

THE RELATIONSHIP AMONG LIFE SATISFACTION, ACADEMIC STRESS, LOCUS OF  
CONTROL, AND ACHIEVEMENT MOTIVATION: A COMPARISON OF DOMESTIC AND  
INTERNATIONAL STUDENTS

A Dissertation

by

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This dissertation meets the standards for scope and quality of  
Texas A&M University-Corpus Christi and is hereby approved.

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## ABSTRACT

International students are one of the fastest growing higher education populations in the U.S. Adapting to new environments and cultures is stressful and may affect a student's life satisfaction and motivation. Knowing how international and domestic students correspond or differentiate in terms of satisfaction of life, academic stress, locus of control, and achievement motivation is important for university administrators and student support personnel. The purpose of this study was to compare locus of control, academic stress, life satisfaction, and achievement motivation across international and domestic college students in the U.S.

Participants in this study were 307 international (n=66) and domestic (n=241) undergraduate students. The data were collected during the fall 2015 semester at a Hispanic Serving Institution in South Texas utilizing the Smith Achievement Motivation Scale (Smith, Balkin, Karaman, & Arora, 2016), the Internal-External Scale (Rotter, 1966), the Student-life Stress Inventory-Revised (Gadzella & Masten, 2005), and the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Descriptive statistics and MANOVA were used to analyze the variables in this study. A hierarchical multiple regression was employed to determine the extent locus of control, academic stress, and life satisfaction predicted achievement motivation. In addition, Fisher's z transformation was used to evaluate whether two regression models were significantly different.

The results indicated a statistically significant difference between domestic and international students as related to achievement motivation. Further analysis revealed significant relationships among predictor and criterion variables. Locus of control, academic stress, and life satisfaction significantly explained 18% of the variance in achievement motivation. However,

comparison of the fit of the model from domestic and international students revealed no statistically significant differences between the groups.

The study has practical implications for college administrators, educators, and college counselors. The results of the study can help college administrators further understand the unique needs of international students, thereby assisting in their adjustment to new environments and educational systems. In addition, perhaps educators can use the results of this study to modify curricular experiences and syllabi to further meet the needs of international students. Also, findings of this study might encourage college counselors to design and implement achievement focused training programs for domestic and international college students to increase their academic success and retention.

## DEDICATION

To Allah/God who granted many blessings and got me through this great experience. He responded to my prayers, gave me peace in difficult times, and provided me many new opportunities. To my wonderful, loving wife who always supported me. You believed in me, and we started and shared this journey together. I will always love you. To Turkish Republic citizens who supported the education of thousands of students like me with their taxes. I am forever grateful.

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“Maybe you are searching among the branches, for what only appears in the roots”

Mevlana

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## **CHAPTER I: INTRODUCTION**

Each year, millions of students enroll in colleges and universities with the goal of obtaining degrees that hopefully will lead to the acquisition of desirable careers and satisfied lives. Today's students are more mobile and, therefore, apply to programs in different regions, states, countries, and continents to complete their education. The world has become a more globalized environment as a result of cutting-edge technology, mass media, social movements, economic trade, and faster transportation vehicles. These innovations have had a profound effect on the internationalization of education, making it easier for students to apply to different universities and move across states and countries for their education, thus establishing a new life for themselves during and after their educational careers. Consequently, this process has resulted in the highest number of students –almost 4.5 million- enrolled in postsecondary institutions outside their country of citizenship worldwide (Organization for Economic Co-operation and Development [OECD], 2013).

International students in higher education are one of the fastest growing populations in the United States. According to the Institute of International Education's (IIE) annual report (2015), 974,926 international students enrolled in universities and colleges during the 2014-2015 academic year. Their enrollment in higher education programs in the U.S. has risen 54% since the 2004-2005 academic year. Today, international students constitute a significant proportion of students at all levels of post-secondary education. For example, they represent 42% of students seeking undergraduate degrees, 37% of students seeking graduate degrees, and 21% of all non-degree seeking students. Although students from all over the globe study in the U.S., the majority of international students are from China, India, and South Korea. These three countries constitute 51% of the total U. S. international student enrollment.

The number of post-secondary students willing to study abroad increases yearly for a variety of reasons. In a recent survey conducted by the British Council on student decision making, career improvement was shown to be the primary motivation behind international students' desire to study in the U.S. (Morgan, 2010). In this same study, higher quality of education (54.2%), career improvement (53.8%), and the chance to live overseas (51.5%) were the three factors identified as most influencing students' initial decisions to study abroad. In this respect, motivating and assuring students with greater achievement, and life and career satisfaction might influence their decisions and increase the number of students looking for opportunities to continue their education in the U.S.

The majority of research involving international students focuses on challenges adapting to new living environments, acculturation, and academic stress (Chavajay & Skowronek, 2008; Desa, Yusooff, & Abd Kadir, 2012; Fritz, Chin, & DeMarinis, 2008; Glass, 2014; Kashima & Loh, 2006; Misra & Castillo, 2004; Misra, Crist, & Buran, 2003; Smith & Khawaja, 2011; Tung, 2011; Zhang & Goodson, 2011). Given the expansiveness of this body of research, relatively few studies conducted on achievement motivation with international students were found (Epstein, 1996; Li, Lan, & Yu, 2015). One of the reasons for the dearth of studies in this area may be the lack of validated achievement motivation instruments. Since counselors are prohibited by licensing laws to use projective instruments, most of the studies conducted utilized poorly developed instruments (Smith, 2015). Moreover, the clarity of instruments not written in the international students' native language remains problematic.

Achievement motivation was theorized by McClelland (1961) as identifying three distinct needs: (1) a need for achievement, (2) a need for affiliation, and (3) a need for power. These distinct needs are learned, acquired over time, and shaped by one's own life experiences.

Educational researchers have demonstrated achievement motivation to be a strong predictor of success, perceived accomplishment, and academic ability (Edwards & Waters, 1981; Liao, Ferdenzi, & Edlin, 2012; Neumann, Finaly, & Reichel, 1988; Story, Hart, Stasson, & Mahoney, 2009). In addition, researchers have found achievement motivation to be significantly correlated with occupational choice, subjective well-being, college satisfaction, neuroticism, life goals, locus of control, and learning strategies (Ahmad & Rana, 2012; Bakhtiarvand, Ahmadian, Delrooz, & Farahani, 2011; Rosa & Bernardo, 2013; Donohue & Wong, 1997; Guns, Richardson, & Watt, 2012; Janman, 1987; Li et al., 2015; Strain, 1993). In this respect, knowing the predictors and factors of achievement motivation holds value since achievement motivation is directly related to student retention and success (Martinez, 2001).

There are different factors affecting both international and domestic college students' achievement, academic stress, and life satisfaction. For example, Chen (1999) stated that international college students studying in North America endure substantial psychological stress in their daily lives. He described academic stress as one of the common stressors experienced among international students. There are many factors associated with academic stress in this population such as a different education system, limited language proficiency, an unfamiliar culture, test-taking anxiety, academic skills, and performance expectations (Abel, 2002; Chen, 1999; Kosheleva, Amarmor, & Chernobilsky, 2015; Misra & Castillo, 2004). In a comparative study with American and Chinese college students, Mortenson (2006) indicated a correlation between academic stress and self-coping. The author stated Chinese students were less inclined than American students to engage in seeking emotional support and more inclined to engage in avoidance. In another study, Elias, Ping, and Abdullah (2011) found a relationship between college students' stress level and their academic achievement. While these studies provide a



foundation, additional achievement motivation related studies are needed since motivation is a critical factor in determining many mental and behavioral issues (Smith, 2015).

External and internal factors are significant predictors of achievement motivation and stress (Carvalho, Gadzella, Henley, & Ball, 2009; Strain, 1993). The term locus of control was used by researchers to identify these external and internal factors. In this respect, Rotter's (1966) study conceptualized locus of control in an internal and external direction. Internal locus of control identifies the belief that one has control over the events of his/her life. External locus of control refers to the belief that control of one's life is the outcome of events (Rotter, 1966; Dave, Tripathi, Singh, & Udainiya, 2011).

International students come from different backgrounds, cultures, and countries (IIE, 2015). The literature indicates that locus of control, academic stress, life satisfaction, and achievement motivation differ based upon one's culture (Adsul & Kamble, 2008; Dresel & Grassinger, 2013; Guns et al., 2012; Maehr, 2008; Sam, 2000; Smith, Trompenaars, & Dugan, 1995; Trumbull & Rothstein-Fisch, 2011). This study examined the relationship among locus of control, academic stress, life satisfaction, and achievement motivation of international and domestic students. Additionally, this study attempted to understand how international and domestic college students gain satisfaction with life, process academic stress, use external and internal factors, and motivate themselves to achieve.

### **Statement of the Problem**

Statistics show that international students continue to represent a growing portion of the student population in higher education institutions in the U.S. (IIE, 2015). Moving to another country is more than studying for international students. Adapting to a new environment and culture is stressful and, therefore, can affect student's life satisfaction and motivation. In this

respect, the majority of literature focusing on the acculturation process (Chavajay & Skowronek, 2008; Desa et al., 2012; Fritz et al., 2008; Smith & Khawaja, 2011) neglects how these students motivate themselves to achieve and how their satisfaction of life, academic stress, and sense of control of their environment affects their level of achievement motivation.

Although most higher education institutions have international student offices or departments, they do not offer enough extracurricular activities and programs to help international students adapt to their new environment and educational system (Abel, 2002; Misra et al., 2003). A recent report (Study Portals, 2013) with approximately 17,000 international students showed that a lack of university services accounted for 29% and academics 24% of the dissatisfaction expressed by international students. Specifically, students listed excessive bureaucratic procedures, not receiving help with finding accommodations, and poor quality of teaching as specific reasons for their dissatisfaction.

Furthermore, there is a dearth of research which can be used by university services, departments, and faculty examining the relationship among life satisfaction, academic stress, locus of control, and achievement motivation between international and domestic students. The focus on achievement motivation and its predictors may result in an understanding of personality differences and strength-based factors between international and domestic students. This study represents an attempt to identify the need for more university services and curricular modifications including course delivery.

### **Purpose of the Study**

Reports (IIE, 2015; Study Portals, 2013) demonstrate the number of students wanting to study abroad is increasing, and countries (Canada, UK, New Zealand, US) now are in competition with each other to attract these students because of their positive contributions to

higher education, university culture, and economy. The literature indicates a need for research providing information on international students' achievement motivation levels and its predictors (Liao et al., 2012). Understanding how international and domestic students correspond or differentiate in terms of satisfaction of life, academic stress, locus of control, and achievement motivation is important for college and university administrators and student support personnel. Moreover, university services (e.g. admission procedures, counseling services, and student accommodations) and academics (e.g. quality of education, university ranking, and variety of curricula offered) have been the top two factors negatively affecting the satisfaction of students. Perhaps more coherent education programs and university services can be developed to increase student achievement, well-being, and retention of international students. The purpose of this study was to compare locus of control, academic stress, life satisfaction, and achievement motivation across international and domestic college students in the U.S. Specifically, this study aimed to examine the degree to which locus of control, academic stress, and life satisfaction predicts achievement motivation and how this hypothesized prediction model varies for international and domestic college students.

### **Research Questions**

This study examined the factors of life satisfaction, academic stress, locus of control, and achievement motivation among samples of domestic and international college students. The specific research questions addressed included:

1. Are there differences between domestic and international college students' levels of life satisfaction, academic stress, locus of control, and achievement motivation?
2. Do life satisfaction, academic stress, and locus of control predict a significant percentage of the variance in achievement motivation among college students?

3. Is there a difference in model fit between domestic and international college students for the predictive model regressing life satisfaction, academic stress, and locus of control on achievement motivation?

### **Significance of the Study**

International students are a growing U.S. student body in higher education. These students add more diversity and multiculturalism to the university culture. When they come to the U.S., international students leave behind their families and friends. However, they bring their cultures, values, morals, and lifestyles. They try to interact with people to learn the ways of life in the host culture, improve their language skills, and make social networks. International students acculturate at different levels during this process. This is an exchange and cultural process for universities, international students, domestic students, and host cultures. International students not only bring their values, culture, or morals, but they also bring the educational mentality, perspective, and discipline of their countries.

Much of the research on achievement motivation among college students has focused on domestic students (Donohue & Wong, 1997; Herrero, 2014; Gu, Solmon, Zhang, & Xiang, 2011; Neumann et al., 1988). This finding is not surprising since international students constitute only 4.2% of the total U.S. higher education population. Although the U.S. is the leading country hosting 17% of the world's total international student population, the percentage of international students who chose the U.S. decreased from 26% to 17% in the last 10 years (IIE, 2015; OECD, 2013). Research has indicated university services and academics as being two important factors affecting international students' satisfaction (Study Portals, 2013). However, this current situation is related not only to services and academics, but also to successful academic and social experiences that meet students' goals and motivation. An international student studying in the

U.S. said, “American degree or verification is not a ticket to get a good job back home” (Stahl, 2011). The student stated that “a U.S. education may be most appropriate for people wanting to pursue careers that are likely to be highly international” (Stahl, 2011). She listed business, consulting, and information technologies as examples. On the other hand, the cost of living, tuition, and fees might be other factors negatively affecting students’ decisions to choose the U.S. as their destination. Although financial aid and scholarships are available, studying in the U.S. might be expensive (Stahl, 2011).

International students not only impact the educational system and culture, they also impact the economy. For instance, the IIE (2015) data showed that international students contributed over 30 billion dollars to the U.S. economy in the 2014-2015 academic year. Consequently, recruiting international students to study in the U.S. is vitally important. However, it is more significant to know how to serve them, retain them, and help them graduate (Korobova & Starobin, 2015).

The positive effects of international students on higher education, host cultures, and economy are evident. However, there have been no studies to date investigating the relationships among academic stress, life satisfaction, locus of control, and achievement motivation. Furthermore, how these relationships may differ for international and domestic students has not been examined. Completion of such a study can be helpful to universities looking to increase the success of their international students and identify factors that affect the international student’s well-being. In addition, this study may contribute to the literature on achievement motivation, locus of control, life satisfaction, and academic stress among international students; providing information for developing culturally sensitive curriculum for international college students. Furthermore, despite the growing enrollment, international students visited university counseling

services 70% less than domestic students (Nilsson, Berkel, Flores, & Lukas, 2004). The results of the study may further support and encourage international students to seek professional help including counseling services and provide college counselors an opportunity to offer enhanced services to international students (Hwang, Bennett, & Beauchemin, 2014). Significant findings perhaps will promote student, faculty, and administrative awareness of achievement motivation informing researchers to what extent locus of control, academic stress, and life satisfaction predicts achievement motivation.

## **Methodology**

### **Population and Sample**

In fall 2014, 17.5 million students enrolled in undergraduate programs at degree-granting postsecondary institutions in the U.S. The number of international undergraduate students in this population was 370,000 (National Center for Education Statistics, 2015). For the purpose of this study, the population consisted of domestic and international college students currently enrolled in a regional public four-year university in South Texas. Specifically, only international students who had student visas (i.e. F1) or defined themselves as international students were recruited to participate in the study. The minimum age for participants was 18, and participation was voluntary. Sample size for this study was 307. Two hundred forty-one participants (78.5%) were domestic and 66 (21.5%) were international students. Based on the a priori power analysis, this study had adequate sample size for sufficient power.

### **Data Collection**

The university Institutional Review Board (IRB) approved this study and data were collected during the fall 2015 semester with the goal of recruiting a diverse range of participants. Thus, participants were recruited from different colleges and class levels (e.g. freshman,

sophomore, junior, senior). The researcher contacted instructors from different colleges and departments and was granted permission to visit their classes and distribute demographic forms, information sheets, and instruments.

Prior to taking the survey, participants were asked to read an information sheet. The researcher informed potential participants that the survey would take between 20 and 30 minutes and participation was voluntary and anonymous. The researcher offered 20 prizes of \$10 Subway gift cards as a monetary incentive. Participants had a chance to enter the lottery when they finished and returned the survey materials. A separate sheet was provided for participants to list their email addresses. Any information related to survey responses was not tied to participants' email addresses.

### **Data Analysis**

Data was analyzed using Statistical Package for the Social Sciences (SPSS) 21.0 software (IBM Corp., 2012). Prior to the data analysis, the data were screened for entry errors and missing data. Descriptive statistics, multiple regression models, Fisher's  $z$  transformation, and multivariate analysis of variance (MANOVA) were conducted to answer the research questions. Descriptive statistics were used to summarize and organize the data such as means, standard deviations, and range scores. In addition, model assumptions for each analysis were reported. The following methods of analysis were used to answer each of the research questions (Table 1).

Table 1

*Research Questions and Analytical Procedures*

Research Questions	Analytical Procedure(s)
1. Are there differences between domestic and international college students' levels of life satisfaction, academic stress, locus of control, and achievement motivation?	Descriptive statistics (e.g. mean, SD, percentages) and MANOVA.
2. Do life satisfaction, academic stress, and locus of control predict a significant percentage of the variance in achievement motivation among college students?	Hierarchical multiple regression
3. Is there a difference in model fit between domestic and international college students for the predictive model regressing life satisfaction, academic stress, and locus of control on achievement motivation?	Multiple regression equation and Fisher's $z$ transformation

**Instrumentation**

The instruments for this study consisted of four measures and a demographic questionnaire. The instruments measuring the study variables were: Smith Achievement Motivation Scale (SAMS; Smith, Balkin, Karaman, & Arora, 2016), Rotter Internal-External Locus of Control Scale (I-E Scale; Rotter, 1966), the Student Life Stress Inventory-Revised (SSI-R; Gadzella & Masten, 2005), and the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985).

**Demographic questionnaire.** A demographic form was designed to collect data related to participant's age, gender, relationship status, current GPA score, academic standing (e.g., Freshmen), parents' education level, and identified academic major. Additional questions were asked individually to domestic and international students. International students also were asked



about their country of origin, scores of English proficiency tests (e.g. IELTS, TOEFL), and years of residency in the United States. Domestic students were asked to self-report their ethnicity.

**Smith Achievement Motivation Scale.** The SAMS (Smith et al., 2016) was developed to assess achievement behaviors and thoughts in the context of McClelland's (1961) high achieving individual. The SAMS was designed for persons 17 years of age and older. The instrument is a self-report measure estimating level of achievement motivation in 14 items across two factors. The SAMS uses a 5-point Likert-type response format with values ranging from 0 (*never*) to 4 (*always*). The minimum scores that one can obtain is 0 and the maximum score is 56 (Smith et al., 2016). The 14-item scale includes items such as "I feel that my present work is meaningful" and "I try and follow the rule: Business before pleasure." Smith et al. (2016) reported moderate Cronbach's alpha coefficients of .76 for the achievement thoughts subscale and .65 for the achievement behaviors subscales. The overall alpha coefficient for the SAMS was .82.

**Rotter Internal-External Locus of Control Scale.** The I-E scale (Rotter, 1966) was developed to measure behaviors from life areas such as love, dominance, and social-political events (Lange & Tiggenmann, 1981). The I-E scale was designed for people 18 years and older. The instrument is a forced-choice 29-item questionnaire including six filler items. Participants are asked to select one statement from a pair of statements they believe to be true in their lives. Each item on the scale consists of two statements representing internal and external locus of control. Twenty-three items are scored giving one point for each external response. Scores ranges between zero and 23. A score ranging from zero to 12 represents an internal individual and a score ranging from 13 to 23 represents an external individual. The filler items, which are not scored, are 1, 8, 14, 19, 24, and 27. The I-E scale includes items such as "a) many of the

unhappy things in people's lives are partly due to bad luck,” or “b) people's misfortunes result from the mistakes they make.” In this example “a” represents an external response and “b” an internal response. Rotter (1966) reported test-retest reliabilities for several samples varying between .49 and .83 over one to two months.

**The Student Life Stress Inventory-Revised.** The SSI-R (Gadzella & Masten, 2005) was developed to measure academic stress. The first version of SSI was developed by Gadzella (1991) and consisted of 51 items organized into nine categories (stressors) and two sections (reactions to stressors). Subsequent revisions to the instrument by Gadzella and Masten (2005) led to a new instrument with improved psychometric properties. The revised inventory is a self-report measure that estimates academic stress of college level students with 53 items organized into nine factors. The SSI-R uses a 5-point Likert-type response format with values ranging from 1 (*never*) to 5 (*most of the time*). Total scores range between 53 and 265, with higher scores referencing high level of academic stress and lower scores referencing lower levels of academic stress. The SSI-R includes items such as “I have experienced frustrations due to delays in reaching my goal” and “I have experienced both positive and negative alternatives.”

The reliability and validity of scores on the SSI-R were evaluated with a sample of 336 college students. The reliability of the instrument was assessed by Cronbach’s alpha coefficients. The total reliability of the instrument was .92. The correlations (test-retest) between each category ranged from .46 to .76. The reliability of subscales ranged from .61 on the self-imposed subscale to .86 on the changes subscale.

**The Satisfaction with Life Scale.** The SWLS (Diener et al., 1985) was developed to assess how satisfied an individual is with his/her life in terms of well-being and can be used across multiple age groups. The scale is a self-report questionnaire that estimates perceived level

of life satisfaction within five items using a 7-point Likert-type response format with values ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Results of the five items are summed to produce an overall score with high scores indicating high satisfaction with life and low scores indicating low satisfaction with life. The 5-item scale includes items such as “In most ways my life is close to my ideal” and “I am satisfied with life.” The SWLS has been translated into 32 different languages and is well-suited for use with individuals from different cultural backgrounds (SWLS, 2014). The internal consistency for this scale was found to be .84 (Diener et al., 1985).

### **Basic Assumptions**

The author of the study has made basic assumptions about the participants and the instruments employed. The first basic assumption was participants would answer questions honestly. The second assumption was the instruments utilized in the study would measure the constructs for which they are designed. Lastly, the assumption was made that international students may have a different collegiate experience than domestic students and thus be in need of alternate services from college counselors and student services personnel.

### **Limitations of the Study**

A number of limitations arose as a result of this study design. First, the results of this study can be generalized only to international and domestic undergraduate students. Graduate students were not included in the sample. Additionally, the study only focused on college students enrolled at U.S. universities. Therefore, results cannot be generalized to international and domestic students studying in other countries because the educational systems, culture, and experiences of students in different countries will vary. Second, the study utilized self-report measurements, and therefore, has limitations consistent with any self-report instruments,

including the possibility of individuals' biased responses increasing error in reliability and validity. Last, the study included three predictive variables that might predict achievement motivation: life satisfaction, academic stress, and locus of control. However, these are not the only valid variables that might predict the achievement motivation of undergraduate students. For the purpose of this study, other variables are not included, but future researchers might consider including different variables to predict achievement motivation among college students.

### **Definition of Terms**

*Achievement Motivation:* a personality disposition which compels individuals to fulfill their own internalized standards of excellence (Lew, Allen, Papouchis, & Ritzler, 1998, p. 98).

*Academic Stress:* academic, financial, time, or health related and self-imposed stressors affecting a student's life and study functioning for a short or long period of time (Gadzella & Masten, 2005).

*College Counselor:* the licensed helping professionals who work with students enrolled in colleges and universities, focusing on the needs and development issues of traditional and nontraditional college students (Gladding, 2011).

*College Student:* a student enrolled in a college or university either full or part time.

*Domestic Students:* students who are citizens or lawful permanent residents of the United States, or have been granted Asylee, Refugee or Paroled in the Public Interest status by the United States government (The Graduate College, 2015).

*International Students:* students enrolled at institutions of higher education in the U.S. who are not citizens of the U.S., immigrants or refugees. These may include holders of F (student) visas, H (temporary worker/trainee) visas, J (temporary educational exchange-visitor) visas and M (vocational training) visas (World Education Services, 2007, p. 7).

*Life Satisfaction:* a person's cognitive and judgmental process which includes his or her evaluations and feelings about life and future (Diener et al., 1985).

*Locus of Control:* A personality construct designating an individual's perception of responsibility and accountability as internal, which is originating from self, or external, that is, originating from outside of self, with responsibility attributed to some other individual or force (Stuart, 2000, p. 15).

*Post-secondary Institution:* An institution which has as its sole purpose or one of its primary missions, the provision of postsecondary education (U.S. Department of Education, 2016).

### **Organization of Remaining Chapters**

This study is composed of five chapters. Chapter two contains a literature review of the variables included in this study: life satisfaction, academic stress, locus of control, and achievement motivation. Chapter three includes a description of the methodology used in this study, with specific attention paid to participants, instrumentation, procedures, and statistical analysis. Chapter four describes the results of the statistical analyses conducted on the data collected. The final chapter, Chapter five, provides a discussion of the results, delineates the implications of the results, and offers recommendations for future research and practice.

## **CHAPTER II: LITERATURE REVIEW**

This study investigated the relationship among locus of control, academic stress, life satisfaction, and achievement motivation comparing domestic and international college students. In the following chapter, theoretical foundations of achievement motivation, locus of control, academic stress, life satisfaction, and studies relevant to college students are reviewed.

### **Theoretical Foundations of Achievement Motivation**

Early studies of achievement motivation were introduced in the early 1950s by McClelland and Atkinson (McClelland, 1951; McClelland, Atkinson, Clark, & Lowell 1953; Epstein, 1996; Smith, 2011). McClelland and Atkinson formulated their ideas of motivation theory based on their previous work with Murray's Thematic Apperception Test (TAT; Murray, 1938). The TAT is a projective assessment instrument used to understand people's primary motives, issues, and the way they see the social world based on their responses and narratives about ambiguous pictures of people (Schacter, Gilbert, & Wegner, 2011). In addition, Murray (1938) saw his instrument as a useful tool for learning more about the driving forces behind individuals' achievement and their motivation to achieve; postulating that individuals had a need to accomplish in their lives, and a motivation to master and manipulate other people, ideas, and objects. Murray's initial ideas led McClelland and Atkinson to use the TAT in their research aimed at finding out whether there were central characteristics common to all high achievement motivated people. Their initial work led to achievement motivation being defined as the tendency to accomplish an achievement task focusing motivation to success and motivation to avoid failure within four factors: 1) the probabilities of success, 2) the probabilities of failure, 3) the incentives of success, and 4) the incentives of failure (McClelland et al., 1953). The work of scholars such as McClelland and Atkinson expanded our understanding of the different forms of

motivation, such as intrinsic, extrinsic, physiological, and achievement (Atkinson, 1964; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Smith, 2015).

The rationale behind early and ongoing studies of achievement motivation has been more likely to learn how individuals' achievement motive could be improved to increase job performance, student retention, academic success, and life satisfaction (Herrero, 2014; McClelland, 1961; Oladipo, Adenaike, Adejumo, & Ojewumi, 2013; Smith, 2011). For the past 60 years, different models of achievement motivation and achievement motivation instruments have been introduced by researchers to further define and explain achievement motivation in greater detail (Smith, 2011, 2015). Three major theories of achievement motivation studied widely by researchers include McClelland's achievement motivation theory (McClelland, 1951), Atkinson's achievement motivation theory (Atkinson & Feather, 1966), and the expectancy-value theory of achievement motivation originating from the work of Eccles and colleagues (Eccles et al., 1983; Wigfield & Eccles, 2000). Each of these theories are discussed in the following sections.

### **McClelland's Achievement Motivation Theory**

McClelland's (1951) early work focusing on the concept of "recurrent desire to excel" helped him gain notoriety among the research community. Believing that individuals had an innate need to achieve and a strong desire to set and accomplish challenging goals.

McClelland's early studies focused on management theory and characteristics of managers who scored high and low on measures of achievement motivation (Emmerik & Kats, 2013).

Specifically, McClelland (1961) aimed to explain how management success could be predicted by achievement motivation. In his operationalization of achievement motivation, McClelland (1951) outlined three major components or needs to frame multidimensionality of achievement

motivation: a) the need for achievement (nAch) characterized by a strong need to accomplish goals and level of success, b) the need for affiliation (nAff) characterized by sense of belonging, and c) the need for power (nPow) characterized by a motivation to control others and one's environment. Using this understanding, McClelland (1965a) conducted a longitudinal study in which the levels of achievement motivation of 55 males were assessed. What McClelland found was that 14 years after graduation, males with high need for achievement tended to gravitate toward business occupations of an entrepreneurial nature. The results of this early work and subsequent studies has shown achievement motivation to be a multidimensional construct capable of predicting success and individual career choices (Deci & Ryan, 1985; Smith, 1972; Story et al., 2009).

McClelland's training programs in the business field gained popularity and were replicated by other researchers and transferred to other cultures (Smith, 1973; Smith & Troth, 1975). His concepts also began to be explored in other fields such as education and psychology (i.e. Kolb, 1965; Smith & Troth, 1975; Tang, 1970). One of the early seminal works examining achievement motivation, a study conducted by Smith and Troth (1975), has served as the foundation for several more recent studies and examinations (Arora, 2015; Cueva, 2006; Herrero, 2014; Lopez, 2008) appearing in the counseling literature.

In the early 1970s, Smith and Troth (1975) created an achievement motivation training program for late-adolescents based on McClelland's (1961) training programs. They designed a program comprised of multiple components, including cognitive teaching, modeling behavior in group, and applications outside the group. In their cognitive teaching, Smith and Troth (1975) aimed "to give the participants a clear perception of an *n* achievement thinking and the *n* achievement action strategies" (p. 501). To accomplish this goal, Smith (2011, 2015) expanded



the cognitive component of achievement motivation based on McClelland's (1961) high achieving individuals to include a series of 10 thoughts, which underlined the theory behind the SAMS instrument used in the current study. These 10 thoughts included:

*Achievement Imagery (AI)* - A desire for excellence revealed through one of the following: competition with others, competition with self, unique accomplishments, long-term involvement;

*Need (N)* - Deeply wanting to achieve something;

*Action (ACT)* - Planned action toward achieving excellence;

*Hope of Success (HOS)* - Expecting success before it is achieved;

*Fear of Failure (FOF)* - Worry about failing before it happens;

*Success Feelings (SF)* - Good feelings after success;

*Failure Feelings (FF)* - Bad feelings after failure;

*World Obstacles (WO)* - World obstacles interfering with success;

*Personal Obstacles (PO)* - Personal obstacles interfering with success; and

*Help (H)* - Help sought and obtained to achieve success (Smith 2011, p. 2).

After teaching these thoughts, Smith and Troth (1975) moved to the phase of modeling behavior in the group. In this step, they stated that “the crucial effect of the second phase was to relate gaming experiences to real-life situations that involve achievement thoughts and actions” (p. 501). Similar to the second phase, the third phase included direct application of the newly learned behaviors into daily living. As Smith and Troth (1975) noted, this phase reflected more “goal setting, planning, and utilizing achievement thinking and action strategies in his own life” (p. 502). Examining the data they collected led to the categorization of behavioral archetypes

associated with one's level of achievement motivation. According to Smith (2011), the four action strategies characteristic of high achieving individuals are:

*Moderate Risk Taking (MRT)* - In a new situation where individuals must rely on their own skill, high achievers take carefully calculated moderate risks. They set goals that are challenging rather than goals that are unreasonably difficult or are too simple and undemanding.

*Use of Immediate Concrete Feedback to Modify Goals (ICF)* - High achievers like to know how they are doing. They seek situations that offer immediate concrete feedback concerning their progress or lack thereof. They use feedback to modify goals or behaviors.

*Personal Responsibility (PR)* - Individuals with a high need to achieve like to test how much they can personally accomplish. They like situations where they can take personal responsibility for their success and failures. They initiate activities in which they can assume personal responsibility.

*Researching the Environment (RE)* - Persons with high levels of achievement motivation approach new situations with an alert, curious, and intentional style. They size up situations, checking out the limits and the possibilities—with the end in mind of accomplishing or moving toward a goal (p. 3).

These thoughts and action strategies helped researchers create training programs, develop and validate measures, and conduct studies inclusive of additional variables to discuss individuals' attitudes of achievement motivation (Smith, 2011, 2015). Following this line of research, the current study also measured participants' achievement motivation levels based on McClelland's (1961) high achieving individuals. Specifically, the instrumentation used in this

study was developed and validated by Smith (1972) and Smith et al., (2016) and addresses both the achievement thoughts and action strategies mentioned above.

### **Atkinson's Achievement Motivation Theory**

Throughout the 1950s and 1960s, Atkinson worked closely with McClelland to formulate his research on achievement motivation. While McClelland conceptualized the theory of motivation as having three major components or needs, Atkinson instead focused on individuals' tendencies in relation to achievement and failure (Nygård, 1975). In this regard, Atkinson perceived individual behavior as being a combination of motivation, expectancy, and incentive (Atkinson & Feather, 1966). Based on this conceptualization, Atkinson (1974) defined achievement motivation as a multifunction of motive, expectancy, and incentives to reach task-related goals. Motives are learned early in life and shaped during the childhood experiences. Expectancies refer to individuals' cognitive capacity to lead the goal and estimate probability of success. Lastly, incentives refer to the outcome and value of success. Furthermore, Atkinson and Feather (1966) explained that three main components drive the achievement motivation to success: 1) the need to achieve success, 2) individual's perception of success, and 3) value of the outcome for the individual. In parallel are factors behind the motive to avoid failure: 1) the need to avoid failure, 2) individual's perception of failure, and 3) effect of the outcome for the individual. Said differently, these two components reflect pessimistic and optimistic styles of perceived motivation and success. Consequently, Atkinson and Feather (1966) stated that an individual's tendency or motivation to undertake an activity is determined by two factors: motivation/tendency to achieve success ( $M_s$ ) and motivation/tendency to avoid failure ( $M_f$ ).

According to Atkinson and Feather (1966), individuals derive energy from two motivation sources to reach their goals: intrinsic and extrinsic motivators. Intrinsic motivation

refers to individuals' desire to complete/fulfill a task because of internal motivators such as personal goals, while extrinsic motivation refers to individuals' desires to complete/fulfill a task because of external motivators such as incentives or rewards. Atkinson's motivation sources provided a framework for researchers who wanted to focus on variables associated with intrinsic and extrinsic motivators (Dumitrescu, Kawamura, Dogaru, & Dogaru, 2010; Judge, Bono, Erez, & Locke, 2005)

### **Expectancy-Value Theory of Achievement Motivation**

The expectancy-value theory can be seen as one of the modern versions of the achievement motivation models. This theory is based on Atkinson's (1964) expectancy-value model linking individuals' expectancy- and task-related beliefs with achievement performance, persistence, and choice. Motivation theorists (Eccles, et al., 1983; Feather, 1992; Hechhausen, 1991; Wigfield & Eccles, 2000) extended modern expectancy-value theory of achievement motivation to form a more contemporary model. This contemporary model emphasizes individuals describing their own choice, persistence, and performance by focusing on how they approach and value an activity (Eccles et al., 1983; Wigfield & Eccles, 2000). However, Eccles and Wigfield (2002) stated that modern theorists (Eccles, 1987; Feather, 1992) differentiated from Atkinson (1964) in two ways: "First, both the expectancy and value components are more elaborate and are linked to a broader array of psychological and social/cultural determinants. Second, expectancies and values are assumed to be positively related to each other, rather than inversely related" (p. 118).

In expectancy-value theory, negative and positive characteristics of a task influence the choices people make (Eccles & Wigfield, 2002). For example, individuals often have choices to make between options. Based on the nature of these choices, each of which have costs

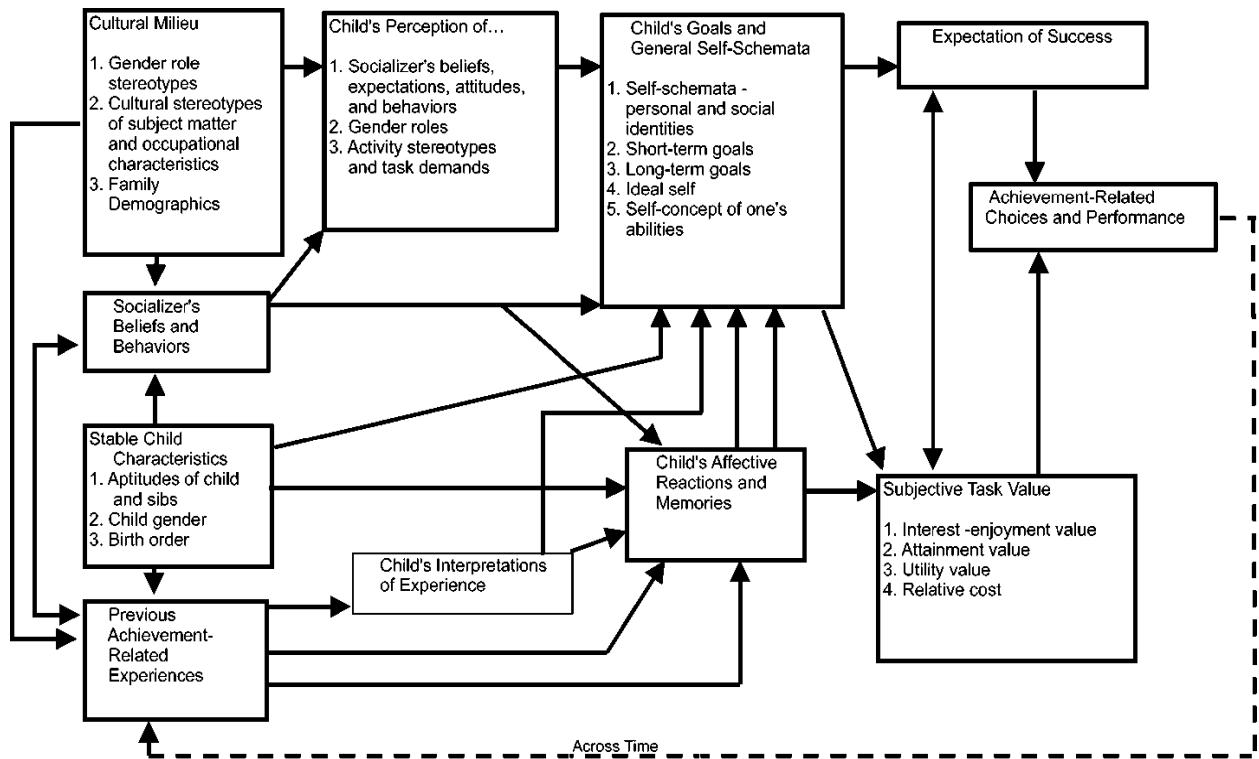


Figure 1. Expectancy-value model of achievement. Reprinted from “Expectancy-Value Theory of Achievement Motivation,” by A. Wigfield and J. S. Eccles, 2000, *Contemporary Educational Psychology*, 25, p. 69. Copyright 2000 by Elsevier. Reprinted with permission.

associated with them, individuals choose to eliminate options based on the cost of those courses of action. Eccles and Wigfield (2002) assumed that expectancy-values directly affect concepts of performance, persistence, and task choice (achievement related concepts). Consequently, they stated that a correlation between expectancy-values and these achievement related concepts exists. In addition, task-specific beliefs (perceptions of competence, perceptions of the difficulty of different tasks, and individuals’ goals and self- schema) has an influence on expectancies and values (Eccles & Wigfield, 2002). Figure 1 describes this process in detail.

Over the past 50 years, models of achievement motivation and related theories have progressed becoming more comprehensive and multidimensional. However, they all draw from the original work of McClelland and use his conceptualization as their base. For this reason, I am

using McClelland's achievement motivation theory in the current study because it represents the first complex and multidimensional theory of achievement motivation. In addition, McClelland's achievement motivation theory has been widely studied and adapted to different cultures (Chang & Wong, 2008; Maehr, 2008; Mehta, 2011; Yu & Yang, 1994) and appears to be the most compatible model for this study examining international students.

### **Achievement Motivation among Undergraduate/College Students**

Previous researchers (Ahmad & Rana, 2012; Aronoff & Litwin, 1971; Arora, 2015; Desa et al., 2012; Dumitrescu et al., 2010; Yang, 2000) have demonstrated achievement motivation to be a construct researched in different fields (i.e. psychology, business, education), different cultures (i.e. individualistic, collectivistic), and with different groups (i.e. college students, high school students). The literature indicates that researchers (Smith & Troth, 1975; Cueva, 2006; Lopez, 2008; McClelland, 1965b) have been able to successfully develop training groups to improve achievement motivation based on earlier theories of the construct. These studies show that achievement motivation is a fluid construct, malleable, and capable of being altered through direct intervention. This malleable nature of achievement motivation has guided researchers to improve the concept (Adsul & Kamble, 2008; Cueva, 2006; Lopez, 2008), find its predictors (Harackiewicz et al., 1997), and report its relationship with other variables (Abdullahi, 2000; Ahmad & Rana, 2012; Herrero, 2014; Oladipo et al., 2013) across all demographics, including college-aged students. Furthermore, Trumbull and Rothstein-Fisch (2011) stated achievement motivation was an important contributor to students' academic success. In this regard, a significant number of researchers (Derboghossian, 2007; Hamdan-Mansour, Hamaideh, Azzeghaiby, Hanounah, & Aboshaiqah, 2015; Liao et al., 2012; Stoyanoff, 1997; Turner, Chandler, & Heffer, 2009) have investigated the relationship between achievement motivation

and different variables (resiliency, academic success, gender, college satisfaction, locus of control, stress, etc.) among college students.

In a mixed study conducted with 150 college students, Epstein (1997) investigated and compared achievement motivation attributes of international students with domestic and legal immigrant students. Epstein (1997) aimed to identify and compare the causal attributes of achievement motivation for academic success possessed by international and domestic college students. The results showed that international students were more successful and more motivated to achieve than the other two student groups. In addition, Epstein (1997) reported international students as being more successful than the other two student groups in terms of GPA, number of credits earned, and honors and awards received. Epstein (1997) used McClelland's and Weiner's achievement motivation theory in her study as the theoretical framework. On the other hand, Liao et al. (2012) recently conducted a quantitative study with 309 domestic and international college students at an urban community college. The purpose of the Liao et al. (2012) study was to investigate how intrinsic motivation, extrinsic motivation, and self-regulated learning efficacy affect academic achievement of international and domestic college students. Results of this study were different than Epstein's (1997) study. Liao et al. (2012) stated that international and domestic students' level of achievement motivation was not significantly different. In addition, motivation did not directly affect academic achievement for both groups. However, in parallel with Epstein (1997), Liao et al. (2012) found international students performed better academically than domestic students. One can expect a difference between the results since each study used a different achievement motivation instrument measuring different dimensions of the concept. Epstein (1997) used the Measurement of Achievement Motivation Questionnaire which was developed by Ory and Poggio (1975; as cited

in Epstein, 1997), while Liao et al. (2012) adopted three different instruments (Betz & Vuyten, 1997; Deci & Ryan, 1985; Landry, 2003; as cited in Liao et al., 2012) to measure extrinsic and intrinsic motivation. Moreover, both Epstein (1997) and Liao et al. (2012) did not report the effect size of their studies, which limits the interpretation of the results.

Achievement motivation also was investigated among different groups and ethnicities in colleges in other studies with similar results being reported. For example, Donohue and Wong (1997) examined the relationship between achievement motivation and college satisfaction of 126 traditional and non-traditional college students. The findings of the study showed that there was a significant relationship between college satisfaction and achievement motivation. In addition, researchers stated there was a difference between traditional and non-traditional students' achievement motivation and college satisfaction. However, because the researchers did not report effect size, we do not know how practically significant the results were, limiting our ability to fully interpret their results.

In another study, Derboghossian (2007) studied 232 Hispanic college students and examined the influence of acculturation, college satisfaction, decision making, problem solving, worldviews, and demographic variables on achievement motivation. The author used the Achievement Motivation Scale developed by Vallerand et al. (1992; as cited in Derboghossian, 2007) to measure extrinsic and intrinsic achievement motivation. The results showed that satisfaction was the main variable determining achievement motivation in Hispanic male and female college students. In other words, college satisfaction accounted for the greatest variability in achievement motivation. In this regard, Hispanic college students who were highly motivated displayed higher levels of external achievement motivation, whereas students who were more goal oriented displayed higher levels of an internal achievement motivation. This



study reported significant information about Hispanic college students. However, the researcher did not report estimates of either effect size or power. As a result, we do not know whether the results can be generalized to Hispanic college students or whether they were practically significant or not.

Young, Chen, and Morris (2009) conducted a quantitative study with 553 domestic undergraduate students at a west-coast public university.) Authors used the mastery subscale of Spence and Helmreich's (1983; as cited in Young et al., 2009) work and family orientation scale to measure achievement-related motivation. Although the instrument they used has four subscales measuring general achievement motivation, they used only one dimension of achievement motivation and did not discuss enough in the study their rationale to do so. The purpose of the study was to investigate the relationship between luck beliefs (based on attribution theory) and achievement motivation. The results indicated that belief in stable rather than fleeting luck was positively related to achievement motivation. In addition, belief in stable luck affected achievement motivation via personal agency beliefs. However, since the effect size and power were not reported, it is not possible to predict the practical effect and generalizability of the study.

Contrary to Young et al. (2009), Mehta (2011) focused on international students who study in the U.S. The author conducted a correlational study with 232 Asian Indian students. In the study, Mehta (2011) discussed achievement motivation from a cultural perspective using the Socially-Oriented Achievement Motivation and Individually-Oriented Achievement Motivation instruments developed by Yang and Yu (1988; as cited in Mehta, 2011). The Cronbach alpha coefficients for both scales was .89, demonstrating a high degree of reliability. The goal of the study was to examine the relationship between achievement motivation and psychological well-

being in Asian Indian students in the U.S. The results showed that higher individually oriented achievement motivation predicted higher levels of psychological well-being, purpose in life, and self-acceptance, while higher socially oriented achievement motivation predicted lower levels of self-acceptance. Individually oriented achievement motivation was found to have a stronger impact on psychological well-being than socially oriented achievement motivation. Mehta (2011) reported small, medium, and large effect sizes for different analyses in the study. In addition, power analysis showed that the authors had acquired a sample sufficient enough in size to run two multiple regression analyses in the study.

The world is more globalized than before, and it is very common to transfer theories and philosophies between western and eastern cultures. Although achievement motivation theory was introduced in a western culture, it has been transferred and adapted quickly by researchers in different cultures and countries. For instance, Bakhtiarvand et al. (2011) conducted a quantitative study with 200 college students in Tehran, Iran. The researchers investigated the moderating effect of achievement motivation on relationship of learning approaches and academic achievement. In this study, Bakhtiarvand et al. (2011) used the academic motivation scale. While the results revealed that achievement motivation was a significant moderator on the relationship of learning approaches and academic achievement, the instrument they used has not been validated nor has its psychometric properties been assessed. Given these limitations, it is hard to state whether their findings are empirically valid or not.

In a recent study, Li et al. (2015) conducted a quantitative study with 493 Chinese university students. The purpose of the study was to test the role of achievement motivation and attributional style on the relationship between perfectionism and subjective well-being. Using the Achievement Motivation Scale developed by Dahme, Jungnickel, and Rathje (1993; as cited

in Li et al., 2015), the researchers found perfectionism, achievement motivation, and attributional style to all be positively related to subjective well-being. The authors stated that individuals who tend to attribute to internal causes would show a higher sense of subjective well-being.

However, Li et al. (2015) did not report both effect size and power in their study, making it difficult to discuss the generalizability of the results.

Overall, the research has shown achievement motivation to be a widely studied concept among different groups, cultures, and academic fields. College students is one of the groups that took the attention of researchers. Research focused on the relationship between achievement motivation and other variables (i.e. resiliency, adjustment, satisfaction, academic success, stress, retention) to understand this group of students better. The current inquiry adds to the achievement motivation related research by continuing the examination of this construct among domestic and international college students.

### **Locus of Control**

In the 1960s, Rotter (1966) questioned how individuals perceived and reacted toward reinforcements presented as motivational variables. Rotter (1966) based the construct of locus of control on Albert Bandura's social learning theory (Strain, 1993). Conceptually, the term locus of control is defined as a "personality construct designating an individual's perception of responsibility and accountability as internal, which is originating from self, or external, that is, originating from outside of self, with responsibility attributed to some other individual or force" (Stuart, 2000, p.15). Rotter (1966) explained that an individual interprets and reacts to events from "his own behavior versus the degree to which they feel the reward is controlled by forces outside of themselves" (p. 1). As a result, Rotter divided the concept of locus of control into two dimensions: internal and external. From early studies of locus of control to recent studies, most

of definitions were made based on the dichotomous internal-external concept. Internal control referred to person's beliefs that reinforcement is dependent on his/her own capacities, behaviors, or attributes whereas external control referred to the belief that reinforcement is dependent on the control of powerful others, destiny, luck, chance, etc. (Binder, 2014; Guo, 1992; Moreau, 1983). Cognizant of this accepted understanding amongst the research community, Rotter (1966) developed and validated his now famous I-E scale to measure how individuals motivate themselves depending on their own perception in relation to both internal and external factors.

Studies (Dollinger, 2000; Gifford, Briceno-Perriott, & Mianzo, 2006; Hamarta, Ozyesil, Deniz, & Dilmac, 2013) have shown the concept of locus of control among college students to have been widely researched. One of the reasons behind the popularity of locus of control research is its motivational nature (Strain, 1993). The internal and external constructs allow researchers to conduct predictive and correlational studies with other variables, such as achievement motivation, subjective well-being, general efficacy, academic stress, mindfulness, and academic achievement (Abdullahi, 2000; Carvalho et al., 2009; Dave et al., 2011; Hamarta et al., 2013; Uguak, Elias, Uli, & Suandi, 2007).

Several researchers (Schimit, 2000; Stuart, 2000; Yamaguchi & Wiseman, 2003) conducted quantitative studies examining international college students' locus of control. These studies were predictive in nature and emphasized how demographic variables (i.e. gender, age, primary country of origin, etc.) impacted locus of control and how locus of control predicted those students' psychological adjustment and adjustment to college. These studies also established baseline information related to locus of control among the international student population.

## **Locus of Control and Achievement Motivation**

Lefcourt (1981) stated locus of control and achievement motivation were important aspects to developing a positive self-concept. The early studies of achievement motivation found significant relationships between locus of control and achievement motivation (Epstein, 1996; Schultz & Pomerantz, 1974; Strain, 1993). Schultz and Pomerantz (1974) conducted a quantitative study with 93 male students to investigate correlation between achievement motivation and achievement behaviors, and achievement motivation and locus of control. The researchers used the Intellectual Achievement Responsibility Questionnaire (IAR; Crandall, Katkovsky, & Crandall, 1965; as cited in Schultz & Pomerantz, 1974) as a measure of locus of control. This instrument measures locus of control from internal and external dimensions. The results showed achievement motivation was positively correlated with achievement behavior and locus of control. Authors stated that these results were not surprising because of the similarities between achievement motivation theory and locus of control theory. Researchers also reported that there was no relationship between achievement needs and internal attributions of failure.

In another study, Edwards and Waters (1981) examined the moderating effect of achievement motivation and locus of control on the relationship between academic ability and academic performance. Researchers conducted this quantitative study with 223 college students. In the study, researchers used Rotter's (1966) I-E scale to measure locus of control. The findings of their study showed achievement motivation to be a significant moderator between academic ability and grade point average. On the other hand, locus of control was not found to be a significant moderator at all. In fact, when locus of control and achievement motivation were employed together, locus of control did not improve the moderating effect of achievement motivation. This led researchers to state that students who had high achievement motivation

levels were more persistent in their efforts in courses than students who had low achievement motivation.

While achievement motivation and locus of control have similarities from the theoretical approaches, researchers also conducted studies with different variables. For example, Strain (1993) conducted a quantitative study with 313 low-achieving college students to examine the extent locus of control, achievement motivation, age, sex, race, family income, major, GPA, and intended duration of schooling had on predicting their persistence. The findings showed locus of control was a significant predictor of persistence. However, Strain noted that while the hypothesized model was statistically significant it only explained a small percentage of variance in the dependent variable; persistence. A negative correlation was noted between locus of control and achievement motivation. In other words, individuals who scored low on the I-E scale (an indicator of high internal locus of control) had a higher score of achievement motivation.

In another study, McGraw (1996) conducted a quantitative study on college students' compensation choices based on the interaction between locus of control and motivation. One hundred and twelve undergraduate students participated in her study. In the study, McGraw (1996) used Rotter's (1966) I-E scale to measure locus of control. The study focused on how an individual's locus of control was related to the way he/she chose to be rewarded for his/her participation in an experiment. The researcher also investigated how locus of control affected participants' satisfaction level based on the given opportunity to choose or not choose their own reward. The results showed that there was no statistical difference between choice and no choice conditions for external and internal participants. In other words, locus of control was not a determinant of satisfaction based on choice and no choice conditions.

Graham (2007) developed an intervention course at the college level to develop and enhance students' academic self-efficacy, achievement motivation, goal orientation, and locus of control. In the study, Graham (2007) used Rotter's (1966) I-E scale to measure locus of control. As hypothesized by the researcher, there were no significant positive changes in the level of achievement motivation and internal locus of control. On the other hand, the results showed a high positive correlation between achievement motivation and internal locus of control of college students. In addition, Graham (2007) reported power and effect size for his study. Based on an a priori power analysis, the desired criteria for adequate power in the statistical analyses were met. In addition, the study had a moderate effect size indicating a moderate effect of practical significance of the results.

Locus of control, like achievement motivation, is also a concept both transferrable and adaptive to other cultures. For instance, in an ex-post-facto study, Abdullahi (2000) investigated the relationship among achievement motivation, self-esteem, locus of control, and academic performance of 1335 Nigerian undergraduate students. In the study, Abdullahi (2000) used Rotter's (1966) I-E scale to measure locus of control. The purpose of the study was to determine to what extent achievement motivation, self-esteem, and locus of control predict academic performance. The results indicated that independent variables were not statistically significant predictors of student academic performance. The researcher stated religious background, social disadvantages, lack of self-confidence, and intellectual development of students could be factors affecting the prediction of academic performance. However, Abdullahi (2000) did not report both effect size and power limiting the practical significance and generalizability of the findings.

As mentioned above, there are many studies supporting the association between locus of control and achievement motivation. However, this situation can change when a study is

conducted with participants who have strong cultural and religious beliefs. For example, Parameswari and Shamala (2012) investigated the level of academic motivation and locus of control of 470 first year engineering students in India. India has a diverse population, which includes different cultural constructs, religions, and languages. The researchers stated that many Indian students believe in fate, karma, and such other external factors when they regulate their lives. Rotter's (1966) I-E scale was used to measure locus of control. Based on the findings, there was no significant relationship between academic motivation and locus of control. In addition, authors analyzed males' and females' motivation and locus of control levels. They reported that there was no significant difference between male and female students. However, Parameswari and Shamala (2012) did not report both effect size and power, limiting the generalizability of the findings.

Overall, after Rotter's (1966) study and validated instrument, locus of control has been widely studied by researchers. The research has shown there to be a significant relationship between achievement motivation and locus of control. This connection has helped educators to understand how students' perception of the success and failure was related to their achievement motivation.

### **Academic Stress**

Researchers have studied stress in university settings extensively (Misra & Castillo, 2004; Misra et al., 2003; Liao & Wei, 2014; Gadzella et al., 2012). One of the most cited descriptions of stress used in these studies was made by Lazarus and Folkman. They viewed stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984; p. 19). The term stress refers to a broad concept. Individuals



experience stress in a multitude of situations and in response to many precipitants. As a result, researchers have divided the construct of stress into different categories to specify its association with different domains of life such as academic stress, career stress, and marriage stress. In the present study, I investigated the construct known as academic stress which, according to Wilks (2008), describes individuals' attitudes and behaviors towards academic related demands. From this perspective, academic stress can be viewed as including student's perceptions of knowledge base to achievement and of inadequacy to finish/reach intended purpose in a timely manner (Misra & Castillo, 2004).

Historically, researchers have paid close attention to how college students deal and cope with stressors, specifically academic stressors, during their education (Chai, Krageloh, Shepherd, & Billington, 2012; Michie, Glachan, & Bray, 2001) since academic stress can deplete students' physical and psychological resources causing physical illness and psychological distress (Misra & Castillo, 2004). For example, Michie et al. (2001) conducted a study on the evaluation factors influencing the academic self-concept, self-esteem, and academic stress of college students. One hundred and twelve undergraduate students participated in this study. The researchers investigated the impact of age, gender, past experiences of school, and motivations to attend college on such outcome variables as self-esteem, academic self-concept, and academic stress. The results showed that academic stress was high if the motivation behind attending college was career goals. In addition, the findings showed that age was not a significant predictor of academic stress.

Some researchers (Akhtar, 2012; DeDeyn, 2008; Misra & Castillo, 2004) conducted studies on international and domestic college students to understand how these two different groups of students perceive stress in their lives. For instance, Misra and Castillo (2004)

compared academic stress among 392 domestic and international college students. The results showed that domestic students perceived higher academic stress from conflict, frustration, pressure, and self-imposed stress than their international counterparts. Domestic students also displayed higher behavioral reactions to stressors than international students to academic stressors.

Another study conducted by Misra et al. (2003) focused only on international college students. The purpose of this study was to investigate the relationship among life stress, social support, academic stressors, and reactions to stressors. Participants in this study included 143 international students. Misra et al. (2003) used SSI (Gadzella, 1991) to measure academic stress. The results indicated that high levels of life stress and lower levels of social support predicted higher levels of academic stressors. Moreover, higher academic stressors predicted reactions to stressors. On the other hand, there was no difference between male and female students' levels of academic stress and life stress. The authors reported small effect sizes (Cohen's  $d$  ranged between .09 and .27) both for academic stressors and life stressors limiting the practical significance.

In another study conducted with international students, Yang (2010) compared students from Taiwan, China, and Korea with domestic students to investigate the relationship between academic stress, coping, and psychological well-being. The sample consisted of 311 domestic and international graduate students. Graduate Stress Inventory-Revised (GSI-R; as cited in Yang, 2010) was used to measure academic stress. The results indicated that these three groups of Asian international students had higher stress than domestic students. Moreover, both international and domestic graduate students who had higher academic, environmental, and family stress reported more maladaptive coping skills. On the other hand, students who had

more adaptive skills reported higher psychological well-being. However, the unreported effect size limits our interpretation of practical significance of these findings.

Academic stress has been associated with different variables. For example, in a study conducted by Carvalho and colleagues (2009), 210 college students were examined and their differences on measures of locus of control and levels of stress were compared. The findings showed a positive significant relationship between severe stress and chance belief. In other words, participants who had severe stress had more belief of chance. However, there was no association between stress levels and powerful others (people who have an effect in their lives). Students did not relate their stress with other people in their lives.

### **Academic Stress and Achievement Motivation**

In reviewing the literature, a dearth of research supporting the relationship between academic stress and achievement motivation exists. Recently, Dong (2014) conducted a study with 321 freshmen at a university setting. The purpose of the study was to investigate the relationship among freshmen's levels of academic stress, causal attributions for stress, subjective value of college education, and selection of stress coping. The theoretical framework of this study consisted of both expectancy-value and attributional theories. The researcher discussed achievement motivation from two indicators: intrinsic value and attainment value. The findings showed that academic stress had a negative significant relationship with intrinsic value and a positive significant relationship with attainment value; indicating that students who had higher academic stress had lower intrinsic motivation but higher attainment value. While there was not a significant relationship between academic stress and locus of control, a low and negative relationship between external locus of control and achievement motivation was detected.

## **Life Satisfaction**

Subjective well-being (SWB) is an umbrella term covering major concepts of positive psychology. Diener, Lucas, and Oishi (2002) defined SWB as a “person’s cognitive and affective evaluations of his or her life” (p. 63). In this regard, life satisfaction refers to both cognitive and affective aspects of SWB. Diener et al. (2002) stated that the theoretical foundations of SWB were derived from goal, need, and activity theories. Goal theory emphasizes that individuals achieve SWB when they accomplish or work on an ideal state or a valued goal. Needs theory focuses on the idea of tension reduction. In other words, people’s aim is to eliminate pain and increase satisfaction with life. Diener et al. (2002) stated that Freud’s pleasure principle and Maslow’s hierarchical needs model could be categorized under needs theory. Activity theory examines the conditions of people’s life because activity theorists (e.g., Lev Vygotsky, Bonnie Nardi) believe that SWB would change with the conditions that influence individuals’ perception about their satisfaction with life, happiness, and affectivity (Diener et al., 2002).

Life satisfaction, happiness, and well-being are the positive sides of human behavior and have been frequently examined by researchers (Diener, 2000; Diener et al., 2002). Life satisfaction can be defined as a person’s cognitive and judgmental process which includes his or her evaluations and feelings about life and future (Diener et al., 1985). Diener (2000), one of the more prominent researchers in the field of positive psychology, adopts a holistic approach toward human nature and describes an individual’s behavior under specific components associated with the formation of subjective well-being such as life satisfaction, satisfaction with important life domains (e.g., work, marriage), positive affect, and low level of negative affect.

Researchers (Coccia & Darling, 2014; Dave et al., 2011; Kaya, Tansey, Melekoglu, & Cakiroglu, 2015) have found life satisfaction to be related to a number of other major life components such as stress, social connectedness, and locus of control. Coccia and Darling (2014) investigated college students' satisfaction with life examining stress and how they spend their times in social context. The results of their study showed stress was negatively correlated with life satisfaction. There also was a significant relationship between life satisfaction and the time spent with family or friends on the phone. Similarly, Kaya et al. (2015) examined the relationship between stress and life satisfaction among Turkish college students. The results indicated that students' perceived stress was negatively correlated with life satisfaction. In another study, Dave et al. (2011) investigated the relationship between life satisfaction, locus of control, and general self-efficacy among college students. Researchers found higher satisfaction of life to be associated with internal locus of control. These studies showed that life satisfaction had a relationship with stress, locus of control, and social connectedness. Counselors can benefit from these results when working with students who have low levels of life satisfaction. Educators can use these results, if they want to decrease students' stress toward their courses. Furthermore, the current study uses life satisfaction to predict college students' achievement motivation which is a significant predictor of academic achievement and academic success (Arora, 2015; Gifford et al., 2006; Hall & Wiley Gahn, 1994; Herrero, 2014; Hu & John, 2001; Trumbull & Rothstein-Fisch, 2011).

### **Life Satisfaction and Achievement Motivation**

Correlational and predictive studies of life satisfaction and achievement motivation appear to be a recent focus among researchers. In one of the earliest studies found, Jacob and Guarnaccia (1997) examined the association between life satisfaction and both explicit and

implicit motivations based on McClelland's needs for achievement and affiliation concepts. This study was conducted with 97 adults between 60 and 89 years of age. The researchers used the Life Satisfaction in the Elderly Scale (Salamon & Conte, 1992; as cited in Jacob & Guarnaccia, 1997) to measure life satisfaction. Results indicated a positive moderate relationship between life satisfaction and explicit motivation as measured by the Personality Research Form (Jackson, 1989; as cited in Jacob & Guarnaccia, 1997). However, there was no significant relationship between life satisfaction and implicit motives as measured by the Picture Story Exercises developed by McClelland et al. (1953). One limitation of this study was the participants recruited. The study included only retired adults. However, there are adults who are above 60 years old continuing to work. If a group of working adults were included in the study the results could be compared. In addition, the lack of effect size limits the interpretation of the practical significance of the findings.

To my knowledge, based on the search of wide range of databases (e.g., Academic Search Complete, PsycInfo, Dissertations and Theses Global Full Text, Google Scholar, etc.), the earliest study of life satisfaction-achievement motivation among college students was published in 2005. In this study, Judge and colleagues (2005) sought to explain the mediating role of goal attainment between core self-evaluations-self-concordant goals (goals based on Atkinson's achievement motivation theory) and life satisfaction. Participants in their study included 183 college students and 251 university employees. Using the SWLS (Diener et al., 1985) to measure life satisfaction, the authors found that self-concordant goals were related to life satisfaction in both college students and university employees. However, one limitation of this study was the omission of any reported measures of effect size. This exclusion tempers the

results found, and limits our ability to know the true level of practical significance of the study's results.

The nature of life satisfaction among diverse cultures became a focus of researchers in the 2000s (Diener, 2000). In a study by Dumitrescu and colleagues (2010), the relationship among achievement motives, life satisfaction, happiness, and oral health was investigated among 178 Romanian first-year medical school students. Again, the SWLS (Diener et al., 1985) was used to measure life satisfaction. Achievement motivation theory in this study was based on Atkinson's hope of success and fear of failure concepts. The findings indicate that there was a positive relationship between achievement motivation and life satisfaction. Additionally, this study discussed the extent to which achievement motivation and life satisfaction could predict oral health behavior among college students. The authors reported achievement motivation and life satisfaction to be significant predictors of oral health behavior; indicating that in addition to social cognitive variables (i.e. individual goals, beliefs about ability), achievement motivation can be used as a variable predictive of behavior status.

In another international study, Oladipo et al. (2013) examined the psychological predictors of life satisfaction among 320 Nigerian undergraduate students. Using the SWLS (Diener et al., 1985) to measure life satisfaction, the authors showed that achievement motivation and locus of control significantly predicted life satisfaction. Students, within high internal locus of control, who were high on achievement motivation, had a lower life satisfaction, while students, within high external locus of control, who were low on achievement motivation, had a higher life satisfaction. One limitation of this study was the lack of any reported effect size metrics. By not reporting measures of effect size, we are unable to ascertain the true level of practical significance of the results of their study.

Researchers have investigated different variables associated with life satisfaction in order to better explain what affects satisfaction with life. Salinas-Jime'nez, Arte's, and Salinas-Jime'nez (2010) conducted a quantitative study on income, motivation, and satisfaction with life. The data used in this study was derived from the World Values survey which included data from 10,800 participants across ten different countries. The purpose of this study was to examine how different types of motivations (extrinsic motivation, intrinsic motivation, income, security, relatedness, and accomplishment) affect life satisfaction. The results showed that participants, with an intrinsic motivation had higher life satisfaction than participants with an extrinsic level of motivation. As the level of life satisfaction among participants with an extrinsic level of motivation increased, the importance of income was changed with security. For participants with an intrinsic level of motivation, their perceptions of life satisfaction increased when the importance of social relatedness was changed with increased feeling of accomplishment.

As mentioned previously, there are different types of satisfaction, including job satisfaction and marriage satisfaction. In a study conducted by Mafini and Dlodlo (2014), the relationship between extrinsic motivation, job satisfaction, and life satisfaction among adults was investigated. Results of this quantitative research survey indicate that there was a statistically significant relationship between extrinsic motivation factors (remuneration, quality of work life, supervision, and team work) and life satisfaction. In a similar study, Martin-Albo, Nunez, Dominguez, Leon, and Tomas (2012) examined the association between intrinsic motivation, physical self-concept, and life satisfaction. Focusing on how physical self-concept mediates the relationships between intrinsic motivation and satisfaction with life, they found that physical self-concept mediated the relationship between intrinsic motivation and life satisfaction.



Overall, the literature reviewed supports the existence of a significant relationship between life satisfaction and achievement motivation. However, the lack of research conducted on college students' levels of life satisfaction and achievement motivation represents a gap in the extant literature. In addition, the majority of studies, using college students as participants typically focus on domestic students, and often do not include representation from international students. The current study stands to fill these gaps in the literature and expand our understanding of the collective experiences of international students studying abroad.

### **Chapter Summary**

This chapter provided a review of the achievement motivation literature and established its relationship with the constructs of locus of control, academic stress, and life satisfaction. For each construct, the theories underlying their development and conceptualization were presented and discussed. The achievement motivation construct utilized in this study was conceptualized from McClelland's (1951) achievement motivation theory. In addition, Rotter's (1966) locus of control model (Internal-External) was the main focus of the locus of control literature reviewed. Furthermore, life satisfaction and academic stress were discussed in terms of recent studies utilizing related concepts (i.e., SWB-life satisfaction). Finally, a concise review of how these variables impact college students' experiences was provided.

### **CHAPTER III: RESEARCH DESIGN AND METHODOLOGY**

This study compared the variables of life satisfaction, academic stress, locus of control, and achievement motivation among international and domestic college students. Specifically, the aim of this study was to examine the degree to which life satisfaction, academic stress, and locus of control predicts achievement motivation and how this hypothesized prediction model varies for international and domestic college students. This chapter includes the following sections: research questions addressed, research design implemented, description of participants recruited, data collection procedures utilized, survey measures administered, and data analyses conducted.

#### **Research Questions**

The following research questions were addressed in this investigation:

1. Are there differences between domestic and international college students' levels of life satisfaction, academic stress, locus of control, and achievement motivation?
2. Do life satisfaction, academic stress, and locus of control predict a significant percentage of the variance in achievement motivation among college students?
3. Is there a difference in model fit between domestic and international college students for the predictive model regressing life satisfaction, academic stress, and locus of control on achievement motivation?

#### **Research Design**

This quantitative study was conducted using an explanatory non-experimental design and a correlational design to evaluate research questions. According to Heppner, Wampold, and Kivlighan (2008), correlational designs examine the relationships between two or more variables, allowing researchers to make future predictions using these relationships. In this

study, the relationships among life satisfaction, academic stress, and locus of control were used to create a predictive model of achievement motivation using a regression analysis. Regression analyses can be conducted using either a standard multiple regression, hierarchical (sequential) regression, or a stepwise (statistical) regression depending on how variables will be entered into the regression equation (Tabachnick & Fidell, 2013) and the theoretical model from which the researcher is working (Meyers, Gamst, & Guarino, 2013). For the current study, a hierarchical regression with independent variables entered into the regression equation in a specified order was used.

The literature indicated a strong relationship between achievement motivation and locus of control (Fini & Yousefzadeh, 2011; Strain, 1993). Hence, the first variable included in the equation was locus of control. The second variable added was academic stress. Researchers found significant correlations between college students' stress levels and locus of control (Carvalho et al., 2009), and motivation and academic stress (Struthers, Perry, & Menec, 2000). The last variable entered in the equation was life satisfaction. In previous studies, researchers (Chai et al., 2012; Dave et al., 2011) reported relationships between life satisfaction and other predictor variables. However, a dearth of research reporting the relationship between achievement motivation and life satisfaction exists. In a structural equation modeling study, Li et al. (2015) used achievement motivation as a mediator between perfectionism and subjective well-being. The results showed that there was a partial mediation effect of achievement motivation on the relationship between perfectionism and subjective well-being. Life satisfaction is one of the components of subjective well-being (Pavot & Diener, 2008). However, these findings were not enough evidence to justify entering life satisfaction into the analysis before the other two variables.

## **Participants**

Participants of this study were international and domestic college students enrolled in undergraduate level courses at a Hispanic Serving Institution in South Texas. Convenience sampling was used to select participants. In convenience sampling, participants are more readily accessible and willing to attend the study voluntarily. An a priori power analysis using G\*Power 3.0.10 (Faul, Erdfelder, Buchner, & Lang, 2009) was used to calculate the minimum sample size needed to evaluate the research questions of this study. Using a minimum level of power of .80, considered an adequate level of power by Cohen (2013), a medium effect size as  $f^2=.15$ , and a .05 alpha level, the estimated target sample size for this study was reported to be 154.

The sample recruited for this study included 307 participants. Two hundred and forty one (78%) of participants were domestic (137 male and 104 female) and 66 (22%) were international students (39male and 27 female). International students were from different countries (China, Saudi Arabia, Turkey, Vietnam, Taiwan, Mexico, South Korea, India, etc.). The following demographics on ethnicity were reported by domestic students: White or Caucasian 45.6% ( $n= 110$ ), African American 3.6% ( $n= 9$ ), Asian American 3.6% ( $n= 9$ ), Hispanic or Latino 37% ( $n= 89$ ), Pacific Islander 9% ( $n= 21$ ), and Multiracial 0.4% ( $n= 1$ ).

## **Data Collection Procedure**

After Institutional Review Board (IRB) approval, data were collected over a period of six weeks from mid-October to the end of November, 2015. The goal was to recruit participants from different colleges and departments to have a diverse subject pool and reach more international students. A solicitation email was sent to professors in the First Year Learning Communities Program (FYLCP), College of Business and Management, College of Science and Engineering, College of Education, and College of Nursing. The email included a brief

explanation and purpose of the study. The researcher scheduled class visitations with professors who were willing to give 30 minutes of the class time to recruit volunteer research participants.

The researcher attended the first or last 30 minutes of scheduled classes to collect data. The researcher explained the purpose of this study was to compare life satisfaction, academic stress, locus of control, and achievement motivation across international and domestic college students in the U.S. The age criterion to participate was 18 years old or older. Participants were told their participation was voluntary and that their responses would remain anonymous. A survey package including an information letter, demographic form, and instrumentation measuring the study constructs (*Achievement Motivation Survey*, the *Satisfaction with Life Scale*, *Rotter Internal-External Locus of Control Scale*, and the *Student Life Stress Inventory*) were given to volunteer participants. Prior to taking the survey, participants were asked to read an information letter. They were informed that the survey would take between 20-25 minutes to complete. In addition, the letter indicated that 20 ten dollar Subway gift cards were being offered as a monetary incentive. Individuals who participated in this study were offered the opportunity to enter a lottery for a chance to win a gift card when they finished and returned the survey materials. A separate sheet was provided to collect participants' email addresses and phone numbers for lottery entry. Participants were informed that gift card winners would be announced by the end of April 2016.

## **Instrumentation**

### **Demographic Questionnaire**

A demographic form was designed to collect data related to participant's age, gender, relationship status, current GPA score, academic standing (e.g., Freshmen), parents' education level, and identified academic major. Additional questions were asked individually to domestic

and international students. International students were also asked about their country of origin, scores of English proficiency tests (e.g. IELTS, TOEFL), and years of residency in the U.S.

Domestic students were also asked to report their ethnicity.

### **The Smith Achievement Motivation Scale**

The SAMS (Smith et al., 2016) was developed after an initial validation of the Achievement Motivation Inventory (AMI; Smith, 1972). The initial model of SAMS consisted of 21 items based on the Achievement Motivation Theory developed by Atkinson and McClelland (1948). McClelland (1961) described achievement motivation as striving for success, evidenced by persistence and effort in the face of difficulties. The work done by McClelland and his colleagues was explored further to describe the characteristics of thinking and behavior patterns of high achieving persons.

To validate the SAMS instrument, researchers (Smith et al., 2016) conducted two different analysis using different data sets. An Exploratory Factor Analysis (EFA) using principal component analysis with a promax rotation was conducted on the first data set including 303 students enrolled in graduate and undergraduate courses in a university setting. Results of the EFA showed that the SAMS retained 14 items under two factors accounting for approximately 55% of the variance in the model. A Confirmatory Factor Analysis (CFA) was used to evaluate the model in the second analysis. The CFA has been shown to be an appropriate follow-up analytical approach to establish the factor structure of a scale (Bartholomew, Scheel, & Cole, 2015). The CFA was conducted using a new data set that included 329 participants from this study. The results of the CFA indicated a good fit (Dimitrov, 2012). Based on the modification indices, three modifications were made. The first modification suggested adding an error covariance between items 11 and 14. The second modification suggested adding an error

covariance between items 2 and 4. The third modification suggested adding an error covariance between items 8 and 9. From the values found in the last modification, the values  $X^2 (74) = 154.36$ ,  $X^2 / df = 2.08$ , CFI= .92, GFI= .93, TLI=.90, RMSEA= .059, and SRMR= .05, were detected relating to the suggested 2-factor model. These two factors measure the achievement thoughts and behaviors as described in McClelland's (1961) high achieving individual.

To establish further evidence, estimates of reliability for the normative sample were assessed using Cronbach's Alphas. The correlation for the scores on the sub-scales was moderate: Achievement Thoughts (.74) and Achievement Behavior (.65). The overall alpha coefficient for the SAMS was .83. Arora (2015) reported similar Cronbach's alpha coefficients for scores on the SAMS subscales ranging from .62 (Achievement behavior) to .77 (Achievement thoughts) indicating moderate reliability of the items and moderate convergent validity with related measures of achievement motivation.

The SAMS uses a 5-point Likert-type response format with values ranging from 0 (*never*) to 4 (*always*). The minimum scores that one can obtain is 0 and the maximum score is 56 (Smith et al., 2016). Higher scores refer to high level of achievement motivation and lower scores refer to low level of achievement motivation. The 14-item scale includes items such as "I feel that my present work is meaningful" and "I try and follow the rule: Business before pleasure." The SAMS takes approximately five minutes to administer.

### **Rotter Internal-External Locus of Control Scale**

The I-E scale (Rotter, 1966) is a forced-choice, 29-item questionnaire including six filler items. The I-E scale was designed to measure behaviors from life areas such as love, dominance, and social-political events (Lange & Tigge mann, 1981). Participants are asked to select one statement from a pair of statements they believe to be true in their lives. A sample question from

the scale is “a) many of the unhappy things in people's lives are partly due to bad luck, or b) people's misfortunes result from the mistakes they make.” In this example “a” represents an external response and “b” an internal response.

The I-E scale takes five to ten minutes to administer. Each item on the scale consists of two statements representing internal and external locus of control. Twenty-three items are scored giving one point for each external response. Scores range between 0 and 23. A score ranging between 0 and 12 represents an internal locus of control while a score ranging between 13 and 23 represents an external locus of control. The non-scored filler items are items 1, 8, 14, 19, 24, and 27. The I-E scale has been translated into 22 different languages, and validated on various populations including men and women, different ethnic groups, college and high school students, and veterans (Rottler, 1966; Smith et al., 1995). Rotter (1966) reported test-retest reliabilities across several samples as varying between .49 and .83 over one to two month time intervals.

### **The Student Life Stress Inventory**

The SSI-Revised (Gadzella & Masten, 2005) was developed to measure academic stress. The first version of the SSI was developed by Gadzella (1991) and consisted of 51 items under nine categories (stressors) and two sections (reactions to stressors). The instrument was later revised by Gadzella and Masten (2005) to improve its psychometric properties. The SSI-R has 53 items grouped under five factors of academic stressors and four categories of reactions to stressors. For the academic stressors section, factors include: (a) the Frustration subscale measuring frustration coming from delays, daily hassles affecting goals, lack of resources (e.g., money for book), and dating problems; (b) the Conflict subscale measuring academic stress due to having two or more desirable and undesirable alternatives; (c) the Changes subscale assessing



how life changes disrupt students' lives; (d) the Self-imposed subscale measuring students' desires to complete assignments and be loved by others; and (e) the Pressure subscale assessing academic stress resulting from competition, deadlines, work overload, responsibilities and expectations. The four categories of reactions to stressors include: (a) physiological reactions involving sweating, trembling, exhaustion, weight loss or gain, and headaches; (b) emotional reactions including fear, anxiety, worry, anger, and guilt; (c) cognitive reactions referring students' responses to stressful events and the ability of analyzing effective strategies; and (d) behavioral reactions consisting of crying, abuse, smoking, drinking, and irritability.

The reliability and validity of scores on the SSI-R were evaluated with a sample of 336 college students. The reliability of the instrument was assessed by Cronbach's alpha coefficients. The reliability of subscales ranged from .61 on the Self-imposed subscale to .86 on the Changes subscale, indicating poor and strong reliability of measures (Gadzella & Masten, 2005). The total reliability of the instrument was high with a reliability coefficient of .92. The SSI-R uses a 5-point Likert-type response format with values ranging from 1 (*never*) to 5 (*most of the time*). Total scores range between 53 and 265, with higher scores referencing high level of academic stress and lower scores referencing lowered level of academic stress.

### **The Satisfaction with Life Scale**

The SWLS (Diener et al., 1985) was developed to assess how satisfied an individual is with his/her life in terms of well-being and can be used across multiple age groups. The scale is a self-report questionnaire that estimates perceived level of life satisfaction across five items, by using a 7-point Likert-type response format with values ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Total scores range between 5 and 35. Scores of 20 and above indicate an above average level of satisfaction with life, while scores of 19 and below indicate a lower than

average level of life satisfaction (Dave et al., 2011; SWLS, 2006). The 5-item scale includes items such as “In most ways my life is close to my ideal” and “I am satisfied with life.” The SWLS has been translated into 32 different languages and is well-suited for use with individuals from different cultural backgrounds (SWLS, 2014). Good internal consistency was reported for this scale as evidenced by a computed Cronbach’s alpha coefficient of .84 (Diener et al., 1985).

### **Data Analysis**

Data were analyzed using Statistical Package for the Social Sciences (SPSS) 21.0 software. Prior to the data analysis, data were screened for entry errors and missing data. Descriptive statistics, multiple regression models, Fisher’s  $z$  transformation, and MANOVA were conducted to answer the research questions. Descriptive statistics were used to summarize and organize the data, such as means, standard deviations, percentages, and range scores. In addition, model assumptions for each analysis were reported. The following methods of analysis were used to answer each of the research questions.

**Research question 1:** Are there differences between domestic and international college students’ levels of life satisfaction, academic stress, locus of control, and achievement motivation?

Descriptive statistics and MANOVA were used to see the levels of variables for domestic and international students. MANOVA emphasizes the mean differences and statistical significance of differences among groups (Tabachnick & Fidell, 2013). According to Dimitrov (2009), MANOVA is an applicable analysis to study the differences among two or more groups (independent variables; IVs) on a combination of two or more dependent variables (DVs). In the current study, the difference between international and domestic college students (IVs) was investigated with the levels of life satisfaction, achievement motivation, locus of control, and

academic stress (DVs). Before proceeding with MANOVA, researchers need to evaluate model assumptions (Tabachnick & Fidell, 2013). For this study, the following model assumptions were assessed before running the primary analysis: independence, multivariate normality, linearity, and homogeneity of variance-covariance matrices. After confirming that all model assumptions were met, Wilks' Lambda and  $F$  test were analyzed for significance. A post hoc discriminant analysis was conducted to determine how the college group differences were manifested across the dependent variables. In MANOVA, discriminant analysis explains whether group membership is associated with statistically significant mean differences on a combination of DVs (Tabachnick & Fidell, 2013).

**Research question 2:** Do life satisfaction, academic stress, and locus of control predict a significant percentage of achievement motivation among college students?

A hierarchical multiple regression was conducted to answer this question. In this analysis, predictor variables are entered into the regression equation, one at a time, "to determine their unique contribution to the prediction of the criterion variable" (Dimitrov, 2009, p. 207). In this study, the predictor variables (IVs) were life satisfaction, locus of control, and academic stress. The criterion variable (DV) was achievement motivation. The following model assumptions were applicable for this study: independence, normality, linearity, and multicollinearity. After checking model assumptions, three regression models (see Table 2) were analyzed to determine the unique contribution of predictors on the criterion variable by evaluating the  $F$  test associated with model change.

**Research question 3:** Is there a difference in model fit between domestic and international college students for the predictive model regressing life satisfaction, academic stress, and locus of control on achievement motivation?

A hierarchical multiple regression was conducted separately for domestic and international students. To evaluate whether two regression models were significantly different from one another, a Fisher's  $z$  transformation was used. To use Fisher's  $z$  transformation, one needs to test whether the correlation within groups is statistically significant (Kenny, 1987). The results of multiple regression analyses showed that there was a statistically significant relationship between the variables in two groups (domestic and international). Fisher's  $z$  transformation requires that two correlations be independent (Kenny, 1987). In other words, the correlations computed use two different sets of participants. In the current study, two sets of the data included different participants (domestic and international college students) showing the independence.

Table 2

*Hierarchical Multiple Regression Models*

Models	Predictor Variable(s)	Criterion Variable
Model 1	Locus of Control	
Model 2	Locus of Control Academic Stress	Achievement Motivation
Model 3	Locus of Control Academic Stress Life Satisfaction	

## **Chapter Summary**

In this chapter, the research questions addressed, research design implemented, description of participants recruited, data collection procedures utilized, survey measures administered, and data analyses conducted were discussed. The sample of the study included 307 undergraduate students at a Hispanic Serving Institution in South Texas. Two hundred and forty one participants were domestic and 66 were international students. Research questions were addressed using an explanatory, non-experimental, and correlational design. The instruments used to measure the study variables; the Smith Achievement Motivation Scale (SAMS), Rotter Internal-External Locus of Control Scale (I-E Scale), the Student Life Stress Inventory-Revised (SSI-R), and the Satisfaction with Life Scale (SWLS), were introduced, and collected data were analyzed using descriptive statistics, multiple regression models, Fisher's exact test, and MANOVA to answer the research questions.

## **CHAPTER IV: RESULTS**

This chapter includes results based on a quantitative analysis aimed at examining the relationship between achievement motivation, locus of control, academic stress, and life satisfaction. This chapter reports on the data preparation steps taken, provides a demographic profile of participants, and presents the results of the preliminary analyses, descriptive statistics, and primary analyses conducted. The researcher employed bivariate, univariate, discriminant analysis, and regression procedures to answer the following research questions:

1. Are there differences between domestic and international college students' levels of life satisfaction, academic stress, locus of control, and achievement motivation?
2. Do life satisfaction, academic stress, and locus of control predict a significant percentage of the variance in achievement motivation among college students?
3. Is there a difference in model fit between domestic and international college students for the predictive model regressing life satisfaction, academic stress, and locus of control on achievement motivation?

### **Data Preparation**

A total of 334 participants attended to this study. The data utilized in the study were derived from a single administration of the SAMS ( $n= 329$ ), the I-E scale ( $n= 322$ ), the SSI-R ( $n= 330$ ), and the SWLS ( $n= 328$ ). Three steps were followed to clean the data. First, the data set was examined and 21 cases were removed due to unanswered instruments. Among these cases, 11 were from the international student group and 10 were from the domestic group. The second step was to evaluate and either omit or replace missing data. Data were transformed with the Nmiss formula (0= data I had; 1= missing data) to determine their randomness. Bivariate correlations of replaced data were conducted and compared to each untransformed variable to

determine whether the data was missing completely at random (MCAR) or missing at random (MAR). The bivariate analyses and the percentage of missing data showed that the data were missing completely at random (MCAR). As a result, missing values were replaced with the series mean. After replacing the missing values, a series of paired samples t-tests were conducted with the original values and then compared to a series of paired samples t-tests with replaced missing values data in order to determine equality. The results indicated that the replaced values did not statistically change from the original data set. The third step was to analyze distributions to achieve normality. A graph analysis was conducted to detect outliers and determine the values needing to be deleted. A Mahalanobis Distance was conducted to detect multivariate outliers. First, linear regression was run to obtain Mahalanobis Distance. A critical chi-square value ( $df=4$ ;  $\alpha=.05$ ) of 9.48 was identified. Based on the chi-square critical value, six cases were removed from the domestic student group reducing the initial sample to  $N=307$ . No additional adjustments were made to the data set.

### **Demographics**

The sample in this study included 307 domestic and international undergraduate students. Of the completed surveys, 66 participants were in the international student group and 241 participants were in the domestic group. An a priori power analysis yielded a total sample size of 86 to find statistical significance with a moderate effect size ( $f^2 = .15$ ). Based on this result, the sample size of 307 used in this study was deemed sufficient for finding between groups differences should they exist. Different demographic forms were designed for each group. The general questions included in both forms gathered information related to participant's age, gender, relationship status, current GPA score, academic standing (e.g., freshmen, sophomore, junior, or senior), education level in the immediate family, and college major. However,

international students also were asked about their country of origin, scores of English proficiency tests (e.g. IELTS, TOEFL), and years of residency in the U.S. while domestic students also were asked to self-report their ethnicity.

### **Domestic Students**

The mean age of the participants was 21.27 years ( $SD = 5.35$ ; range: 17-49 years), with two participants failing to respond to the demographic query. More men ( $n=137$ , 56.9%) than women ( $n=104$ , 43.1%) participated. Participants reported their academic levels as freshmen ( $n = 121$ , 50%), sophomores ( $n = 20$ , 8%), juniors ( $n = 23$ , 10%), and seniors ( $n = 77$ , 32%). Participants identified themselves as White or Caucasian ( $n = 110$ , 45.6%), African American ( $n = 9$ , 3.6%), Asian American ( $n = 9$ , 3.6%), Hispanic or Latino ( $n = 89$ , 37%), Pacific Islander ( $n = 21$ , 9%), and Multiracial ( $n = 1$ , 0.4%). Two participants failed to respond to this demographic query. With respect to college major, participants reported their college majors as Business and Management ( $n = 41$ , 17.2%), Science and Engineering ( $n = 120$ , 50.2%), Liberal Arts ( $n = 36$ , 15.1%), Education ( $n = 16$ , 6.7%), and Nursing ( $n = 26$ , 10.9%). Domestic students reported their relationship status as married ( $n = 19$ , 7.9%), single ( $n = 146$ , 61.1%), in a relationship ( $n = 71$ , 29.7%), and other ( $n = 3$ , 1.2%). With respect to the education level in their immediate family, 60 participants (25.2%) reported that they were the first one in their family to attend college, 55 participants (23.1%) were the second one to attend college, 40 participants (16.8%) were the third one to attend college, and 83 participants (34.9%) were one among many. One participant failed to respond to this demographic query.



## International Students

The mean age of the participants was 21.51 years ( $SD = 2.92$ ; range: 17-34 years) with one participant failing to respond to this demographic query. More men ( $n = 39, 59.1\%$ ) than women ( $n = 27, 40.9\%$ ) participated in this study. Participants reported their academic levels as freshmen ( $n = 36, 55.4\%$ ), sophomores ( $n = 6, 9.2\%$ ), juniors ( $n = 11, 16.9\%$ ), and seniors ( $n = 12, 18.5\%$ ). One participant failed to respond to this demographic query. International participants hailed from a variety of countries, including Saudi Arabia ( $n = 23, 35.4\%$ ), China ( $n = 11, 16.9\%$ ), Vietnam ( $n = 10, 15.4\%$ ), India ( $n = 2, 3.1\%$ ), Taiwan ( $n = 2, 3.1\%$ ), Mexico ( $n = 2, 3.1\%$ ), Turkey ( $n = 2, 3.1\%$ ), and other unspecified countries ( $n = 13, 20\%$ ). One participant failed to respond to this demographic query. With respect to college major, participants reported their college majors as Business and Management ( $n = 32, 48.5\%$ ), Science and Engineering ( $n = 25, 37.9\%$ ), Liberal Arts ( $n = 5, 7.6\%$ ), Education ( $n = 2, 3\%$ ), and Nursing ( $n = 2, 3\%$ ). International students reported their relationship status as being married ( $n = 4, 6.2\%$ ), single ( $n = 51, 78.5\%$ ), or in a relationship ( $n = 10, 15.2\%$ ). One participant failed to respond to this demographic query. With respect to the education level in the immediate family, 16 participants (24.6%) reported that they were the first one in their family to attend college, 13 participants (20%) were the second one to attend college, eight participants (12.3%) were the third one to attend college, and 27 participants (43%) were one among many. One participant failed to respond to this demographic query. By running frequencies, it was determined that 16 (24.2%) students were in the U.S. less than 12 months, 22 (33.3%) between 12 and 23 months, 9 (13.2%) between 2 and 3 years, and 19 (29.2%) more than three years.

### **Preliminary Analysis**

First, descriptive statistics and alpha coefficients were computed for each instrument used in the study (see Table 3). Next, the assumptions of MANOVA and multiple linear regression models were tested. To assess the assumption of normality, box plots were inspected and a Shapiro-Wilk goodness-of-fit test was computed and its results interpreted. Box plot analyses and the Shapiro-Wilk test of normality ( $W > .01$ ) indicated the data to be normally distributed for all measures except for life satisfaction in the domestic student group. Upon analyzing the skewness of this variable (-.44), the value was considered acceptable in order to prove normality (George & Mallery, 2010). To assess the assumption of homogeneity of covariances, Box's  $M$  was inspected. Box's  $M$  (14.70,  $p = .157$ ) indicated that the assumption was met. To assess the assumptions of linearity and homoscedasticity, standardized residual plots were inspected. To assess for multicollinearity, bivariate correlations and variance inflation factors (VIF) were examined (see Table 3). The results of these preliminary analyses indicated no evidence suggesting that these assumptions had been violated. As a result, the data were deemed appropriate to analyze using MANOVA and multiple regression.

### **Data Analysis**

#### **Research Question 1**

A one-way MANOVA was conducted to determine the effect of student status (domestic or international) on levels of achievement motivation, locus of control, academic stress, and life satisfaction. An alpha level of .05 was utilized as the criterion for determining statistical significance. Descriptive statistics for each of the dependent variables across student status are presented in Table 5. A statistically significant effect was identified between student status and the four dependent variables, Wilks'  $\lambda = .961$ ,  $F(4,302) = 3.06$ ,  $p < .05$ . In this study, statistical

Table 3

*Means, Standard Deviations, Reliability Coefficients, VIF, and Bivariate Correlations for Scores among Scales Used as Predictor and Criterion Variables (N=307)*

Variable	1	2	3	4	VIF
1. Achievement Motivation	*	-.31*	.03	.32*	-
2. Locus of Control		*	.29*	-.26*	1.13
3. Academic Stress			*	-.24*	1.14
4. Life Satisfaction				*	1.09
<i>M</i>	39.36	10.68	151.00	24.17	-
<i>SD</i>	6.45	3.70	27.33	6.27	-
$\alpha$	.82	.68	.93	.84	-

\* $p < .001$

significance was noted with a small effect size ( $f^2 = .04$ ), limiting the practical significance of these results. A follow-up post-hoc discriminant analysis was conducted to determine how group differences were manifested across the dependent variables. The discriminant function was significant, Wilks'  $\lambda = .961$ ,  $\chi^2(4) = 12.04$ ,  $p < .05$ . Achievement motivation loaded strongly ( $r > .74$ ) and had a strong relationship ( $\beta = .816$ ) with the discriminant function. Based on these results, it was found that international students had marginally lower achievement motivation than domestic students.

## Research Question 2

A three-step hierarchical multiple linear regression analysis was performed to evaluate the relationship between achievement motivation, locus of control, academic stress, and life satisfaction (see Table 4). In the first step, locus of control was added to the model as a predictor variable with achievement motivation as the criterion. The literature indicated a strong relationship between achievement motivation and locus of control (Fini & Yousefzadeh, 2011; Strain, 1993). Hence, the first variable included in the equation was locus of control.

Table 4

*Predictors of Achievement Motivation*

Variable	Model 1	Model 2		Model 3	
	<i>B</i>	<i>B</i>	95% CI	<i>B</i>	95% CI
Constant	45.10**	41.23**	[37.27, 45.20]	31.10**	[25.75, 36.47]
Locus of control	-.54**	-.60**	[-.80, -.40]	-.50**	[-.69, -.31]
Academic Stress		.03*	[.004, .06]	.04*	[.02, .07]
Life Satisfaction				.30**	[.18, .41]
$R^2$	.10**		.11*		.18**
$\Delta R^2$	.09**		.10*		.18**

Note.  $N = 307$ . CI = confidence interval.

\* $p < .05$ . \*\* $p < .001$

This predictor variable explained a significant portion of the variance in undergraduate student achievement motivation,  $F(1, 305) = 31.96, p < .001, R^2 = .10$  (adjusted  $R^2 = .09$ ). Specifically, locus of control was negatively correlated with achievement motivation. In the second step, academic stress was added to the model as a predictor variable to determine the extent to which academic stress improves the prediction of achievement motivation. Research showed that there were significant correlations between college students' stress levels and locus of control (Carvalho et al., 2009), and motivation and academic stress (Struthers et al., 2000). The linear combination of these two predictor variables explained a significant portion of the variance in undergraduate student achievement motivation,  $F(2, 304) = 18.76, p < .05, R^2 = .11$  (adjusted  $R^2 = .10$ ). In contrast to locus of control, academic stress was not significantly correlated with achievement motivation. In the third step, life satisfaction was added to the second model to determine whether this variable significantly improved the amount of explained variance in student achievement motivation attributed to the linear model. In previous studies, researchers

(Chai et al., 2012; Dave et al., 2011) reported relationship between life satisfaction and other predictor variables. However, theoretically this was not enough to enter life satisfaction into the analysis before two other variables. The inclusion of life satisfaction resulted in a significant portion of the variance in undergraduate student achievement motivation being explained by the linear combination of the three predictor variables,  $F(3, 303) = 22.85, p < .001, R^2 = .18$  (adjusted  $R^2 = .18$ ). Life satisfaction was positively correlated undergraduate student achievement motivation.

Following Cohen's (1992) recommendation that unique contributions to the overall variance of a model are indicated by  $\Delta R^2$  values  $\geq .02$ , the computed  $\Delta R^2$  value of .08 in this study indicates that life satisfaction is a significant predictor of undergraduate student achievement motivation after controlling for both locus of control and academic stress. A post hoc power analysis indicated that power was sufficient for this study,  $1 - \beta > .95$ ; and, given the sample size of  $n = 307$ , statistical significance was detected for small effect sizes,  $f^2 = .06$ .

### **Research Question 3**

To address research question 3, a series of simultaneous multiple regression analyses were run to examine the relationships between achievement motivation, locus of control, academic stress, and life satisfaction and compare the models derived from domestic and international undergraduate students. Table 5 shows the univariate statistics, correlations of each variable with achievement motivation, and the multiple regression beta weights for each of the two student groups.

Comparing model fit for the domestic and international student groups revealed no significant difference between their respective  $R^2$  values, Fisher  $Z = -.353, p > .05$ . A comparison of the structure of the models from the two groups also was conducted by applying

Table 5

*Summary Statistics, Correlations and Multiple Regression Weights from Domestic and International Students*

Variable	Domestic Students (N= 241)					International Students (N= 66)				
	<i>M</i>	<i>SD</i>	<i>r</i> with AMO	<i>B</i>	$\beta$	<i>M</i>	<i>SD</i>	<i>r</i> with AMO	<i>B</i>	$\beta$
AMO	39.86	6.63				37.53	5.39			
LOC	10.76	3.72	-.31*	-.54	-.30	10.42	3.60	-.37*	-.36	-.24
LS	24.25	6.45	.30*	.29	.28	23.86	5.59	.41*	.31	.33
AS	152.73	27.75	.03	.04	.19	144.66	24.91	-.07	.01	.07
Constant				31.91					31.72	

*Note.* AMO= Achievement Motivation, LOC= Locus of Control, LS= Life Satisfaction, AS= Academic Stress. \* $p < .001$

the model derived from international students to the data from domestic students and comparing the resulting crossed  $R^2$  with the direct  $R^2$  originally obtained from this group. The direct  $R^2 = .40$  and crossed  $R^2 = .43$  were not significantly different, Fisher  $Z = -1.208$ ,  $p > .05$ , indicating that the apparent differential structure of the regression weights from the two groups described above do not warrant further interpretation and investigation.

### Chapter Summary

Utilizing the survey responses of 307 domestic and international undergraduate students, various statistical analyses were employed to answer the research questions. A one-way MANOVA was conducted to determine the effect of student status (domestic or international) on levels of achievement motivation, locus of control, academic stress, and life satisfaction. A statistically significant effect was identified between student status and achievement motivation, locus of control, academic stress, and life satisfaction. Centroid means for the discriminant

function indicated that international student status (-.38) had the most effect in achievement motivation.

A three-step hierarchical multiple linear regression analysis was performed to evaluate the relationship between achievement motivation, locus of control, academic stress, and life satisfaction. There were significant relationships among predictor and criterion variables. The linear combination of the three predictor variables in Model 3 significantly explained 18% of the variance in achievement motivation. A series of simultaneous multiple regression analyses were run to compare the models derived from domestic and international undergraduate students. Comparison of the fit of the model from domestic and international students revealed there to be no statistically significant differences between the groups.

## **CHAPTER V: DISCUSSION**

The current study was conducted to better understand the differences in predictors of achievement motivation between domestic and international college students. Identifying predictors of achievement motivation is important because they are significant factors critical to students' academic success, life satisfaction, and college satisfaction; as well as important predictors of student retention (Derboghossian, 2007; Herrero, 2014; Oladipo et al., 2013). Additionally, identifying predictors of achievement motivation among college students may result in possible implications for curricular modifications, teaching methods, academic success, and counseling services in colleges. In this chapter, a discussion of the results of the current study is provided within the context of previous research on achievement motivation, locus of control, academic stress, and life satisfaction among college students. Implications of the findings, limitations of the study, recommendations for future research, and concluding remarks also are included.

### **Differences between Domestic and International Students**

The definition of achievement is culturally variable, and motives behind individual success can differ depending on cultural background, family values, and world views. The U.S. is the leading country in the world hosting more international students than other countries. International students come from different backgrounds and cultures. This diversity provides economical, educational, cultural, and intellectual advantages to the U.S. education system and society as a whole. International students contributed over 30 billion dollars to the U.S. economy in 2014 (IIE, 2015). Their cultural and educational differences bring an international perspective to the classroom. In addition, students' intercultural interaction with society reveals positive outcomes in terms of multiculturalism. On the other hand, this situation might change



under certain conditions when they try to adapt to the new culture and education system. As Trumbull and Rothstein-Fisch (2011) have stated the American education system is likely to reflect individualistic values of the dominant U.S. culture. Educators need to be aware of how international students view success and motivation. In other words, their situations should not be interpreted from the cultural worldview of their host country. In this regard, knowing how international students differ from their domestic peers and how culture affects their level of achievement motivation would be beneficial to educators, college administrators, and counselors.

The results of the current study showed a statistically significant difference between domestic and international students in terms of achievement motivation. However, a noted small effect size limits the practical significance of these results. Based on a post-hoc discriminant analysis, domestic and international students' achievement motivation levels were significantly different, with domestic students reporting higher levels of achievement motivation than international students. This finding differs from prior studies (Epstein, 1997; Liao et al., 2012).

Limited studies comparing the levels of achievement motivation of domestic and international college students exist in the extant literature. In a study conducted by Epstein (1997), international students' levels of achievement motivation were found to be higher than both domestic and legal immigrant students. On the other hand, Liao et al. (2012) found there to be no statistically significant difference between domestic and international students in terms of their levels of achievement motivation when studying motivation, self-regulated learning efficacy, and academic achievement. The diversity in the results of these studies most likely can be explained by examining the characteristics of participants, employed measures, and cultural factors. Comparing the participants in this inquiry to those in Epstein's (1997) study, shows that while Epstein's participants were more diverse, 50 international students from 27 different

countries were included, the current study had a larger number of participants overall, 66 international students from 15 different countries and majority of them were from Saudi Arabia ( $n = 23$ , 35.4%), China ( $n = 11$ , 16.9%), and Vietnam ( $n = 10$ , 15.4%). A similar comparison between the present study and the study conducted by Liao et al. (2012) was not possible due to the limited amount of information the latter authors provided about their participants. In addition to differences in sample composition, each study used a different achievement motivation instrument measuring different dimensions of the concept. For example, Epstein (1997) used the Measurement of Achievement Motivation Questionnaire (MAMQ) developed by Ory and Poggio (1975; as cited in Epstein, 1997). The MAMQ was founded on the works of McClelland and Weiner, and includes McClelland's internal concept of achievement motivation and Weiner's external activities which were identified under four factors: a) ability, b) effort, c) task difficulty, and d) luck. On the other hand, Liao et al. (2012) adopted three different instruments (Betz & Voyten, 1997; Deci & Ryan, 1985; Landry, 2003; as cited in Liao et al., 2012) to measure extrinsic and intrinsic motivation. Furthermore, the current inquiry used the SAMS (Smith et al., 2016) which measures achievement motivation from achievement thoughts and achievement behaviors based on McClelland's theory. Therefore, any differences noted in the results can be an outcome of theoretical approaches applied as each instrument used in the studies measures different dimensions of achievement motivation. Lastly, scholars (Maehr, 2008; Mehta, 2011; Nygard, 1975; Trumbull & Rothstein-Fisch, 2011) have shown the definition of achievement to be a cultural variable motivating and pushing students toward achievement that tends to change from culture to culture. In another study, Otsuka and Smith (2005) stated cultural differences affect achievement motivation. Their hypothesis was individuals' beliefs about ability and success would change from culture to culture. They stated that the beliefs about achievement

motivation among individuals who belong to the same culture could differentiate from each other. In this regard, participants both in this inquiry and previous studies (Epstein, 1997; Liao et al., 2012) come from different countries and are adhere to different cultural values. In parallel with Otsuka and Smith (2005), the differences among results can be a consequence of the cultural differences among participants.

Furthermore, the results indicate that there was no statistically significant difference found between the two groups' levels of locus of control. Researchers (Schmit, 2000; Stuart, 2000; Yamaguchi & Wiseman, 2003) investigated international students' levels of locus of control to understand its relationship with their intercultural communication, self-construal, psychological health, psychological adjustment, and adjustment to college. However, no previous formal research has explored the difference between domestic and international students' locus of control levels. In this regard, this study addressed a noted gap in the literature.

Another result of the study was that that there was no statistically significant difference between the two groups' levels of life satisfaction. The findings from this analysis was not in line with previous findings indicating a significant difference between domestic and international students' levels of life satisfaction (Gnilka, Ashby, Matheny, Chung, & Chang, 2015; Henning, Krägeloh, Moir, Doherty, & Hawken, 2012). In a study conducted by Henning et al. (2012), there was a statistically significant difference between domestic and international medical students' life satisfaction, with researchers finding that international students were experiencing lower social and environmental quality of life when compared with domestic students. In a study by Gnilka et al. (2015), in which domestic and Taiwanese college students were compared, results indicated that U.S. students had higher life satisfaction than Taiwanese students. An explanation of the variability between this inquiry and previous studies might be the difference

between participants and the geographical location in which the studies were conducted.

Henning et al. (2012) study was conducted in New Zealand. Domestic students were from New Zealand and the majority of international students were from European and Asian countries. In the study conducted by Gnilka et al. (2015), only one group of international students was included whereas the current study included 66 international students from different nations.

Lastly, the results showed there to be no statistically significant difference between the two groups in terms of their perceived levels of academic stress. This finding was consistent with previous research (Chai et al., 2012; DeDeyn, 2008) indicating there to be significant difference between domestic and international students. However, Akhtar (2012), Misra and Castillo (2004), and Yang (2010) have reported findings indicating the opposite. One explanation for the difference among these results might be cultural. As Good and Kleinman (1985) and Karaman, Balkin, and Juhnke (2015) have stated, the phenomenology of stress may vary in significant ways from one culture to another. From this point, cultural norms and expectations about an educational degree or education in general have the potential to create different levels of academic stress from country to country.

### **Relationship among Achievement Motivation, Locus of Control, Academic Stress, and Life Satisfaction**

The way college students assess their strengths is a significant factor influencing their achievement. Some students believe that reinforcement is dependent on their capacities, behaviors, or attributes, while others believe that reinforcement is dependent on the control of powerful others, destiny, luck, or chance (Dollinger, 2000; Gifford et al., 2006). As mentioned previously, Rotter (1966) named this concept as locus of control. Lefcourt (1981) stated locus of

control and achievement motivation were important variables in developing a positive self-concept.

The results of this study indicate locus of control to be a significant predictor of achievement motivation, explaining 9% of its variance respectively. Moreover, there was a significant negative moderate correlation between locus of control and achievement motivation meaning students who had a higher achievement motivation had a lower external locus of control. In other words, students who had higher internal locus of control believe that achievement is dependent on their capacities, behaviors, or attributes. On the other hand, students who had higher external locus of control believe that achievement is dependent on the control of powerful others, destiny, luck, or chance. This finding supported previous findings which indicated a significant negative relationship between locus of control and achievement motivation (Epstein, 1996; Fini & Yousefzadeh, 2011; Graham, 2007; Schultz & Pomerantz, 1974; Strain, 1993). In light of these findings, the study stands to strengthen the relationship between achievement motivation and locus of control in the literature.

Academic stress was another significant predictive factor of college students' achievement motivation. However, academic stress did not make a unique contribution when included with locus of control, explaining the 10% variance, respectively. Surprisingly, there was no significant relationship between academic stress and achievement motivation. However, it is important to recognize that in a recent study, Dong (2014) found a negative significant relationship with achievement motivation. The findings showed that students who had higher academic stress had lower intrinsic motivation but a higher extrinsic level of motivation. At the best knowledge of the researcher, there are no other studies showing the association between

academic stress and achievement motivation. This shows that further studies including academic stress and achievement motivation are needed.

The last predictive factor added into the model to predict achievement motivation was life satisfaction. Life satisfaction represents the positive side of human behavior (Diener, 2000). Moreover, it has been seen as an important factor of happiness (Diener et al., 2002). There were different factors affecting life satisfaction, such as stress, social connectedness, and locus of control, etc. (Coccia & Darling, 2014; Dave et al., 2011; Kaya et al., 2015). Achievement motivation was also a significant predictor of life satisfaction (Oladipo et al., 2013). The findings of the current study showed life satisfaction was a significant predictor of achievement motivation, explaining an overall 18% of variance with academic stress and locus of control, respectively. Based on Cohen's (1992) recommendation, the computed  $\Delta R^2$  value of .08 in the study indicates that life satisfaction was a significant predictor of undergraduate student achievement motivation. Moreover, there was a significant and positive moderate relationship between achievement motivation and life satisfaction. This is consistent with previous findings (Dumitrescu et al., 2010; Judge et al., 2005; Martin-Albo et al., 2012; Salinas-Jim'nez et al., 2010), where results showed that students with higher levels of life satisfaction would have higher achievement motivation.

### **Differences between Domestic and International Students'**

#### **Achievement Motivation Models**

The study stands to understand how international and domestic college students gain satisfaction with life, process academic stress, use external and internal factors, and motivate themselves to achieve. Moving to another country is more than studying for international students. Adapting to new environments and cultures is stressful and may affect a student's life

satisfaction and motivation directly (Epstein, 1996; Sam, 2000; Wan et al., 1992). The focus on achievement motivation and its predictors may result in an understanding of personality differences and strength-based factors between international and domestic students. At this point, the results of this study indicated that locus of control, academic stress, and life satisfaction were significant predictors of achievement motivation for both international and domestic college students.

The current study included two different hierarchical multiple regression models representing international and domestic college students. The results indicate that there was no statistically significant difference between the domestic and international college students' locus of control, academic stress, and life satisfaction as related to their effect on achievement motivation. While this result was consistent with Chai et al. (2012) and DeDeyn (2008), it was not consistent with the results of studies conducted by Akhtar (2012), Epstein (1997), Gnilka et al. (2015), Henning et al. (2012), Liao et al. (2012), Misra and Castillo (2004), and Yang (2010). The similarities between domestic and international students may be explained with the readiness level of international students. Said differently, international students are more able to review the places they can go, the universities they can apply, and the resources they can reach than before as a result of developed technological devices and web systems. For example, in a recent study Fritz et al. (2008) found there was no significant difference between international and North American students' levels of stressors, anxiety, acculturation, and adjustment. This indicated that international students were knowledgeable about and prepared for the cultural and educational system they would attend.

## **Implications**

International and domestic student enrollment at the undergraduate level continues to increase annually. However, while the number of international students has increased globally, the percentage of international students coming to study in U.S. universities has dramatically decreased (IIE, 2015). While the U.S. remains the premier destination for international students seeking to study abroad, other countries (e.g. Canada, UK, New Zealand) now compete to attract these students to their institutions as well. In parallel with this, the increasing international student population both in the world and U.S has caught the attention of researchers, higher education administrators, and counselors. International student research focused on acculturation, acculturative stress, retention, and transition (Chavajay & Skowronek, 2008; Desa, et al., 2012; Fritz, et al., 2008; Smith & Khawaja, 2011), while domestic student research mostly focused on retention, academic achievement, transition, and adjustment to college life (Friedman & Mandel, 2010; Hamdan-Mansour et al., 2015; Herrero, 2014; Pittman & Richmond, 2008). The results of the present study stand to contribute to the literature relating to achievement motivation, locus of control, academic stress, and life satisfaction.

By identifying predictors of achievement motivation, the study can be used to understand how college students motivate themselves to success and how their satisfaction of life, academic stress, and control over such situations affect their achievement motivation. One of the significant findings in the study showed international college students had lower achievement motivation than domestic students. From the college administrators' perspective, recruiting international students to study in the U.S. is of vital importance. However, it is more significant to know how to serve them, retain them, and graduate them (Korobova & Starobin, 2015). Further research showed that one of the ways to contribute to student retention rate was to



increase academic success (Aitken, 1982; Gifford et al., 2006; Hall & Wiley Gahn, 1994; Hu & St. John, 2001). In this regard, achievement motivation could be an important contributor to students' academic success (Trumbull & Rothstein-Fisch, 2011). Herrero (2014) found that achievement motivation was the most influential component to predict first year college students' GPA. In the light of these findings, previous research focused on factors behind success; however, it is important to know what predicts achievement motivation, which is a significant factor of academic success (Arora, 2015; Herrero, 2014; Trumbull & Rothstein-Fisch, 2011). The results of the study may have significant implications for college administrators, educators, and college counselors.

### **Implications for College Administrators and Educators**

Most higher education institutions have international student offices or departments; however, they do not have enough extracurricular activities and programs to prepare international students for the adjustment to their new environment and educational system (Abel, 2002; Lieb, 2016; Misra et al., 2003). The first step for college administrators to change this reality would be to determine the unique needs of international students. If institutional level needs are not met, students' level of life satisfaction may be affected. In a published study conducted by Study Portals (2013), university services (29%) and academics (24%) were cited as the top two reasons negatively affecting the level of satisfaction amongst international students. As mentioned previously, achievement motivation is a significant factor of academic success (Arora, 2015; Herrero, 2014; Trumbull & Rothstein-Fisch, 2011) and the quality of university services is one of the factors impacting students' satisfaction (Study Portals, 2013). Therefore, the current study can help university officials determine international students' problems in terms

of university services and academics within the variables of academic stress, achievement motivation, and life satisfaction.

One of the problems affecting international students is English as a language barrier (Galloway & Jenkins, 2005). Administrators can minimize this problem by developing language support programs under the academic departments (i.e. Intensive English Programs) or international offices. The second important problem for university services is providing services for different groups or types of international students (Galloway & Jenkins, 2005). For example, married students may need more support than single students in areas such as health services, dependent support documents, housing, type of visas, and orientation services. International offices staff and advisors who have specific training and are able to respond to the different needs of students can help improve these students' level of life satisfaction during their transition into a new culture and educational system.

The American educational system differs significantly from other countries' education systems (Abel, 2002). It may be beneficial for educators to prepare syllabi that take into consideration international students represented in their courses. For example, instructors can use an intermediate level English when they explain assignments and exams. In addition, Epstein (1997) found international students who had a higher level of achievement motivation enjoyed participating in group projects and achievement related activities. Therefore, varied projects and activities targeting the achievement motivation of students can be infused into the curriculums. More specifically, different approaches, programs, and supplementary materials based on the needs of students can help educators and college administrators to increase achievement motivation and life satisfaction of international students.

Overall, good academic and university services can affect international students' life satisfaction and achievement motivation. When students feel they receive poor quality university services or are being treated unfairly, their satisfaction with life and college can be negatively impacted (Study Portals, 2013). The current study demonstrates life satisfaction to be a significant predictor of achievement motivation. Therefore, this study stands to promote good academic and university services at institutional level. Based on the results, institutions should target achievement motivation construct when planning retention-based programs and initiatives.

### **Implications for College Counselors**

Despite growing student enrollment, the number of international students visiting university counseling services was 70% less than domestic students (Nilsson et al., 2004). In a more recent study, Hwang et al. (2014) examined international student utilization of counseling services over a period of five years and found that the trend indicated in earlier works related to the underutilization of counseling services by international students continues. Supporting and encouraging international students to seek professional help when having problems due to motivation, high academic stress, and low life satisfaction may help them increase the levels of achievement motivation and life satisfaction. Moreover, Hyun, Quinn, Madon, and Lusting (2007) reported that approximately 44% of international students had had an emotional or stress-related problem that significantly affected their well-being or academic performance within the past year. Therefore, promoting counseling services in order to reach these students is an important goal for college counselors. College counselors can work to achieve this goal by advertising their services during orientation week, making announcements using social media websites and university listserves, and giving resources (i.e. brochures) to the international offices to display in a prominent place where international students can see and take easily.

College counselors have the capacity to design or implement achievement focused training programs targeting both domestic and international college students. There are different programs similar to achievement motivation training, such as wellness programs and transition programs, which help support the students' development in a new culture. For example, Can, Prasad, and Lenz (2016) developed a supportive program for international student retention and transition collaborating with the international student office in the university setting. They found that students needed support for ethnic immersion, peer relations, and relationship with community. Based on these results, they formed a seven-week supportive group discussing the acculturation process, similarities and differences between cultures, relationship issues, communication skills oral or written, and campus and community resources. They stated that students who attended the seven-week groups gave positive feedback and recommended international office to repeat this service every semester.

Additionally, there have been achievement focused training programs designed specifically for college students that could be used by college counselors (see Arora, 2015; Elias, Rahman, & Rafaei, 1994; Herrero, 2014). Those programs were designed based on McClelland's high achievers' thought and behavior process. College counselors can modify these training programs based on the needs of their international students. In addition, college counselors in partnership with the university international office have the capacity to facilitate various workshops throughout the year regarding the U.S. education system, tips for achievement and success, motivation strategies, and using resources efficiently to reach goals.

### **Limitations**

The present study stands to add to the empirical literature of achievement motivation of domestic and international students enrolled at U.S. universities and colleges. However, the

results of the study may have been influenced by several factors. As a result, readers are encouraged to interpret results within the context of these noted limitations to accurately gauge how relevant they might be to their own institutions. Specifically, limitations associated with the analysis used, the achieved sample size, the use of self-report instruments, the demographics of participants, and the research design implemented were noted.

First, the study employed a convenience sample of international and domestic students enrolled in undergraduate courses at a regional public four-year university in South Texas. Therefore, the results of the study can be generalized only to international and domestic undergraduate students. Graduate students were not included in the study sample. Additionally, results cannot be generalized to international and domestic students studying in other countries because the educational systems, culture, and experiences of students in other countries would be different. Although the sample provided diversity in participants according to demographic characteristics such as sex, age, and country of origin, the international student sample contained an overrepresentation of persons from Saudi Arabia, China, and Vietnam which limits the generalizability of results among international students. Moreover, the two groups compared in the study had different numbers of participants. The unequal sample sizes led to comparative statistics being evaluated across an unbalanced design, limiting the generalizability and statistical power of the study.

Second, as is the case with all self-report inventories, the instruments used in this inquiry have potential limitations specific to the inaccuracy of personal perceptions, individual bias, faulty responses, and intentional or unintentional responses reflective of attempts to achieve social correctness. Participants may have selected items more desirable for them, or that placed them in a more favorable light, regardless of accuracy. In collecting, analyzing, and interpreting

the data, I operated under the assumption that participants responded honestly and as accurately as possible.

Lastly, the study included three predictive variables that might predict achievement motivation: life satisfaction, academic stress, and locus of control. However, these are not the only valid variables that might predict the achievement motivation of undergraduate students. For the purpose of this study, other variables were not included, but future researchers might consider including different variables to further predict achievement motivation among college students. While the variables chosen do add to our knowledge base, more needs to be examined to truly determine how life satisfaction and achievement motivation are developed in college students; especially international students.

### **Future Directions for Research**

Further research is recommended to expand and clarify the results of this study. International students face many challenges when they decide to study abroad. Further research exploring similar or different variables impacting international students' achievement motivation is needed to better understand these students and offer more targeted programming designed to meet their academic, social, and psychological expectations. Furthermore, the current study included students at a Hispanic Serving Institution in South Texas. Therefore, it is recommended that the study be replicated with international and domestic participants from different universities and regions across the U.S.

A mixed study is recommended to understand international and domestic students' personal meaning of achievement motivation, academic stress, locus of control, and life satisfaction. The variables included in the study are strength-based non-cognitive factors. Therefore, a qualitative inquiry discussing how students view these factors and more importantly

how they explain these factors from their cultural perspectives, might help educators and counselors create more efficient teaching and learning strategies for college students.

In the current study, multiple regression analysis showed that mainly locus of control and life satisfaction were leading factors explaining variance in achievement motivation. Additionally, this study showed that the level of achievement motivation of international students were different than domestic students. Thus, an experimental study implementing achievement motivation training with international students can add to the literature review and help both researchers and practitioners who are willing to work with college students in particular with international students. An experimental study could include a pre- and post-test design implementing a ten-session achievement motivation training program (see Herrero, 2014). An announcement can be made at the beginning of the semester via international office and university counseling services to recruit potential participants.

### **Conclusion**

The world has become more globalized, and people living in different regions have become closer as a result of cutting-edge technology, mass media, social movements, economic trades, and new and fast transportation vehicles. These innovations and activities have had a profound impact on the internationalization of education, making it easier for students to apply to different universities, move to different states or countries to further their education, and establish a new life for themselves during and after their educational careers.

Furthermore, international students are not the only group showing an increasing trend in enrollment at U.S. universities. Domestic student enrollment at colleges and universities also increases each year. While recruiting and encouraging students to study in the U.S. colleges is important; even more important is knowing how to serve, retain, and graduate them. The

following inquiry addressed these points during the study and provides much needed insight into the collegiate experiences of both domestic and international students. Since achievement motivation has been shown to be a significant predictor of academic achievement and academic success (Arora, 2015; Gifford et al., 2006; Hall & Wiley Gahn, 1994; Herrero, 2014; Hu & John, 2001; Trumbull & Rothstein-Fisch, 2011), university officials should target this construct when planning retention-based programs and initiatives. The results of the study indicate locus of control, academic stress, and life satisfaction as significant predictors of achievement motivation. Additionally, domestic students were found to have higher level of achievement motivation than international students. Based on these results, implications targeting international students were listed and recommendations for future research were described. As mentioned previously, these findings will help counselors, educators, policy makers, higher education administrators, and university international offices/departments better serve all enrolled students.



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## APPENDICES

## Appendix A: IRB Approval Letter, Information Sheet, and Figure Copyright



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Human Subjects Protection Program		Institutional Review Board
APPROVAL DATE:	September 30, 2015	
TO:	Mr. Mehmet Karaman	
CC:	Dr. Joshua Watson	
FROM:	Office of Research Compliance Institutional Review Board	
SUBJECT:	Initial Approval	
<hr/>		
Protocol Number:	117-15	
Title:	The relationship among life satisfaction, academic stress, locus of control, and achievement motivation: a comparison of U.S. and international students	
Review Category:	Qualifies for Exemption	
<hr/>		
<b>Approval determination was based on the following Code of Federal Regulations:</b>		
Eligible for Exemption (45 CFR 46.101)		
<hr/>		
Criteria for exemption has been met (45 CFR 46.101) - The criteria for exemption listed in 45 CFR 46.101 have been met (or if previously met, have not changed).		
<hr/>		
(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.		
<hr/>		
Provisions:		
<hr/>		
Comments:	The TAMUCC Human Subjects Protections Program has implemented a post-approval monitoring program. All protocols are subject to selection for post-approval monitoring.	
<hr/>		

This research project has been granted the above exemption. As principal investigator, you assume the following responsibilities:

1. Informed Consent: Information must be presented to enable persons to voluntarily decide whether or not to participate in the research project unless otherwise waived.
2. Amendments: Changes to the protocol must be requested by submitting an Amendment Application to the Research Compliance Office for review. The Amendment must be approved before being implemented.
3. Completion Report: Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the Research Compliance Office.
4. Records Retention: All research related records must be retained for three years beyond the completion date of the study in a secure location. At a minimum these documents include: the research protocol, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to

participants, all correspondence to or from the IRB or Office of Research Compliance, and any other pertinent documents.

5. Adverse Events: Adverse events must be reported to the Research Compliance Office immediately.
6. Post-approval monitoring: Requested materials for post-approval monitoring must be provided by dates requested.



## INFORMATION SHEET

### *The Relationship among Life Satisfaction, Academic Stress, Locus of Control, and Achievement Motivation: A Comparison of U.S. and International Students*

#### **Introduction**

The purpose of this form is to provide you with information that may affect your decision as to whether or not to participate in this research study. By filling out the questionnaires you are consenting to participate in the study. By participating in this study, you are also certifying that you are 18 years of age or older. Please do not fill out the questionnaires if you do not consent to participate in the study.

You have been asked to participate in a research project to compare locus of control, academic stress, life satisfaction, and achievement motivation across college students in the U.S. The purpose of this study is to examine the degree to which locus of control, academic stress, and life satisfaction predicts achievement motivation and how this hypothesized prediction model varies for college students. You were selected to be a possible participant because your experiences and responses to the instrument may be helpful in developing a counseling tool that could benefit clients in the future.

#### **What will I be asked to do?**

If you agree to participate in this study, you will be asked to volunteer to complete a demographic questionnaire and four instruments. The study will consist of one administration of four instruments and the collection of demographic information. The administration will take approximately 15-to-20 minutes. If you agree to participate in this study, you will be fully instructed on the procedures for the demographic questionnaire and instrument.

#### **What are the risks involved in this study?**

The risks associated with this study are minimal, and are not greater than risks ordinarily encountered in daily life.

#### **What are the possible benefits of this study?**

You will receive no direct benefit from participating in this study; however, your experiences and responses to the instruments may be helpful in developing programs, curriculums, and counseling services that could benefit students in the future.

#### **What is the amount of incentive and how will it be given?**

The researcher is offering 20 prizes of \$10 Subway gift cards as a monetary incentive. If you accept to be in the study and fill out the questionnaires, you will have a chance to enter a lottery with a chance to win one of these gift cards by providing your e-mail address on a separate sheet at the end of the survey. If your name is pulled in the lottery, the researcher will contact you at the email address you provide.

#### **Do I have to participate?**

No. Your participation is voluntary. You may decide not to participate or to withdraw at any time without your current or future relations with Texas A&M University-Corpus Christi being affected.

#### **Who will know about my participation in this research study?**

This study is anonymous and your name will not appear in the publications or reports produced from this study. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only the researcher—Mehmet A. Karaman—will have access to the records.

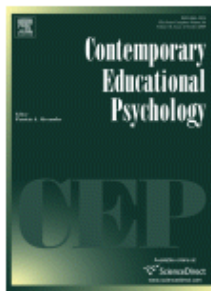
#### **Whom do I contact with questions about the research?**

If you have any questions about this research please feel free to send an email to Mehmet A. Karaman at [mkaraman@islander.tamucc.edu](mailto:mkaraman@islander.tamucc.edu)

#### **Whom do I contact about my rights as a research participant?**

This research study has been reviewed by the Research Compliance Office and/or the Institutional Review Board at Texas A&M University-Corpus Christi. For research-related problems or questions regarding your rights as a research participant, you can contact Kassandra Brown, Research Compliance Officer, at (361) 825-2497 or [Kassandra.Brown@tamucc.edu](mailto:Kassandra.Brown@tamucc.edu)

Figure 1 Copyright



**Title:** Expectancy-Value Theory of Achievement Motivation  
**Author:** Allan Wigfield, Jacquelynne S. Eccles  
**Publication:** Contemporary Educational Psychology  
**Publisher:** Elsevier  
**Date:** January 2000

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## Appendix B: Demographic Forms and Instruments

### Demographics - Domestic Students

Below, please, complete the following demographic questions

1. **What is your age?** \_\_\_\_\_ years old
2. **What is your sex?** \_\_\_\_\_ Male \_\_\_\_\_ Female
3. **Relationship status**  
\_\_\_\_ Married  
\_\_\_\_ Single  
\_\_\_\_ Separated  
\_\_\_\_ Divorced  
\_\_\_\_ In a relationship (e.g. have a boyfriend, girlfriend, etc.)  
\_\_\_\_ Other, please specify: \_\_\_\_\_
4. **What is your current GPA score?**  
\_\_\_\_ Below 2.00  
\_\_\_\_ Between 2.00- 2.49  
\_\_\_\_ Between 2.50- 2.99  
\_\_\_\_ Between 3.00- 3.49  
\_\_\_\_ Between 3.50- 4.00
5. **Currently, you are classified as a:**  
\_\_\_\_ Freshmen  
\_\_\_\_ Sophomore  
\_\_\_\_ Junior  
\_\_\_\_ Senior
6. **Currently, you are a student in the College (School) of:**  
\_\_\_\_ Business & Management  
\_\_\_\_ Science & Engineering (or one of these)  
\_\_\_\_ Liberal Arts  
\_\_\_\_ Education  
\_\_\_\_ Nursing & Health Sciences (or one of these)  
\_\_\_\_ Other, please specify: \_\_\_\_\_
7. **What is your ethnicity?**  
\_\_\_\_ White, Caucasian  
\_\_\_\_ African American  
\_\_\_\_ Asian American  
\_\_\_\_ American Indian  
\_\_\_\_ Hispanic or Latino  
\_\_\_\_ Pacific Islander  
\_\_\_\_ Mixed  
\_\_\_\_ Other: \_\_\_\_\_
8. **To the best of your knowledge, based on your immediate family, you are:**  
\_\_\_\_ the first one to attend the college  
\_\_\_\_ the second one to attend the college  
\_\_\_\_ the third one to attend the college  
\_\_\_\_ one among many

## Demographics – International Students

Below, please, complete the following demographic questions

1. **What is your age?** \_\_\_\_\_ years old
2. **What is your sex?** \_\_\_\_\_ Male \_\_\_\_\_ Female
3. **Relationship status**  
\_\_\_\_ Married  
\_\_\_\_ Single  
\_\_\_\_ Separated  
\_\_\_\_ Divorced  
\_\_\_\_ In a relationship (e.g. have a boyfriend, girlfriend, etc.)  
\_\_\_\_ Other, please specify: \_\_\_\_\_
4. **What is your current GPA score?**  
\_\_\_\_ Below 2.00  
\_\_\_\_ Between 2.00- 2.49  
\_\_\_\_ Between 2.50- 2.99  
\_\_\_\_ Between 3.00- 3.49  
\_\_\_\_ Between 3.50- 4.00
5. **Currently, you are classified as a:**  
\_\_\_\_ Freshmen  
\_\_\_\_ Sophomore  
\_\_\_\_ Junior  
\_\_\_\_ Senior
6. **Currently, you are a student in the College (School) of:**  
\_\_\_\_ Business & Management  
\_\_\_\_ Science & Engineering (or one of these)  
\_\_\_\_ Liberal Arts  
\_\_\_\_ Education  
\_\_\_\_ Nursing & Health Sciences (or one of these)  
\_\_\_\_ Other, please specify: \_\_\_\_\_
7. **How long have you been in the U.S.?**  
\_\_\_\_ Less than 12 months  
\_\_\_\_ Between 12 and 23 months  
\_\_\_\_ Between 2-3 years  
\_\_\_\_ More than 3 years
8. **Where are you from?**  
\_\_\_\_ China                      \_\_\_\_ India                      \_\_\_\_ South Korea                      \_\_\_\_ Saudi Arabia  
\_\_\_\_ Taiwan                      \_\_\_\_ Japan                      \_\_\_\_ Vietnam                      \_\_\_\_ Mexico  
\_\_\_\_ Turkey                      \_\_\_\_ Other

**9. To the best of your knowledge, based on your immediate family, you are:**

- ☐ the first one to attend the college
- ☐ the second one to attend the college
- ☐ the third one to attend the college
- ☐ one among many

**10. If you have taken any TOEFL IBT exam, what was your highest exam score?**

- ☐ did not take any TOEFL IBT exam
- ☐ Between 100-120
- ☐ Between 79-99
- ☐ Between 59-78
- ☐ Below 59

### Smith Achievement Motivation Scale (SAMS; Smith et al., 2016)

The SAMS instrument is a self-report measure estimating level of achievement motivation in 14 items across dimensions of achievement thoughts and behaviors. The SAMS uses a 5-point Likert-type response format with values ranging from 0 (never) to 4 (always). Scoring ranges from a minimum of 0 to a maximum of 56 with higher scores indicating a greater degree of achievement motivation (Smith et al., 2016). The 14-item scale includes items such as “I feel that my present work is meaningful” and “I try and follow the rule: Business before pleasure” Smith et al. (2016).

The full instrument is not included due to copyright issues and the proprietary nature of the instrument. Individuals seeking to use the SAMS in their own research should contact Dr. Robert Smith by e-mail at [robert.smith@tamucc.edu](mailto:robert.smith@tamucc.edu) for permission.

Student-Life Stress Inventory (Gadzella & Masten, 2005)

The SSI-R is a self-report measure that estimates academic stress of college level students. Fifty-three items, organized into nine factors, are addressed using a 5-point Likert-type response format with values ranging from 1 (*never*) to 5 (*most of the time*). Total scores ranges between 53 and 265, with higher scores referencing high level of academic stress. The SSI-R includes items such as "I have experienced frustrations due to delays in reaching my goal" and "I have experienced both positive and negative alternatives." The full instrument is not included due to copyright issues and the proprietary nature of the instrument.

REQUEST FOR PERMISSION TO USE STUDENT-LIFE STRESS  
INVENTORY IN A STUDY  
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Description:

Author's Full Name; Bernadette M. Gadzella

Title of the Instrument: Student-life Stress Inventory

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Permission is hereby granted for Mehmet A. Karaman to use the instrument described above for her research study. It is understood the the use of this material is limited to the specified purpose and is limited to a one time use only basis.

Date: Aug 3, 2015

Signed: Bernadette M. Gadzella, Ph.D.  
Bernadette M. Gadzella, Ph.D.  
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Rotter's Locus of Control Scale (Rotter, 1966)

For each question select the statement that you agree with the most. You will choose either item "a" or "b."  
Not both of them

1	a) Children get into trouble because their parents punish them too much. b) The trouble with most children nowadays is that their parents are too easy with them.
2	c) Many of the unhappy things in people's lives are partly due to bad luck. d) People's misfortunes result from the mistakes they make.
3	a) One of the major reasons why we have wars is because people don't take enough interest in politics. b) There will always be wars, no matter how hard people try to prevent them.
4	a) In the long run people get the respect they deserve in this world b) Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries
5	a) The idea that teachers are unfair to students is nonsense. b) Most students don't realize the extent to which their grades are influenced by accidental happenings.
5	a) Without the right breaks one cannot be an effective leader. b) Capable people who fail to become leaders have not taken advantage of their opportunities.
6	a) Without the right breaks one cannot be an effective leader. b) Capable people who fail to become leaders have not taken advantage of their opportunities.
7	c) No matter how hard you try some people just don't like you. d) People who can't get others to like them don't understand how to get along with others.
8	a) Heredity plays the major role in determining one's personality b) It is one's experiences in life which determine what they're like.
9	c) I have often found that what is going to happen will happen. d) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10	a) In the case of the well prepared student there is rarely if ever such a thing as an unfair test. b) Many times exam questions tend to be so unrelated to course work that studying in really useless.
11	a) Becoming a success is a matter of hard work, luck has little or nothing to do with it. b) Getting a good job depends mainly on being in the right place at the right time.
12	a) The average citizen can have an influence in government decisions. b) This world is run by the few people in power, and there is not much the little guy can do about it.
13	a) When I make plans, I am almost certain that I can make them work. b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14	a) There are certain people who are just no good. b) There is some good in everybody.
15	a) In my case getting what I want has little or nothing to do with luck.



	b) Many times we might just as well decide what to do by flipping a coin.
16	a) Who gets to be the boss often depends on who was lucky enough to be in the right place first. b) Getting people to do the right thing depends upon ability. Luck has little or nothing to do with it.
17	a) As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control. b) By taking an active part in political and social affairs the people can control world events.
18	a) Most people don't realize the extent to which their lives are controlled by accidental happenings. b) There really is no such thing as "luck."
19	a) One should always be willing to admit mistakes. b) It is usually best to cover up one's mistakes.
20	a) It is hard to know whether or not a person really likes you. b) How many friends you have depends upon how nice a person you are.
21	a) In the long run the bad things that happen to us are balanced by the good ones. b) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22	a) With enough effort we can wipe out political corruption. b) It is difficult for people to have much control over the things politicians do in office.
23	a) Sometimes I can't understand how teachers arrive at the grades they give. b) There is a direct connection between how hard I study and the grades I get.
24	a) A good leader expects people to decide for themselves what they should do. b) A good leader makes it clear to everybody what their jobs are.
25	a) Many times I feel that I have little influence over the things that happen to me. b) It is impossible for me to believe that chance or luck plays an important role in my life.
26	a) People are lonely because they don't try to be friendly. b) There's not much use in trying too hard to please people, if they like you, they like you.
27	a) There is too much emphasis on athletics in high school. b) Team sports are an excellent way to build character.
28	a) What happens to me is my own doing. b) Sometimes I feel that I don't have enough control over the direction my life is taking.
29	a) Most of the time I can't understand why politicians behave the way they do. b) In the long run the people are responsible for bad government on a national as well as on a local level.

The Satisfaction with Life Scale (Diener et al., 1985)

**DIRECTIONS:** Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

	<b>Questions</b>	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 Slightly Disagree</b>	<b>4 Neither Agree or Disagree</b>	<b>5 Slightly Agree</b>	<b>6 Agree</b>	<b>7 Strongly Agree</b>
<b>1</b>	In most ways my life is close to my ideal.	1	2	3	4	5	6	7
<b>2</b>	The conditions of my life are excellent.	1	2	3	4	5	6	7
<b>3</b>	I am satisfied with life.	1	2	3	4	5	6	7
<b>4</b>	So far I have gotten the important things I want in life.	1	2	3	4	5	6	7
<b>5</b>	If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7