enmeshment for first generation students, but not for later generation students. As seen in Table 11, results of the present study showed that for first generation students (\( n = 164 \)), academic success, as measured by self-reported GPA, was not significantly
correlated with any of the factor based scales of the Differentiation scale. As expected, academic success and family enmeshment, as measured by the factor based scales of the Differentiation scale, were not significantly correlated for later generation students ($n = 367$) (see Table 12). Fischer’s $z$ indicated no significant difference between the two groups on any of the factor based scales ($\text{DIFF1 } z = -0.23, p = \text{ns}$; $\text{DIFF2 } z = 0.33, p = \text{ns}$; $\text{DIFF3 } z = 0.03, p = \text{ns}$).

**Hypothesis 2.** It was hypothesized that academic motivation would be correlated with GPA for both first generation and later generation students. Once again, partial correlations were conducted in order to control for gender and ethnicity. As seen in Table 11, for first generation students, there was no significant correlation between academic motivation and academic success ($r = .15, p = \text{ns}$). However, as seen in Table 12, for later generation students there was a significant positive correlation for academic motivation and academic success ($r = .14, p < .01$). Fischer’s $z$ indicated no significant difference between the two groups ($z = 0.11, p = \text{ns}$).

**Hypothesis 3A: Motivation.** A multiple regression analysis was conducted to determine if generation status, attachment, and family support accounted for a significant portion of the variance in a student’s motivation to pursue higher education (see Table 13). Attachment was measured using the Mother Attachment scale, the Father Attachment scale, and the Peer Attachment scale of the IPPA. Family support was measured using the FRS Support subscale. Gender and ethnicity were controlled for due to significant correlations with scales of the IPPA and the Support scale of the FRS. Results indicate that generation status, attachment, and family support together
did not account for a significant portion of the variance in a student’s desire to pursue higher education \((F = 1.00, p = \text{ns})\).

Table 13

**Summary of Regression Analysis for Variables Predicting Motivation, Model 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>B</th>
<th>SE B</th>
<th>(\beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.09*</td>
<td>-.14</td>
<td>.08</td>
<td>-.08</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>.08*</td>
<td>.15</td>
<td>.08</td>
<td>.09</td>
</tr>
<tr>
<td>Generation Status</td>
<td>.00</td>
<td>.02</td>
<td>.08</td>
<td>.01</td>
</tr>
<tr>
<td>IPPA Mother</td>
<td>-.08</td>
<td>-.01</td>
<td>.00</td>
<td>-.11</td>
</tr>
<tr>
<td>IPPA Father</td>
<td>-.03</td>
<td>-.00</td>
<td>.00</td>
<td>-.03</td>
</tr>
<tr>
<td>IPPA Peer</td>
<td>.02</td>
<td>.00</td>
<td>.00</td>
<td>.04</td>
</tr>
<tr>
<td>FRS Support</td>
<td>-.04</td>
<td>.01</td>
<td>.01</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note. \(R^2 = .01, (p = \text{ns}). F = 1.00, (p = \text{ns})\).*

**Hypothesis 3B: Academic Success**. A second multiple regression was conducted in order to determine if the above mentioned factors accounted for differences in academic success, as measured by GPA (see Table 14). Once again, gender and ethnicity were controlled for in the regression. Results indicated that generation status, mother, father and peer attachment, and family support did not account for a significant part of the variance in GPA \((F = .91, p = \text{ns})\).
Table 14

Summary of Regression Analysis for Variables Predicting Academic Success, Model 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.12**</td>
<td>-.30</td>
<td>.11</td>
<td>-.12</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-.09*</td>
<td>-.17</td>
<td>.10</td>
<td>-.08</td>
</tr>
<tr>
<td>Generation Status</td>
<td>.07</td>
<td>.16</td>
<td>.10</td>
<td>.07</td>
</tr>
<tr>
<td>IPPA Mother</td>
<td>.02</td>
<td>.00</td>
<td>.00</td>
<td>.02</td>
</tr>
<tr>
<td>IPPA Father</td>
<td>-.01</td>
<td>.00</td>
<td>.00</td>
<td>-.01</td>
</tr>
<tr>
<td>IPPA Peer</td>
<td>.06</td>
<td>.01</td>
<td>.00</td>
<td>.07</td>
</tr>
<tr>
<td>FRS Support</td>
<td>.01</td>
<td>-.00</td>
<td>.01</td>
<td>-.02</td>
</tr>
</tbody>
</table>

Note. $R^2 = .01$, ($p = ns$). $F = .91$, ($p = ns$).

Exploratory Data Analysis

Responses to open-ended questions on the college experience questionnaire were analyzed in order to identify response patterns that might be unique to a specific gender or to first generation college students. Questions asked students to identify factors that made school difficult, identify the most stressful experience since beginning college, and to identify additional stressors not previously mentioned. Students were also asked whether the above mentioned stressors affected their desire to continue with school. In addition, students were asked to identify what factors might keep them from achieving their educational goals.

Within each theme were various categories. For example, the academic theme may have included categories such as academic not elsewhere classified (NEC), academic performance, or academic logistics. For each question, a score of 1 was assigned if a participant’s response mentioned any of the categories under a theme. A total score for a theme was obtained by adding the scores across questions. For
example, the total academic stress variable was created by adding the total number of times the academic theme was mentioned across all open-ended questions relevant to the present study. Therefore, a participant could receive a maximum score of 5. Results for the academic theme showed that approximately 65% of participants mentioned academic factors as stressors, and 33% of participants mentioned family factors as stressors at least one time, throughout the five relevant open-ended questions. Table 15 shows the frequency of responses for all themes.

Table 15

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency (N = 575)</th>
<th>M Number of Mentions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>377</td>
<td>.96</td>
<td>65.5</td>
</tr>
<tr>
<td>Family</td>
<td>190</td>
<td>.44</td>
<td>33.0</td>
</tr>
<tr>
<td>Finances</td>
<td>207</td>
<td>.49</td>
<td>36</td>
</tr>
<tr>
<td>Health</td>
<td>99</td>
<td>.23</td>
<td>17.2</td>
</tr>
<tr>
<td>Job</td>
<td>67</td>
<td>.12</td>
<td>11.7</td>
</tr>
<tr>
<td>Personal</td>
<td>380</td>
<td>1.07</td>
<td>66.0</td>
</tr>
<tr>
<td>Relationship</td>
<td>200</td>
<td>.40</td>
<td>34.7</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>514</td>
<td>1.93</td>
<td>89.2</td>
</tr>
</tbody>
</table>

A 2X2 factorial analysis of variance (ANOVA) was conducted to identify the effects of gender and generation status on the number of mentions of family stress, and indicated a significant main effect for gender ($F = 12.37, p < .01$) (see Table 16). The mean for female participants was .50 and the mean for male participants was .29.
Table 16

**Gender x Generation Status Factorial Analysis for Mentions of Family Stress**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Gender</td>
<td>1</td>
<td>6.35</td>
<td>12.37**</td>
</tr>
<tr>
<td>(B) Generation Status</td>
<td>1</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>A x B (interaction)</td>
<td>1</td>
<td>.75</td>
<td>1.46**</td>
</tr>
</tbody>
</table>

**p < 0.01.

Table 17

**Gender x Generation Status Factorial Analysis Means for Mention of Family Stress**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Generation Status</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Generation</td>
<td>.56</td>
<td>.82</td>
<td>124</td>
</tr>
<tr>
<td>Women</td>
<td>Later Generation</td>
<td>.48</td>
<td>.73</td>
<td>275</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.50</td>
<td>.76</td>
<td>399</td>
</tr>
<tr>
<td></td>
<td>First Generation</td>
<td>.23</td>
<td>.54</td>
<td>57</td>
</tr>
<tr>
<td>Men</td>
<td>Later Generation</td>
<td>.32</td>
<td>.65</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.29</td>
<td>.62</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td>First Generation</td>
<td>.45</td>
<td>.76</td>
<td>181</td>
</tr>
<tr>
<td>Total</td>
<td>Later Generation</td>
<td>.43</td>
<td>.71</td>
<td>394</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.44</td>
<td>.72</td>
<td>575</td>
</tr>
</tbody>
</table>

Results of an ANOVA for the mention of financial stressors showed an interaction for gender and generation status ($F = 4.12$, $p < .05$) (see Table 18). Results of ANOVAs conducted to identify the effects of gender and generation status on the mention of academic stressors and peer relationship stressors were not significant.
Table 18

*Gender x Generation Status Factorial Analysis for Mentions of Financial Stress*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Gender</td>
<td>1</td>
<td>1.17</td>
<td>2.02</td>
</tr>
<tr>
<td>(B) Generation Status</td>
<td>1</td>
<td>1.48</td>
<td>2.55</td>
</tr>
<tr>
<td>A x B (interaction)</td>
<td>1</td>
<td>2.39</td>
<td>4.12*</td>
</tr>
</tbody>
</table>

*p < 0.05.

Table 19

*Gender x Generation Status Factorial Analysis Means for Mention of Financial Stress*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Generation Status</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>First Generation</td>
<td>.69</td>
<td>.85</td>
<td>124</td>
</tr>
<tr>
<td>Women</td>
<td>Later Generation</td>
<td>.43</td>
<td>.74</td>
<td>275</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>.51</td>
<td>.79</td>
<td>399</td>
</tr>
<tr>
<td>Men</td>
<td>First Generation</td>
<td>.44</td>
<td>.71</td>
<td>57</td>
</tr>
<tr>
<td>Men</td>
<td>Later Generation</td>
<td>.47</td>
<td>.73</td>
<td>119</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>.46</td>
<td>.73</td>
<td>176</td>
</tr>
<tr>
<td>Total</td>
<td>First Generation</td>
<td>.61</td>
<td>.81</td>
<td>181</td>
</tr>
<tr>
<td>Total</td>
<td>Later Generation</td>
<td>.44</td>
<td>.74</td>
<td>394</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>.49</td>
<td>.77</td>
<td>575</td>
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Discussion

Research shows that college students experience stress from a variety of sources. For example, Ross, Niebling, and Heckert (1999) noted that interpersonal relationships such as conflicts with roommates, significant others, or parents, are a primary source of stress among college students. In the present study, it was theorized
that first generation college students experience stress related to ethnic or cultural
beliefs regarding family and family cohesion, peer relationships, and social support in
addition to the typical academic, financial, and developmental related stress
experienced by later generation students. Constantine, Chen, and Cessay (1997)
showed that family conflicts were the primary concern of ethnic minority college
students seeking counseling. Furthermore, research shows that first generation
students may encounter conflicts with parents who find it difficult to understand how
academics interfere with family responsibilities (Fuligni, Tseng, & Lam, 1999). The goal
of the present study was to identify factors or stressors that may be stronger among first
generation college students and that might influence the individual’s decision to pursue
an education beyond the undergraduate level. Identifying and understanding factors that
are stronger among first generation students is not only important when considering the
pursuit of a higher education, but can also be important in understanding stressors that
may impact the individual at the undergraduate level. Results of the current study
indicated that two aspects of family enmeshment impact academic motivation
differentially among first generation students compared to later generation students.

Hypothesis 1A demonstrated that academic motivation was correlated with the
Emotional Sharing and Familial Differences factor based scale of the FRS
Differentiation scale. Furthermore, Fischer’s z showed a significant difference between
these associations for first generation and later generation students. The results of
Hypothesis 1A showed that for first generation students, but not for later generation
students, two aspects of family enmeshment were positively correlated with academic
motivation. The family differentiation scale on the FRS measures the extent to which
family members encourage individual differences among family members. The Emotional Sharing factor based scale measures the extent to which families feel comfortable sharing their feelings with each other. The Familial Differences factor based scale measures the extent to which family members react differently to situations or hold different family roles. Therefore, when family differentiation is higher and family members are encouraged to be different and to share their feelings academic motivation is also higher, but only for first generation students. Also, increased differentiation may be viewed as a display of family support. The FRS Support scale assesses the amount of concern expressed for family members, and the help or encouragement provided to family members during difficult times. In the current study, the Emotional Sharing and Familial Differences factor based scales were negatively correlated with the FRS Support scale indicating that as enmeshment decreases, feelings of support increase.

This finding is interesting and could have several important implications. For example, first generation students who perceive that their families encourage individuality may find it more acceptable to pursue a higher education than do those whose families do not. This finding supports structural family theory (Minuchin, 1974) which argues that the key to a healthy family is establishing interpersonal boundaries among family members that are neither too rigid nor diffuse. An ideal family situation provides a sense of belongingness for its members as well as encourages differentiation. Previous research noted that family differentiation plays a crucial role in mental well being and adjustment for college students during the first year of college (Holmbeck & Wandrei, 1993).
Findings regarding family enmeshment are especially important when considering ethnic minority students whose culture encourages a life long obligation to family. For example, Cheung, Lee, and Chan (1994) note that Asian Pacific and Latin American cultures expect children to spend a considerable amount of time with family, offering both emotional and financial support. While items on the Emotional Sharing and Familial Differences factor based scale assess the extent to which an individual can be away from home and not think about his or her family as well as the extent to which family members have different expectations for each other, items do not address aspects of financial support. Furthermore, as adults, individuals are expected to care for their parents and to live near or with their parents (Fuligni et al., 1999). Family obligation can ultimately impact a student’s desire to pursue a graduate education. Even more important, family obligation can impact a student’s undergraduate career.

Hypothesis 1B indicated that academic success was not correlated with family enmeshment, as measured by the factor based scales of the FRS Differentiation scale, for either first generation students or later generation students. While family enmeshment was not correlated with academic success, peer relationships may be an important factor to consider when examining influences on academic success. Previous research showed a positive relationship between peer relationships and academic achievement (Cotterell, 1992). Encouragement from peers and others in the academic field may have greater impact on academic success than family enmeshment, though there is no evidence of that in the present study.

It was theorized that a student’s desire to obtain a higher education beyond a 4-year degree would be related to higher grades. Interestingly enough, when controlling
for gender and ethnicity, hypothesis 2 showed a positive correlation between academic motivation and academic success for later generation students, but not for first generation students. It is important to note that the correlation between academic motivation and academic success for first generation students is nearly identical, but not significant due to a smaller sample size when compared to later generation students. It stands to reason that as a students’ desire to pursue a graduate degree increases, so too does their GPA. The finding makes sense especially when considering that a competitive GPA is expected when applying to any graduate program.

The normative struggle for independence may suggest that family support is important, and may influence whether an individual decides to pursue a graduate education. Cutrona, Cole, Colangelo, Assouline, and Russell (1994) showed that a positive and supportive relationship with parents can promote greater academic success and attainment. However, the results of Hypotheses 3 indicated that when controlling for gender and ethnicity, family support, attachment, and generation status did not account for significant differences among participants in academic motivation and academic success. It was theorized that family and peer support would influence a college student’s desire to continue their education beyond a Bachelors degree. Rice, Cole, and Lapsley (1990) suggested that being prepared for the eventual separation that occurs when the student attends college promotes greater adaptation and adjustment to separation from close family members. Both students and parents may be anticipating and preparing for the separation, which results in better adjustment; however, this apparently is unrelated to academic motivation and success. In addition, the results of Hypothesis 3 may be a reflection of the current sample, which were
predominantly upper classmen. Juniors and seniors may have already adapted to college life and become more independent.

Exploratory analyses suggested that gender and generation status significantly impacted the number of times family and finances were mentioned as stressors. Within the present study, participants’ ages ranged between 18 and 23 years old. When considering development, it is typically between the ages of 18 and 25 years of age that an individual struggles to gain independence as shown in the present study by both relational and financial stress, especially for women and discover their identity.

In the present study gender impacted the number of times the participant mentioned family stressors, which supports previous research. Results indicated that female undergraduate students mentioned family stressors more often than men did. Kenny and Donaldson (1991) noted that college women describe themselves as being more attached to their parents than college men do, which may account for the difference in mention of family stressors. Traditionally, social roles for women are centered on family, which could also account for the increased number of mentions of family stressors. For example, in many cultures women are responsible for completing household tasks, including cooking and cleaning, as well as caring for younger children in the family.

Gender and generation status interacted with each other and impacted the number of times finances was mentioned as a stressor. An individual must consider several things when deciding whether to pursue a graduate education. Whether an individual can attend school and make enough money to sustain a living is a very important factor to consider. Financial issues are particularly important for first
generation women whose families may not have enough money to offer financial support to the student. As previously noted, first generation women may have more responsibilities in the household, which can create questions of balancing family or household responsibilities, school, and a job to assist with finances. These issues may be less well understood by their families, raising both relational and financial stressors. Additional responsibilities and demands on time may limit the type of job women are able obtain, which can significantly impact finances.

A strength and a limitation of the present study was the fact that the study was online. The fact that the study was online allowed for the opportunity to obtain a large sample. However, many of the participants skipped over a number of questions resulting in missing data. Regarding the open-ended questionnaire, conducting the study online and having some anonymity allowed for participants to be more open and honest on some of the questions. The openness was demonstrated by some of the very personal responses researchers encountered. On the other hand, anonymity also resulted in some participants responding to questions inappropriately. For example, a participant’s response to a question may not have fully addressed the question being asked. In addition, some responses were irrelevant or bizarre, which resulted in the response being placed in the “Miscellaneous” category.

Another limitation of the study was the validity of the Family Relations Scale. Due to the extremely low Cronbach’s alpha in the present study, three factor based scales were created for the Differentiation scale in order for the scale to be utilized in the analyses. However, the differentiation scale was not the only scale that exhibited an
unacceptable alpha. The Boundary Maintenance scale and the Family Hierarchy scales were also low. Perhaps the measure was not appropriate for the population being used.

Future research may include comparing levels of stress, anxiety, and depression experienced by first generation and later generation students. It may also be interesting to evaluate whether anxiety or depression significantly impacts a student’s desire to pursue a higher education. The present study identified factors that impacted a student’s desire to pursue a higher education; however, it is equally important to identify how stressors, social support, and interpersonal relationships impact college student’s mental health and well being due to the impact that mental health can have on an individual’s functioning.

Also, when identifying the differences in the difficulties that first generation students and later generation students encounter it is only logical to also identify differences, if any, in the impact of social support and cultural identification when dealing with stress. For example, while closely monitoring the experience of two first generation Chicano college students in a predominantly European American university, Gonzalez (2001) found that adaptation to college was difficult for the individuals until they found means of social support and cultural identification. Within the social world, the students experienced alienation due to a lack of Chicano representation among the students, staff and faculty, the lack of political power of the Chicano group, and the lack of Spanish spoken on campus. Being ignored was a common experience. In order to combat these feelings of alienation, these students, who held work-study positions, attempted to employ other Chicano students in their workplace until a comfort level was
reached and it was not uncommon to walk into their place of employment and hear Spanish music or Spanish being spoken.

The students also experienced some form of alienation through the physical aspect of the campus, where there was little or no Chicano art or physical references. The students transformed the physical world by creating a mural on the wall of a student lounge that was a representation of the Chicano culture. Finally, the students attempted to educate other students on the history of Chicanos. According to Gonzalez (2001), these two students took action to transform the aspects of their world or college experience that were not satisfactory. This social and cultural accommodation created a better environment and provided better means of adaptation. While the students in the above mentioned study were able to create the resources necessary to cope, what happens to individuals when they are limited in the amount of resources available? What happens when students cannot create an environment that promotes college adaptation and achievement?

Regarding gender and family stress, women may tend to rely more on relationships with others as a means of coping. Therefore, problems in interpersonal relationships could significantly impact women’s ability to cope with other stressors. Furthermore, women may tend to become more emotionally attached to others, which can also impact the amount of stress experienced and their ability to cope with the stress. Experiencing a greater emotional connection may also create a greater sense of obligation to family for women when compared to men.

In addition, although ethnicity information was obtained, it was used only as a control variable in the present study. Future research may focus on the impact of
ethnicity and first generation status on academic motivation and success. Ethnic minority status appears to be a risk factor in the area of academic achievement. For example, the Chronicle of Higher Education Almanac (2007) noted that 57% of Hispanic students enrolled in a 4-year university did not graduate within six years. As previously noted, for ethnic minority students, the ability to identify with the university culturally is also an important factor to college adaptation. Factors related to “fitting in” could significantly impact academic motivation and success for ethnic minority students.
APPENDIX A

DEMOGRAPHIC INFORMATION
Please answer all of the following questions and place a check mark by those answers that require one.

1. Age: __________

2. Gender: _____Male _____Female

3. How do you identify yourself ethnically? Please list all, if more than one.

4. Classification: ___Freshman (at least 1st semester of college experience)
   ___Sophomore ___Junior ___Senior

5. What is your major field of study?

6. What is your current GPA (1st semester freshman may give their high school GPA)?

7. What is your marital status?
   ___Single (never married)
   ___In a committed relationship
   ___Married
   ___Separated
   ___Divorced
   ___Widowed

8. What is your race/ethnicity? (check all that apply)
   ___African American
   ___Asian/Pacific Islander
   ___European American/Anglo/White
   ___Hispanic; Latino/Latina
   ___South or Central American
   ___Middle Eastern
   ___Native American/Alaskan Native
   ___Other (Please specify): __________
The following questions are about your family. If you were not raised by your biological parents, answer the questions about your guardians.

9. Are your parents currently married?  
   ___Yes  
   ___No  
   ___Yes, but separated  
   ___Parents were never married  
   ___One or both deceased

10. If they are divorced, how old were you when they divorced? Who did you live with?

11. Are you currently living with at least one parent?  
    ___Yes  
    ___No

12. What is your father’s level of education:  
   ___Elementary School  
   ___Junior High School  
   ___High School  
   ___Technical School  
   ___Some College  
   ___College Degree  
   ___Graduate School  
   ___Do Not Know  
   ___Does Not Apply

13. What is your father’s occupation:

14. Does he supervise other employees?  
   ___Yes  
   ___No

15. What is your mother’s level of education:  
   ___Elementary School  
   ___Junior High School  
   ___High School  
   ___Technical School  
   ___Some College  
   ___College Degree  
   ___Graduate School  
   ___Do Not Know  
   ___Does Not Apply

16. What is your mother’s occupation:

17. Does she supervise other employees?  
   ___Yes  
   ___No
18. What is your paternal grandfather’s (your father’s father) level of education?

___ Elementary School    ___ College Degree
___ Junior High School    ___ Graduate School
___ High School          ___ Do Not Know
___ Technical School     ___ Does Not Apply
___ Some College

19. What is your paternal grandmother’s (your father’s mother) level of education?

___ Elementary School    ___ College Degree
___ Junior High School    ___ Graduate School
___ High School          ___ Do Not Know
___ Technical School     ___ Does Not Apply
___ Some College

20. What is your maternal grandmother’s (your mother’s mother) level of education?

___ Elementary School    ___ College Degree
___ Junior High School    ___ Graduate School
___ High School          ___ Do Not Know
___ Technical School     ___ Does Not Apply
___ Some College

21. What is your maternal grandfather’s (your mother’s father) level of education?

___ Elementary School    ___ College Degree
___ Junior High School    ___ Graduate School
___ High School          ___ Do Not Know
___ Technical School     ___ Does Not Apply
___ Some College

22. What is your parents’ combined income?

___ Below $20,000    ___ $65,001 to $80,000
___ $20,001 to $35,000 ___ $80,001 to $95,000
23. What is your own annual income, if separate from your family income?

___ $35,001 to $50,000     ___ $95,001 +
___ $50,001 to $65,000     ___ Do Not Know

___ Below $20,000     ___ $65,001 to $80,000
___ $20,001 to $35,000     ___ $80,001 to $95,000
___ $35,001 to $50,000     ___ $95,001 +
___ $50,001 to $65,000

24. Are you planning additional education after college?

___ No
___ Haven't thought about it
___ Maybe, undecided
___ Definitely considering it
___ Yes

25. If you are not planning additional education after college, Why not?

26. If you are planning additional education after college, What kind?

___ certification, paraprofessional license
___ Masters degree
___ MD, DDS, DVM
___ JD
___ EdD
___ PhD
___ Other ___________________
APPENDIX B

THE COLLEGE EXPERIENCE
1. What labels have you heard used to refer to your racial/ethnic group?

2. Which labels do you like the most?

3. Which labels do you like the least?

4. What does it mean to you to be part of your ethnic or racial group?

5. What, if anything, do you feel has made things in school harder for you or held you back?
6. What has been one of your most stressful experiences since you started college? Please describe what made it stressful for you.

7. Other than the stressful experience described above, are there any other stressors that are hard for you to deal with?

8. Is there anything in particular that you’ve struggled with about yourself? Please describe.

9. Do the above mentioned stressors sometimes affect your desire to continue with school? Please describe.
10. What do you do to help cope with stress?

11. Which of the above mentioned coping strategies helps the most?

12. Do you live at home with your family (parents and/or siblings or other relatives)?
   _____ Yes        _____ No

13. If you are currently living at home, what’s it like for you to be in school and living at home? Please describe one good thing and one problem.

14. If you are not currently living at home, what’s it like for you to go home and visit your family? Please describe one good thing and one problem.
15. How did your family react to your decision to go to college? Mostly good, mostly bad, mixed? Please describe.

16. Did your family in any way help you with the college application process? If so, how?

17. How well does your family understand the changes in you since you started college? **Mark one.**

<table>
<thead>
<tr>
<th>Completely understanding</th>
<th>Somewhat understanding</th>
<th>Somewhat does not understand</th>
<th>Completely does not understand</th>
</tr>
</thead>
</table>

18. How well does your family accept the changes in you since you started college?

<table>
<thead>
<tr>
<th>Completely accepting</th>
<th>Somewhat accepting</th>
<th>Somewhat does not accept</th>
<th>Completely does not accept</th>
</tr>
</thead>
</table>

19. What do you find satisfying about the kind of support you receive from your family?
20. What do you find unsatisfying about the kind of support you receive from your family?

21. If you received low grades this semester, would you feel comfortable sharing this information with your family?
   Yes ___ No ___ Yes, for some family members only ___
   Why?

22. If you received high grades, how do you think your family would react to your success in school? How would they feel? What would they say?

23. Are most of your friends in college? Yes ___ No ___
   If no, then what is their major activity?

24. Do you still keep in touch with your old friends? Please tell how many friends you keep in touch with and what kind of friend they are (e.g. childhood, neighborhood, high school).
25. If you do not live at home, what’s it like for you to go home and visit your friends? Please describe one good thing and one problem.

26. How did your friends react to your decision to go to college? Mostly good, mostly bad, mixed? Please give an example.

27. Did your friends in any way help you with the college application process? If yes, how?

28. How well do your friends understand the changes in you since you started college? Mark one.

   Completely understanding  Somewhat understanding  Somewhat does not understand  Completely does not understand

29. How well do your friends accept the changes in you since you started college? Mark one.

   Completely accepting  Somewhat accepting  Somewhat does not accept  Completely does not accept

30. What do you find satisfying about the kind of support you receive from your friends?
31. What do you find unsatisfying about the kind of support you receive from your friends?

32. If you received low grades this semester, would you feel comfortable sharing this information with your friends?
   Yes ___  No ___  Yes, for some friends ___
   Why?

33. If you received high grades, how do you think your friends would react to your success in school? How would they feel? What would they say?

34. What are your educational goals?

35. What are your career goals?

36. When things in your life are going well, how often do you think about quitting school? Please mark one.

   Very Often  Often  Sometimes  Not very often  Never
37. When you are experiencing a lot of problems and under a lot of stress, how often do you think about quitting school? **Please mark one.**

Very Often     Often     Sometimes     Not very often     Never

38. Is there anything that might keep you from achieving your educational goals? If yes, please describe.

39. Is there anything that might keep you from achieving your career goals? If yes, please describe.

40. What are your greatest personal strengths?
REFERENCE LIST


