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# An Examination of Psychological Factors That Predict College Student Success and Retention

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To the Graduate Council:

I am submitting herewith a dissertation written by Charles Curtis Luke II entitled "An Examination of Psychological Factors That Predict College Student Success and Retention." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Counselor Education.

Joel F. Diambra, Major Professor

We have read this dissertation and recommend its acceptance:

Melinda M. Gibbons, Jeannine R. Studer, Ralph G. Brockett

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Jeannine R. Studer

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Ralph G. Brockett

Accepted for the Council:

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Carolyn R. Hodges  
Vice Provost and Dean of the Graduate School

AN EXAMINATION OF PSYCHOLOGICAL FACTORS THAT PREDICT  
COLLEGE STUDENT SUCCESS AND RETENTION

A Dissertation  
Presented for the  
Doctor of Philosophy  
Degree  
The University of Tennessee, Knoxville

Charles Curtis Luke II  
August 2009

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## DEDICATION

This work is dedicated to my amazing wife, Erinn. This is as much your success as it is mine. It is through you that I find the strength and will to believe that I can accomplish anything. You have supported me throughout every step of this process, making, as always, the seeming impossible possible. Thank you for teaching me to look for creative as well as empirical paths to truth. You make me a better person, counselor, scholar, and soon-to-be-dad.

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To my parents, who believed I could do this, even when they had no idea what was ahead of me. Thank you for your love and encouragement along the way. To Dr. Farra, for taking the time to mentor me through some pretty challenging stages of my development. You have been much more than psychology professor; you've been an invaluable guide. You saved my marriage before I was even married. Thank you to my friend Jon, for your enduring friendship and support these long years of higher education. To the many students at Maryville College who participated in the feat, thank you for investing the effort in such a project when the odds of winning the gift card were so long.

## Abstract

The purpose of this study was to examine the interaction among measures of self-efficacy, locus of control, coping behaviors, and attitudes toward the education-employment connection on retention among college students at a small liberal arts college. Results indicated statistically significant differences between high and low intent to return to the college on the education-employment attitude measures. Students who had greater comfort in selecting their academic major, believed that their academic work would lead to future employment and believed that their current academic work would lead to future success, had significantly higher intent to return to the institution the following semester. Limitations and implications of this finding are presented and directions for future research discussed.



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## CHAPTER ONE: INTRODUCTION

In recent decades, the issue of student retention has become an increasingly salient topic in higher education. It currently has a place of prominence among higher education administrators across the nation as seen in the establishment of the *Recruitment and Retention in Higher Education* journal. This increase in attention has taken place for several reasons related to its impact on the individual student as well as on the institution itself.

In considering the impact of college retention and subsequent degree attainment on students, psychological, social, and economic factors are among the most prominent. Studies of health and well-being correlate increases in wellness with educational attainment (Pascarella & Terenzini, 2005). For example, Pascarella and Terenzini's summary of the effects of college on students identified cognitive, intellectual, psychosocial, attitudinal, moral, and value development.

Students who begin college and then stop out or drop out can lose confidence in their abilities to compete. According to Tinto (1993), over 75% of students who drop out of college will never return. The psychological costs of such a high percentage can be inferred when employers' educational expectations are on the rise. In addition, Pascarella and Terenzini (2005) identified a body of literature that demonstrated a high correlation between degree attainment and self-esteem.

Socially, the educational and employment landscape has undergone a significant shift over the last several decades, prompting Tinto (1993) to identify the significance of the social ramifications of college student attrition. One of these social ramifications is the shift toward increased education. According to the 2000 Census, approximately 90% of Americans had a high

school diploma and 26% had a college degree or higher, compared with 63% and 14%, respectively, in 1975 (Census Report, 2002). This finding suggests that having a college degree is rapidly becoming the norm in society.

The economic impact of completing a Bachelor's degree cannot be ignored. According to the Occupational Outlook Handbook (2004) the median weekly earning for individuals with a Bachelor's degree was \$900, contrasted with \$554 for individuals with a high school diploma. In addition, unemployment rates among individuals with a college degree average 3.3%, while unemployment among high school graduates averages 5.5%. Considering the current national and global economic crisis these differences are likely to be even more pronounced.

College student retention also has a profound impact on the financial stability of colleges and institutions. Three decades ago, Astin (1975) identified the economic implications of student retention compared with the emphasis on new student recruitment. He noted that retaining a student affects three classes at once, whereas recruitment can only impact one year at a time. The cost of attrition to institutions, as measured in actual tuition dollars as well as room and board dollars is significant and well documented (Hossler and Bean, 1990; Noel, Levitz, & Saluri, 1985; Rosenberg & Czepiel, 1983; Tinto, 1975). Hossler and Bean observed that retaining one student for four years is economically equivalent to recruiting four students who leave after one year. This is significant given estimates that recruiting costs total three to five times that of retention efforts (Schuh, 2005). In describing the University 101 project, a first-year experience course, Gardner (1981) reported that for every dollar spent on this retention program, the university saw a \$5.36 return. Another area of economic impact of attrition on institutions is the decreased likelihood that students who drop out will refer others to the institution. In addition to

these direct financial factors, college dropouts are five times more likely to default on their student loans than students who persist to degree attainment (Volkwein & Cabrera, 1998).

In recent years, colleges and universities across the country have given increased attention to retaining their students. An estimated 95% of colleges and universities have initiated comprehensive first-year programs; yet despite these efforts retention rates have not improved significantly in the past twenty years (Seidman, 2005). Fewer than half of public university college students will persist to degree attainment within six years (ACT, 2008). Among less to moderately selective liberal arts institutions, persistence can be as few as one-third (36.6%). First to second-year retention among public universities is about 71%, while liberal arts colleges retain on average 63% (ACT). Efforts across the nation have resulted in only marginal improvements in this rate of retention.

A significant amount of attention has been given to increasing retention rates. Most of the attention has focused on freshman retention. Yet, even with the improvements brought by this effort, some have suggested that first year attrition has simply been pushed back into the second year, where sophomore attrition rates hover between 10 to 15% (Nora, Barlow, & Crisp, 2005). Because previous research has highlighted the large numbers of students leaving college (Tinto, 1993), much of the research regarding student success and attrition has focused on first-year students. Unfortunately, as Tinto observed, “College and university students at other levels or stages in their college career have not received as much attention” (1993, p. 368). Tinto (1975, 1987, 1993) and others have offered retention models that provide insight into understanding and ameliorating this problem.

These poor retention rates can be measured in financial as well as human costs. The costs to individuals and institutions are high. In order to be able to offset these costs of student

attrition, theories of student departure and retention need to be tested. Increasing our understanding of the particular factors associated with student departure may assist increasing rates of retention. One such theory and subsequent testing is presented in this study. The results will be used to introduce campus programming to aid in stemming the flow of premature student departure.

### Retention Theory

Tinto's (1975, 1987, 1993) sociological perspective of student departure offers a longitudinal linkage of factors related to the institution that impact a student's intent to leave college. His theory of student departure has achieved significant status (Braxton, 2000). It states that students come to college with a set of predisposing factors (e.g., skills, attributes). These factors interact with the extent to which students integrate themselves socially and academically. Greater integration in these two areas increases the likelihood that a student will remain in college. Academic integration, or engagement, plays a particularly significant role in students' decisions to remain in college. Tinto (1975, 1987, 1993) includes academic performance and interactions with faculty and staff as elements of connection to the academic system leading to academic integration. This is related conceptually to Astin's (1970) idea of student involvement.

One of the key components of academic integration is choice of and confidence in academic major (Tinto, 1993). Students who connect their academic work to the outside world of work remain more invested in the institution (Bean & Eaton, 2005). Furthermore, enhancing a student's connection between academic major and career development increases the likelihood of persistence (Seidman, 2005). Astin (1977, 1993) also identified the importance of the



relationship between academic work and career decision making as a factor in retention while noting the difficulty in helping students make the connection.

Tinto's theory of student departure has dominated the last two decades of the twentieth century in higher education (Bean, 1990). Since that time there have been a number of challenges to this purely sociological perspective (Bean, 2005; Bean & Eaton, 2000; Braxton, 2000; Pascarella & Terenzini, 1991). One challenge to this approach that also addresses the education-employment connection is Bean's (1980) psychological perspective.

Bean and Eaton (2000) describe the psychological factors leading to intent to leave college. Starting from Tinto's emphasis on the role of academic and social integration, Bean's theory also builds upon Fishbein and Ajzen's (1975) attitude-behavior theory. Fishbein and Ajzen's theory states that beliefs lead to attitudes, attitudes lead to intentions, and intentions lead to behaviors. Beliefs are based on perception of both social norms and outcome expectations, which lead to attitudes about norms and outcomes. These attitudes directly affect intentions, which predict behavior (Bean, 1990).

Bean (1982, 2001-02) identified three key psychological processes that directly impact student attitudes: (1) self-efficacy, (2) locus of control, and (3) coping skills. Self-efficacy theory (Bandura, 1977) describes the importance of beliefs about ability to succeed in specific tasks. Bean applies self-efficacy theory to the college environment in general and the academic domain specifically. Locus of control (Rotter, 1966) describes the extent to which an individual attributes outcomes to internal forces (i.e., effort, skill) or to external forces (i.e., luck, prejudice). Coping behavior (Lazarus, 1966) describes approach behaviors leading to healthy confrontation of stressors, and avoidance of stressors leading to unhealthy adjustment.

These three processes interact with several “key attitudes”: (1) sense of self-development, (2) perception of the environment as stressful, and (3) satisfaction along with self-confidence as a student (Bean, 2005). Of particular relevance to the current study is the attitude that one’s education will lead to employment. “The practical value of an education comes from learning skills or getting good grades in courses that will provide access to jobs requiring those skills. Students who make no connection between what they study and their future plans for employment are less likely to be loyal to a school or feel that they fit in” (Bean, 2005, p. 222). Therefore, Bean’s theory is particularly relevant for smaller liberal arts institutions with majors that may have less explicit connections to career paths (e.g., history, religion, philosophy, sociology majors).

#### Bean’s Psychological Theory of Retention and the Liberal Arts

The need for concrete linkages between a liberal arts degree and employment options is critical for retention. As noted above, the rates of retention and persistence among less to moderately selective liberal arts colleges are less than inspiring. Pascarella, et al. (2005) identified challenges liberal arts institutions face regarding misunderstandings and misconceptions about liberal arts education and employability. “Many continue in the belief that liberal arts colleges focus on the development of the whole individual to the exclusion of marketable, transferable skills. Regardless of the accuracy of this belief, student and parent perceptions are key in aiding students in persistence” (p. 9). In addition, the limitations of smaller colleges (of which liberal arts institutions are a part) often include a lack of student exposure to occupational options. Data from Kaman (1971) revealed that students in larger institutions were better informed to make occupational commitments.

St. John, Hu, Simmons, Carter, and Weber (2004) studied retention and persistence among White and African American college freshmen and sophomores at a large public institution in the Midwest. They found that White male freshmen majoring in the social sciences (social science, history, psychology), or who were undecided about their major, were less likely to persist than other White males. The authors suggest that particularly for White students, association with a major is significant. This finding contradicts earlier findings that social sciences majors were more likely to persist (Pascarella & Terenzini, 1991), suggesting that the academic climate may be changing. This finding is important for liberal arts colleges that emphasize humanities, social, and behavioral sciences.

Given the rising costs of college and increased competition for qualified students, liberal arts institutions need to explore ways to aid students in making connections between their academic work and their occupational prospects. Bean's (2005) theory is well suited to serve as a guide. However, the links among the psychological factors in Bean's model, the education-employment connection, and student retention remain unclear. Students' self-perception is a significant factor in academic success in college and has been clearly demonstrated (Braxton, 2000). Many have examined student thoughts, behaviors, and attitudes related to academic and other college successes (e.g., Astin, 1984). However, few, if any, studies have linked Bean's three psychological factors and the education-employment connection with intent to return. Neither has there been an examination of whether these factors can be used to predict intent to return to college the following semester. Given that intent to return is the single strongest predictor of retention (Bean, 1990; Tinto, 1993), investigating these factors along with student intent is a logical pursuit.

Uncertainty in major and career selection has been demonstrated to be a significant factor in college student attrition (Gahagan & Hunter, 2006). This uncertainty is both predicated on and exacerbated by issues related to decision-making. With 25-30% of students leaving after the first year, it can be easy to overlook the other 25-30% of students who leave in subsequent years. Some estimates place attrition rates among sophomores as high as 12.5% or more, juniors at nearly 10%, and seniors at 7% (Pattengale, 2000). In liberal arts colleges, student attrition can be even more pronounced (Gansemer-Topf et al., 2007).

The most significant challenge in addressing issues related to choice of academic major and career decision-making is the complexity involved in understanding and treating these as developmental tasks. We owe much of our understanding of developmental processes to the work of Piaget (1936) and Erikson (1950). Their work has focused attention on the stages of growth through which individuals move. Developmental models of decision-making are appropriate for traditional-aged college students, given the number and significance of stages through which they grow in college. Students experience multiple developmental challenges in college, including issues of work and vocation (Chickering, 1969, Chickering & Reisser, 1993). Bean's psychological theory of retention addresses these concerns in at least four key ways: (1) self-efficacy (ability), (2) locus of control (responsibility), (3) coping with stress (adaptability), and (4) education-employment connection (accountability).

### *Ability*

The first category of developmental challenges involves perceived ability. Bean's (2000) inclusion of self-efficacy theory (Bandura, 1977) speaks to this issue. Students either have not developed certain competencies, or more detrimentally, do not believe in their ability to

accomplish certain tasks (Bandura, 1998). Another challenge related to ability is development of the necessary cognitive and emotional skills to filter incoming information. Students are easily overwhelmed by the volume of data and experiences and can give up on the decision-making process in the face of a crisis (Marcia, 1966). In addition, decisions about a major or career can feel inexorable. Students are vulnerable to thinking errors (e.g., legalistic, absolute) that limit their ability to make effective major and career decisions (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996a).

### *Responsibility*

Taking personal responsibility for life decisions can be challenging for college students in the transition from adolescence to early adulthood. Bean's (2000) use of attribution theory in general, and locus of control (Rotter, 1966) in particular, address this issue. In many cases, students have been supported by family members to the point of growing dependent upon them for making decisions. These students arrive at college intimidated by the decision-making process and look for explanations outside themselves. Another issue in taking responsibility for major and career decision-making involves the compartmentalization of the decision making process. Students tend to compartmentalize the areas for which they feel responsible. For example, students may feel they are taking responsibility for attending classes but believe that it is up to the institution to provide employment following graduation.

### *Adaptability*

Bean's model (2000) includes stress-coping theory to address how students choose to either deal with (approach behaviors) or to avoid (avoidant behaviors) stressors in college. The model describes coping behaviors that assist student adjustment and adaptation to the campus

environment. Students who are willing to seek information, ask questions, build relationships, and confront problems are more likely to adapt and remain (Lazarus, 1966). Unfortunately, developmentally, many students are used to having the environment conform to them, requiring only minor adjustment on their part. Many students arrive on campus without these vital adaptability and coping skills. This is compounded by limited belief in their ability to cope effectively, leading to the belief that resolution is someone else's responsibility, further retarding development of confidence in ability to deal successfully with stressors (i.e., approach behaviors) (Bean, 2005).

### *Accountability*

The key attitude described by Bean (2005) relevant to the current study is that education will lead to employment. This is essentially the belief that people are accountable to their own future in their current behaviors. College is a busy time of acquiring information but little time is committed to digesting that information and reflecting upon how it impacts one's life. Despite the information available on college campuses, career centers, access to professors, various professionals, and the Internet, students are often uninformed about or unaware of their career options. Many students simply have very limited information about themselves and the world around them. An example of this is Dawson-Threat and Huba's (1996) finding that women expressed clearer sense of and concern for purpose than men. They hypothesized that women are more amenable to discussing issues of purpose, which may feel like vulnerability to male students. Without this necessary reflection on how their academic work relates to their future employment options, students, especially males, are less likely to remain in college (Bean, 2005; Pascarella & Terenzini, 2005).

## Statement of the Problem

Student retention has been an elusive issue for higher education administrators since the early days of American higher education. It has taken a more prominent role in past 60 years or so, yet little progress has been made in understanding, or in ameliorating, the issue of student departure. While theories of student departure/retention have increased our understanding, it seems clear from the literature that the decision to leave college is a complex one. While background variables, institutional factors, and academic and social integration all play a role in student departure, the decision to leave school is an individual one. Understanding how students individually arrive at these departure decisions based on self-perceptions of ability, responsibility and adaptability, along with making conscious connections between academic work and career goals and decisions will help add to our understanding. To date there have been few studies that utilize Bean's (1982, 2000) model of student departure and none that combine all three psychological factors while investigating liberal arts students. This study addressed this missing piece in the literature.

## Purpose of the Study

The purpose of this study was to examine the interactions among measures of self-efficacy (Bandura, 1977), locus of control (Rotter, 1966), coping behaviors (Lazarus, 1966) and connection between education and employment on intent to return to college among students at a small liberal arts college. Research exploring these psychological factors and attitudes has yet to focus on this population of students. These relationships could have significant impact on the design and implementation of specific interventions, particularly those related to academic major and career; and specifically for students at small, private liberal arts colleges.

This study focused specifically on students' views of how their perceived ability, responsibility, coping skills, and education-employment connections predict their intent to remain in college from one semester to the next. The goal was to better understand the interrelationships among self-efficacy, locus of control, coping skills, college-to-career planning, and their impact on intent to remain at an institution.

### Research Questions

Research questions guided the study in a clear and purposeful manner and present the researcher's main points of inquiry. Three research questions guide this study. The research questions were as follows:

1. How do the psychological factors (measures of college self-efficacy, locus of control and coping with stress) and attitudes (measures of connection between education and employment) interact with intent to return to college the following semester?
2. How do demographic and other factors, such as certainty in choice of academic major, age, GPA, gender, race, and year in college, interact with intent to return to the college the following semester?
3. How do psychological factors and attitudes, along with demographic variables, predict intent to return to college the following semester among undergraduate students at a small, private liberal arts college?

### Definition of Terms

A variety of key terms will be used throughout this study. Many of these definitions are extracted from previous researchers who have studied similar phenomena. It is important that readers understand these terms and concepts as they relate to this investigation. Definitions specific to this study follow in alphabetical order.



- a) Attrition – failure of student to reenroll in an institution for two consecutive semesters (Seidman, 2005)
- b) Approach/avoidant – Movement toward or away from a stressor in an effort to adapt to it in the first case and remove oneself from the stressor in the other (Lazarus, 1966)
- c) Career decision making –“conceptual frameworks for understanding how decision makers process information and arrive at conclusions”, applied to career (Harren, 1979, p. 119).
- d) Development – “the general movement toward greater differentiation, integration, and complexity in the ways that individuals think and behave” (Pascarella & Terenzini, 2005, p. 19).
- e) Dismissal –an institution’s refusal to readmit a student (Seidman, 2005)
- f) Dropout – refers to leaving college prior to reaching the goal of a bachelor’s degree (Seidman, 2005)
- g) First-generation college student – students whose parents have no college degrees
- h) Freshman – defined as students in their first year of college, having completed less than 30 credit hours
- i) Locus of control – the location one places as the source of reinforcement for a behavior or set of behaviors, as contingent upon factors internal to one’s self, or external to one’s self (Rotter, 1966)
- j) Junior - defined as students having completed 60 credit hours or more but less than 90 credit hours and had attended the college for more than 2 years but less than 4 years
- k) Persistence – desire and action by a student to start and complete a bachelor’s degree (Seidman, 2005)

- l) Purpose in life – belief in and commitment to the idea that one is ultimately accountable for one’s behavior. It “entails an increasing ability to be intentional, to assess interests and options, to clarify goals, to make plans, and to persist despite obstacles” (Chickering & Reisser, 1993, p. 209)
- m) Retention – ability of an institution to retain a student from admission to graduation (Seidman, 2005)
- n) Self-efficacy – the belief in one’s ability to accomplish a certain task (Bandura, 1977)
- o) Seniors – defined as students in their third year of school or later, having completed 90 credits or more
- p) Sophomores – the operational definition of sophomore was students who had completed 30 or more credit hours, but less than 60 credit hours, and had attended the college for more than 1 year but less than 3 years
- q) Stopout – temporary withdrawal of a student from an institution (Seidman, 2005)
- r) Traditional aged- undergraduate students under the age of 25
- s) Withdrawal – departure of a student from an institution (Seidman, 2005)
- t) Vocational identity – belief that academic work relates to careers beyond college

#### Delimitations

In the current study, the target population (freshmen through seniors at Maryville College, a small, private liberal arts college) established the boundaries of the study. This population is not representative of the broader college student population. This study sought to understand the constructs described above in this specific context. Additionally, the participants for this study included students at one specific institution, at a certain point in time.

## Limitations

The current study is limited in two primary ways. First, because the population consists of undergraduate students at one small, private liberal arts college during the only the spring semester, the generalizability of the results is limited. Second, this study is quantitative but not experimental in nature. Second, as with many instruments utilized in research, self-report is the primary means of data collection. While this is an inherent limitation to data collection, this study is focused on students' perception of ability, responsibility, adaptability, and accountability. As such, this limitation is mediated by the goal of the study.

## Significance of the Study

There are two elements that make this study a potentially valuable contribution to the field of student retention. This study is the first to examine the four factors of self-efficacy, locus of control, coping behaviors, and education-employment connection concurrently. It is particularly rare to find a study of this nature take place in this specific context and with this population. Second, this study is one of only a few to link career development and decision-making with retention theory. As such, it contributes to both areas.

This study seeks to expand upon Bean's (2000) theory by using key components to predict student intent to depart from college. There is a scarcity of research testing this theory and applying it to liberal arts institutions. In addition, support of the roles self-efficacy, locus of control, coping skills, and education-employment connections can lead to programs for developing these key components. For example, integrating personal responsibility and self-efficacy into course scheduling, room selection, grade discrepancies may lead to improved retention. Increased retention, in turn helps to mitigate the costs of student attrition and stop-out.

## Organization of the Study

In Chapter One the purpose of the study and its relevance to retention theory and practice in higher education has been described. Key terms are defined, major theories used in the model are described, Bean's Psychological Theory of Retention is determined as a foundation for the study, the problem identified and significance of the study were established. In Chapter Two, relevant research literature will be reviewed, including: a) an overview of extant theories of retention, b) Bean's Psychological Theory of Retention c) models of student development, namely Chickering's seven vectors of student development, d) issues related to selecting an academic major, (e) history of career development, and (f) student cognition and decision-making. Chapter Three describes the quantitative research design and methodological considerations for a study of this nature, in addition to strategies for analyzing the data. Results from the analysis of data from the study will be presented in Chapter Four. Finally, a discussion of the results and findings in the current study, along with the implications of those findings for future research and practice will be presented in Chapter Five.

## CHAPTER TWO: REVIEW OF LITERATURE

The purpose of this chapter is to review the relevant literature for the current study. It is divided into three major areas: college student retention, college student development, and career development and decision-making among college students. This literature review provides a theoretical and research framework from which this study emerged and is founded.

### Student Development Literature

As with the literature on retention, the literature on student development is significant in breadth. However, Chickering and Reisser (1993) provide a thorough history of the relevant literature in student development theories. Chickering and Reisser (1993) observe that prior to Nevitt Sanford's work in the early to mid 1960's, Erikson's was the only developmental theory that was available to describe the changes in college-age students' thoughts, feelings and behaviors.

Erikson (1968) described eight stages of psychosocial development in which individuals confront tasks at each stage. Resolution of these tasks results in certain characteristics and lead to the subsequent stage. Unsuccessful resolution of these tasks results in developmental barriers and retard growth to the next stage. The stage in which most adolescents, including college students, find themselves is identity versus role confusion. This stage is marked by questions such as "Who am I?" and "What will I become?" Adolescents/college students who simply conform to the expectations of those around them get "stuck" in identity confusion.

Erikson provided the framework for subsequent models of college student development. In exploring the range of developmental theories, several categories can be summarized. Chickering and Reisser (1993) identify the following clusters of developmental change theories:

cognitive-structural, typological, person-environment, and psychosocial. For the present study's purposes, descriptions of cognitive and psychosocial theories will be described below. These two categories of student development theories have particular relevance to Bean's (1982, 2000) psychological theory of retention. Specifically, self-efficacy, locus of control and coping skills, as described in Bean's theory are all cognitive processes. In addition, these three constructs are linked, and may even build upon one another, similar to psychosocial models.

The purpose of cognitive theories of development is to "describe the nature and processes of change, concentrating on the epistemological structures individuals construct to give meaning to their worlds" (Pascarella & Terenzini, 2005, p. 33). Cognitive theories play an important role in the retention model described above. Perry described a foundational theory of intellectual and moral development (1970). Baxter-Magolda (1992) built on Perry's scheme and described a theory of epistemological reflection. Kohlberg advanced a theory of moral development in 1969, and Gilligan expanded this theory to explain women's moral development (1977). Astin (1993), in contrast to many conceptualizations, describes cognitive development as a multidimensional process. Cognitive development in college students not only takes place during college, but also leads to increased capacity for lifelong learning and continuing intellectual development (Pascarella & Terenzini, 2005).

Psychosocial theories of student development borrow Erikson's (1959) concept of epigenesis, the idea that stages of development build upon one another following successful completion of the previous stage (Santrock, 1998). One of the most significant psychosocial theories of student development is Chickering's (1969) developmental model. Chickering suggests that disequilibrium in college that results from being in a new environment is the catalyst for growth. This theory has particular relevance to the current work. His theory

challenged the popular notion of the day that colleges were to teach a certain set of skills and leave alone other domains of development. In contrast, Chickering suggested that the college students of his day would be future leaders and therefore needed to develop in more ways than simply academically. Development, according to his view, follows two “laws”. The first law is that development in college occurs through cycles of differentiation (seeing themselves as other than) and integration (seeing themselves as similar to) (Chickering, & Reisser, 1993). The second law is that the characteristics of the individual determine the type of impact an experience will have on them (Chickering, & Reisser).

Chickering (1969) outlined seven vectors of student development. He used the term vector “because each seems to have direction and magnitude – even though the direction may be expressed more appropriately by a spiral or by steps than by a straight line” (p. 8). Chickering’s original discussion of these vectors included the following vectors: Achieving competence, managing emotions, becoming autonomous, establishing identity, freeing interpersonal relationships, clarifying purposes, and developing integrity.

Based on subsequent research on gender differences and other research, Chickering and Reisser (1993) revised Chickering’s original view of these vectors as follows: (1) developing competence – intellectual, physical and interpersonal; (2) managing emotions – issues of awareness and acknowledgement and self-regulation; (3) moving through autonomy toward interdependence; (4) developing mature interpersonal relationships – involves tolerance and appreciation, and capacity for intimacy; (5) establishing identity – process of discovering with what kinds of experience, at what levels of intensity and frequency, we resonate in satisfying, in safe, or in self-destructive fashion; (6) developing purpose – increasing in intentionality,

assessment of options, clarifying goals and making plans, and persisting despite obstacles; and (7) developing integrity – humanizing values, personalizing values and developing congruence

Of particular relevance to the current study is Chickering's (1993) sixth vector, developing purpose. It requires formulating plans for action, and a set of priorities that integrate three major elements: (1) vocational plans and aspirations; (2) personal interests; and (3) interpersonal and family commitments. It also involves a growing ability to unify one's many different goals within the scope of a larger, more meaningful purpose, and to exercise intentionality on a daily basis (Chickering & Reisser, 1993). These areas of vocational development interact with the other vectors to influence the psychological factors and key attitude that one's education will lead to employment described by Bean (2000).

#### Retention Literature

The vast body of literature on college student retention would require more space than the scope of this work provides. Seidman (2005) provided a review of the history of retention in American higher education, and summarized the major themes of the past 300-plus years. The context in which this summary was conducted included key operational definitions for retention, key periods or epochs, and trends in theories and interventions.

#### *History of Retention Research*

The retention literature distinguishes between withdrawal from institutions as voluntary (students choosing to leave the institution of their own volition), and involuntary (students being asked to leave the institution by the institution); as well as institutional departure (leaving a particular college) and system departure (leaving college permanently) (Tinto, 1993). For the



purposes of the current study, departure will always refer to voluntary departure from a particular institution.

Early on in the life of American higher education, retention was not a primary focus of attention because of the limited intent of students to persist (Seidman, 2005). It was much more common for students to attend for a year or two, rather than to complete a degree. It was not until the early 20<sup>th</sup> Century that retention began to receive attention, in large part due to college growth – a result of industrialization and urbanization (Herr, 2001). Colleges were increasingly able to be more selective in their admissions processes and as a result attrition from elite institutions began to be seen as a sign of high quality.

Summerskill (1962) identified one of the first studies related to retention as Johnson (1926). McNeely (1938) conducted one of the first studies in student “mortality” in which the emphasis was on academic failure leading to attrition (cited in Summerskill, 1962). The decade of the 1950s brought with it significant increases in government policy and funding to support research in retention and success in general. Pantages and Creedon (1978) summarized the retention literature from 1950 to 1975, and highlighted the lack of theory development. The formation of theories related to student persistence began in 1960s. For example, Summerskill (1962) published a study of psychological factors affecting persistence.

In 1970, Spady published his seminal study of the sociological factors of persistence. This resulted in a synthesis of extant models. Up to this time, most models were based on psychological factors, not sociological ones. This work led to elaborations of the sociological and interactional models (e.g., Spady, 1971; Tinto, 1975). Kamens (1974) first demonstrated that lower attrition rates could be attributed to larger, more complex institutions that could place graduates into prestigious social and occupational roles. This represents one of the first

observations of the relationship between the education-employment connection and college retention.

Astin (1977, 1984, 1985) reintroduced the perspective that psychological factors affected social and academic involvement – key factors in retention. By the 1980s, institutions began to see the connection between enrollment and retention, leading to an emphasis on predicting ability to persist based on pre-entry factors (e.g., high school grade point average, standardized test scores). Tinto's (1975) model continued to gain in popularity and elaborations to include psychological, environmental, economic, and organizational considerations. In 1987 Tinto revised his model and included Bean's (1980) evidence that intent to leave was the single strongest predictor of departure. Bean (1980, 1982, 1983) initially used organizational theory to advance his psychological model of college retention. Later, he combined various theories to create a psychological model of student retention (2000, 2001-2, 2005). Braxton (1999) also explored psychological factors related to student retention.

Currently, retention has taken a prominent place in higher education administration and policy, as demonstrated by the establishment of the *Journal of College Retention: Research, Theory & Practice* in 1999. As noted above, the college retention movement began in earnest in 1970 with the publication of Spady's theory of college student dropout. Since that time many theories of college student retention have been proposed with varying degrees of impact.

Related retention theories will be described in order for the reader to better understand the psychological view of retention used in the current study. The progression of the literature leads through Spady's sociological description of attrition, to Tinto's interactionist theory and Bean's psychological theory. Bean's theory includes elements of each theory, along with others

(e.g., self-efficacy, attribution, and coping theories) to explain student retention (e.g., Bentler & Speckart, 1979; Fishbein & Ajzen, 1975; Price, 1977).

### *Retention Theory*

Spady's sociological perspective (1970) provided the first systematic approach to understanding student departure or exit from a particular social system. He applied Durkheim's theory of (anomic) suicide to college attrition. Durkheim (1951) argued that suicide could best be explained sociologically because of the variety of paradoxical personal factors involved. He identified four types of suicide: altruistic, anomic, fatalistic, and egotistical. He describes suicide as a type of social withdrawal that is more of a reflection on the social environment than on the individual, "These tendencies of the whole social body, by affecting individuals, cause them to commit suicide" (Durkheim, 1951, p. 300).

Spady (1970) describes the process of attrition as an "interaction between the individual student and his particular college environment" (p. 77). The individual's attributes (i.e., dispositions, interests, attitudes, and skills) interact with the components of the institution, such as faculty contact, administration, course work, and other students. In this model, the emphasis is on contextual structures more than individual characteristics. This environmental explanation of student departure parallels Durkheim's (1951) explanation of societal departure (suicide).

This sociological perspective strongly influenced Tinto's interactionalist view of retention (1975, 1987, 1993), which elaborated on Spady's theory. Tinto introduced the notion of academic and social integration as key components of retention, "leading to the establishment of competent membership in those communities" (1993, p. 121). Without these areas of integration,

membership in the college community is insufficient to support persistence. This interaction leads to incongruence and lack of institutional fit and isolation. The theory states,

...individual departure from institutions can be viewed as arising out of a longitudinal process of interactions between an individual with given attributes, skills, and dispositions (intentions and commitments) and other members of the academic and social systems of the institution. ... the model posits that, other things being equal, the lower the degree of one's social and intellectual integration into the academic and social communities of the college, the greater the likelihood of departure. Conversely, the greater one's integration, the greater the likelihood of persistence. (1987, pp. 113-114)

In essence, the theory claims that longitudinal interaction of background variables, goals and institutional commitments combine to create academic and social integration leading to intent to stay.

### *Psychological Views*

Tinto's theory of student departure has dominated the last two decades of the twentieth century in higher education (Bean, 1990). Since that time there have been a number of elaborations on this purely sociological perspective (Astin, 1984; Braxton, 2000; Bean & Eaton, 2000; Bean, 2005; Pascarella & Terenzini, 1991). While the sociological perspective places its emphasis on the system in which the individual operates, the psychological perspective focuses on individual factors, such as beliefs, attitudes, and behaviors that occur within the sociological context.

One example of this is Bean's psychological perspective (1980, 1982, 2005). In it, he describes the psychological factors leading to intent to leave college (Bean & Eaton, 2000). Bean's theory is built upon Fishbein and Ajzen's (1975) attitude-behavior theory, which states that beliefs lead to attitudes, attitudes lead to intentions, and intentions lead to behaviors. In order to more clearly understand Bean's theory, a further explication of Fishbein and Ajzen's foundational work is necessary.

Fishbein and Ajzen's (1975) seminal work in understanding behavior is foundational to Bean's theory of retention. Bean and Eaton summarize the theory: "Over time, beliefs lead to attitudes, which lead to intentions, which lead to behavior" (2000, p. 50). The theory describes the links between beliefs, attitudes, intentions and behaviors as illustrated by the following diagram:

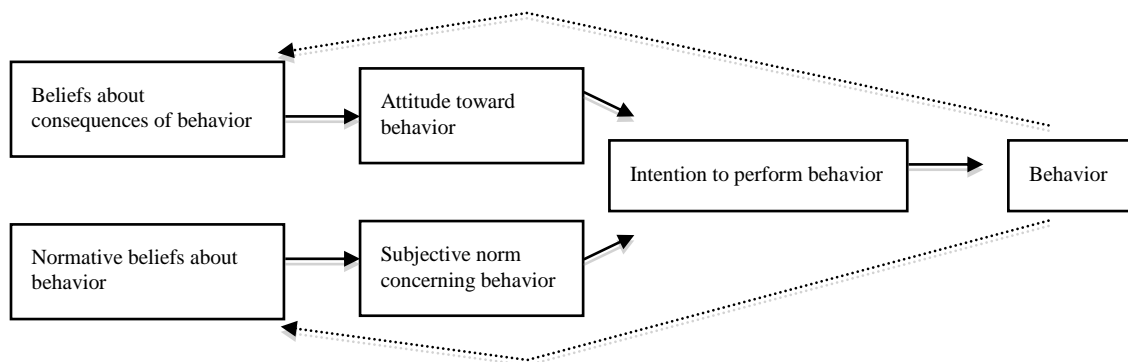


Figure 1. Reproduced from Fishbein & Ajzen (1975).

### *Beliefs*

A belief represents a link between an object and some attribute. Beliefs are comprised of two key components: beliefs about the outcomes associated with a certain behavior and beliefs about how certain individuals or groups will feel about a behavior (Ajzen & Fishbein, 1980). These are referred to as behavior beliefs and normative beliefs, respectively. Intention is linked to beliefs about the consequences of behavior and normative beliefs about behavior through attitudes about the outcomes and norms of behavior. Behavior then influences subsequent beliefs.

### *Attitudes*

The second component is attitude, defined as a “person’s favorable or unfavorable evaluation of an object” (Fishbein & Ajzen, 1975, p. 12). Attitudes have three characteristics. Attitudes demonstrate response consistency, they must be inferred from observed behavior, and attitudes are learned. Bentler and Speckart (1979) substantiated this claim, resulting in later incorporation into Bean’s model. Attitudes are a function of beliefs – a belief that a certain action will lead to positive or desirable results. Following this, the individual develops a positive attitude toward the behavior, increasing their intent to engage in it (Ajzen & Fishbein, 1980).

### *Intentions*

The third component of the model is conation, or behavioral intention. In this model intention always precedes action, and is a crucial aspect of Bean’s theory. Intentions are described as the immediate precursors to action. Bean (1990) noted that this obvious conclusion is deceptive in that ascertaining intentions is the single most significant predictor of behavior. More importantly, measurement of intention is vital in predicting and understanding behavior.

Intention essentially represents the interaction of personal factors and social influence (Ajzen & Fishbein, 1980).

Behavior is the overt display of the belief-attitude-intention continuum. Behaviors are comprised of four elements: action, target, context and time (Ajzen & Fishbein, 1980). Behavior is defined as observable acts studied in their own right, as contrasted with the study of behavior as a tool for inferring beliefs, attitudes or intentions. This sequence of beliefs to attitudes to intentions to behaviors, provide the theoretical foundation of Bean's (1980, 1982) psychological theory of college student retention.

#### Bean's Psychological Theory of Retention

Bean adapted the psychological explanation of behavior (Fishbein & Ajzen, 1975) for his psychological model of student retention. Bean and Eaton (2001) operate from the assumption that, "leaving college is a behavior and that behavior is psychologically motivated" (p. 49). Furthermore, Bean (1980) selected the four theories for his model based on their respective contributions to psychological explanations of behavior. The goal of the model is to "describe the factors associated with leaving (content of the model) and the psychological activities associated with leaving (the processes that explain why a student leaves)" (p. 49). This proposition is strongly supported in the work of Bandura (1986). In addition, "cognitive processes such as expecting, evaluating, choosing, desiring, and intending precede behavior" (Fishbein & Ajzen, 1975, p. 49). Bean and Eaton (2001) include Bentler and Speckart's (1979) variable of past behavior to this process, showing that "past behavior, attitudes and norms all influence intention" (Bean & Eaton, p. 50).

Bean's synthetic model represents a contrast to so-called longitudinal models (Pascarella, 1980; Spady, 1970; Tinto, 1987). He identifies four classes of variables – background variables,

organizational variables, environmental variables, and attitudinal and outcome variables. These variables have direct and/or indirect effects on the intent to leave, the immediate precursor of dropping out. His theory addresses four key retention questions: What are the reasons students leave schools? Which students are more likely to leave the institution this year? What effect are our programs and services having on attrition? What are the entry-level characteristics of the students most likely to stay in school or leave? These questions are addressed through three self-assessments:

“We believe that the factors affecting retention are ultimately individual and that individual psychological processes form the foundation for retention decisions...” (Bean & Eaton, 2001-02, pp. 73-75).

In developing the model, Bean (1980) developed a 107-item questionnaire and distributed it to 1195 freshmen at a mid-sized university. Multiple regression and path analysis were used to identify key components. Results indicated that for women, institutional commitment, performance (grades), social connection (involvement in campus activities, and practical value (belief that education will lead to employment) were the most predictive of dropout. For men, the most significant causal factor was institutional commitment. For both genders, satisfaction with college was closely tied to institutional commitment. Bean (1982a) later tested the model with students at a larger institution, in which he used intent to leave, grades, opportunity to transfer, practical value, certainty of choice, loyalty, family approval, courses, student goals, and major and job certainty as variables. The variables most predictive of departure are presented in the previous list in order of their magnitude of impact.



These factors lead to student perception of fit with the institution as well as loyalty to the institution (Hostler & Bean, 1990). This sense of fit and loyalty take place slowly over time, due to the complexity of the interactions contained therein. This process is comprised of four key components; the overarching theory is attitude-behavior theory (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), self-efficacy beliefs (Bandura, 1977, 1986), attribution beliefs or locus of control (Rotter, 1966; Weiner, 1982), and approach/avoidance behaviors in coping with stress (Lazarus, 1966). Due to the significance of each of these theories to Bean’s model, as well as in their own right, they will be expanded upon below. The diagram below provides an overview of the model.

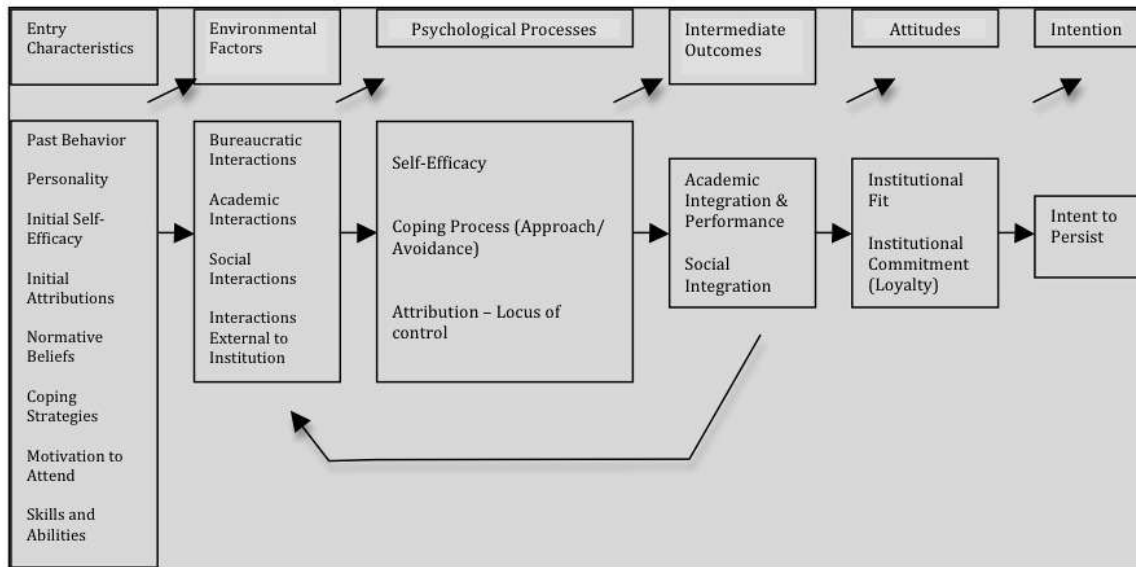


Figure 2. Adapted from Bean & Eaton (2000)

### *Self-efficacy theory*

Self-efficacy refers generally to the belief in one's ability to accomplish a specific task (Bandura, 1977). Bandura sees belief in ability to produce outcomes as more important than ability alone in determining behavior (1986). Self-efficacy has been applied to a prodigious number and variety of settings, including connecting self-efficacy with college retention (Lent, Brown, & Larkin, 1987; Pajares, 1996; Solberg, 1993).

Self-efficacy is a key component of human agency and social cognitive theory: "an efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes" (1977, p. 193). Bandura expanded on Miller and Dollard's (1941) learning theory of behavior. "Bandura's theory emphasizes the influence of reinforcement theory, cognitive information processing, and classical behaviorism on human behavior (Niles & Hartung, 2000). A key component of self-efficacy is human agency. There are four features of agency: intentionality, forethought, self-regulation, and self-examination (Bandura, 2006). Human agency empowers people to think about their thinking and behavior. These metacognitive skills, as defined by Bandura, "involve thoughts about one's cognitive abilities rather than simply higher order cognitive skills" (1997, p. 223). "Beliefs about their [individual's] capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994, p. 71).

Pascarella and Terenzini (2005) describe self-efficacy as, "a product of multiple personal and comparative factors, including students' conceptions of their intellectual and social abilities and their successes and failures in previous academic settings, all tempered by comparisons with others" (p. 223). For example, "...an individual's belief in his or her ability to perform certain tasks determines whether the individual will attempt those tasks and how well he or she will

perform” (Zunker, 2002, p. 99). Self-efficacy determines how hard students will work and how long they will persist when confronted with challenges and obstacles.

There are four sources of efficacy expectations: (1) personal mastery of tasks; (2) vicarious experience; (3) verbal persuasion; and (4) emotional arousal. The value of self-efficacy for career development and student retention is that student thoughts exert more power over behavior than practically any other factor. Cognition mediates the effects of the person, their behavior, and the environment (Bandura, 1985).

In writing about self-efficacy and educational development, Bandura (1997) asserts that adolescents must have educational goals that are future- and vocationally- oriented. They must see their role as larger than simple momentary fulfillment in order to feel a sense of accomplishment. He describes the need for adolescents to have a vision for their future to mediate against boredom and cynicism. He states that despite its significance in adolescent development, vocational oriented choices and their role in establishing a “lifestyle trajectory”, have been largely overlooked in the literature (Bandura, 1997, p. 10). Bandura adds that increased self-efficacy perceptions lead to higher motivation to “fulfill educational requirements and occupational roles” (p. 11). Fulfilling these roles increases opportunities for careers and greater preparation for those careers. In essence, students who believe in their ability to accomplish educationally related tasks will work harder to complete those tasks and then look toward more occupationally focused goals and tasks.

Bandura’s Social Cognitive Theory, in which self-efficacy is a key component, has had a significant impact on our understanding of the student development process, retention, and career decision making. His work has generated extensive amounts of research in these areas (Betz & Hackett, 1981; Gianakos, 2001; Lent, Brown, & Hackett, 1994; Luzzo & Funk, 1996; Maples &

Luzzo, 2005; McAuliffe, 1992; Multon, Brown & Lent, 1991; Reese & Miller, 2006; Scott & Ciani, 2008; Taylor & Betz, 1983; Taylor & Popma, 1990). One career theory in particular has utilized Social Cognitive Theory as the theoretical basis.

Lent, Brown and Larkin's (1987) examination of self-efficacy, interest congruence and consequence thinking is helpful in predicting career and academic thinking. Their study of 105 freshmen and sophomores considering science and engineering majors and careers measured self-efficacy, career indecision, range of perceived vocational options in science and technology fields, vocational interests and self-esteem. They found that self-efficacy was the most powerful predictor of both grades and retention. Self-efficacy was also the strongest predictor of perceived vocational options.

Taylor and Popma (1990) examined the relationships among self-efficacy in career decision-making, career salience, locus of control, and vocational indecision among 407 first-year college students. Their findings indicate that lower self-efficacy is a strong predictor of vocational indecision. They note that students with academic majors or clearer career paths also had higher scores on career decision-making self-efficacy. This study offers more evidence of the relationship between students' self-efficacy and ability to relate academic work to career goals.

Another approach to career development theory predicated on Social Cognitive Theory is Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994). Social Cognitive Career Theory (Lent, Brown, & Hackett, 1996) has its roots not only in behaviorism, but also in the Social Learning Theory of Personality described by Rotter (1954) and expanded upon by Bandura (1977). Social Learning Theory was a reaction to the unconscious determinism of Freudian psychoanalysis as well as the environmental determinism of behaviorism. The

interaction of the individual and his or her environment, as described by Rotter (1966), is also impacted by the outcome expectancies of the individual, taking the theory beyond a reductionistic stimulus-response exchange. This theory is built upon the foundation laid by Hackett and Betz (1981).

Betz and Hackett (1981) proposed a “self-efficacy” approach to women’s career development. Based on social learning theory and stressing the role of cognitive-mediational factors in behavior, this model postulates that one class of cognitive behavior, that is, self-efficacy expectations, has particular relevance for both the understanding and facilitation of women’s career development. Hackett and Betz highlight the role that the interaction between self-efficacy expectations with the individual’s perception of how difficult a task is play in influencing whether and what kinds of tasks an individual will attempt (1981, pp. 399-400). This perception is especially significant when the individual encounters barriers or obstacles to success. Taylor and Betz (1983) elaborated on this model through the construction of an instrument to measure career decision-making self efficacy (currently referred to as career decision self-efficacy, Betz, 2005).

#### *Attribution Theory*

Weiner (1982) observed that it is peoples’ beliefs in whether an outcome was determined by their own behavior or from somewhere outside themselves that reinforced whether or not that behavior would be repeated. He identified three sources of attribution: (1) locus; (2) stability; and (3) controllability. According to Bean’s (1982) model, locus of control (Rotter, 1966) is the most salient source for retention. Essentially, when a person believes that a reinforcement is contingent upon his or her own behavior, then the reinforcement for that behavior, whether positive or negative, will increase or decrease the likelihood of that behavior

being repeated or not. Conversely, when people view reinforcement as being outside themselves, such as in the case of chance, luck, powerful others, or otherwise is unpredictable, then they are less likely to have that behavior strengthened or weakened (Rotter, 1982).

Rotter's social learning theory posits that reinforcement of behavior is contingent on outcome expectancies (1954, 1966, 1982). In essence, learning takes places differently based on students' attribution of reinforcement: attributions to skill are significantly different than attributions to chance. People's beliefs about their ability to impact their environment affect subsequent behavior. Rotter believes this is true across cultures, is measurable, and is predictive of behaviors (1966).

### *Locus of Control*

Locus of control must be distinguished from self-efficacy. According to Bandura, an efficacy expectation is "the conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p. 193). In contrast, locus of control/reinforcement is a belief that outcomes are somehow connected to the precipitating behaviors of an individual. For example, people can believe they can succeed in a task, but if they do not make any connection between their actions regarding the task and subsequent outcomes, they are unlikely to engage in that task. Likewise, even though a person may view outcomes of a certain behavior as contingent on their previous behavior (locus of control), if they do not believe in their ability to successfully execute the behavior (self-efficacy), they are in the same way unlikely to engage in the behavior. This provides further conceptual support for the inclusion of both self-efficacy, from Bandura's Social Cognitive Theory, as well as locus of control, from Rotter's Social Learning Theory.

Rotter's (1954, 1966, 1982) studies support the notion that students who believe they have control over outcomes of their behavior are more likely to: (a) pay closer attention to

environmental cues for future behavior; (b) work to improve their environment; (c) value skills and abilities, and focus on achievements; and (d) be able to resist outside negative influences. Locus of control has been correlated with increased health behaviors (Wallston, 1978), academic achievement (Findley & Cooper, 1983), and many other behaviors (Lefcourt, 1982). Studies of attribution theory in general, and locus of control in particular are far reaching. Locus of control has been applied to college populations in many ways, such as retaining students, academic success, coping with anxiety and stress, and making effective career decisions (Carden et al., 2004; Gable, 1975; Gifford, et al., 2006; Graham, 1990; Lease, 2004; Luzzo & Funk, 1996; Perry, 1991; Rotter, 1966.; Schultz & Pomerantz, 1976; Thompson, & Glanstein, 1976; Weiner, 1982; Wilhite, 1990; Woodbury, 1999).

Luzzo and Funk (1996) studied attributional retraining techniques among a sample of sixty first- or second-year college students at a liberal arts college. Participants who began the study with an external locus of control and developed a more internal locus following the group therapy intervention also scored higher on career decision-making self-efficacy. This is one of the few studies to correlate locus of control with self-efficacy and career decision-making.

Lease (2004) examined how career locus of control, career-related mentoring, and world of work knowledge were impacted by racial and institutional type. Four hundred thirty-three undergraduate students from eight different colleges and universities were sampled. Participants in the study with external locus of control were more likely to attribute future success to luck, timing or powerful others. While these studies have demonstrated the value of an internal locus of control for achievement, particularly among college-aged populations, few studies have identified direct connections between locus of control and persistence (Graham, 1991).

### *Coping Behavioral Theory*

Lazarus's (1966) model of coping guides Bean's exploration of the third psychological factor involved in intent to remain in college. The theory describes situations in which individuals either move toward a stressor or reward (approach behaviors), or move away from a stressor or reward (avoidance behaviors). It includes the concepts of adjustment and adaptation. Adjustment is similar to the concept of fitting into the environment, as in institutional fit; whereas adaptation refers to the coping behaviors utilized in a particular situation. Adjustment is seen as most similar to the term integration in Tinto's model (1987). Adaptation is the process of adjustment as it applies to integrating into a new environment.

Bean and Eaton (2000) understand stress based on Appley and Trumbull's (1986) definition, "the emotional and physiological response to perceived threats from the environment" (Bean & Eaton, 2000, p. 51). In contrast, coping is "the collection of behaviors an individual uses in order to adapt" (Bean & Eaton, 2000, p. 51). Therefore, coping is the adaptation and adjustment to a new environment, in this case, college. For Hostler and Bean (1990), coping in college involves successfully reducing stress with positive outcomes. Students who are able to mediate the stresses of college by finding effective, positive mechanisms for coping tend to be more socially and academically integrated and motivated. This leads to greater likelihood of persisting to graduation.

Approach behaviors are assertive behaviors in which the individual seeks to gain additional information regarding a threat in an attempt to proactively reduce stress (Eaton & Bean, 1995). Examples of approach behaviors include confronting stressors, asking questions, and otherwise gaining additional information. Avoidant behaviors are passive approaches to dealing with stress in which the individual attempts to move away from feelings related to stress.



Avoidance can also be active. Examples of avoidant behavior among college students include not asking questions of professors, skipping classes or going home on weekends rather than engaging socially (Eaton & Bean, 1995). Active avoidance can also be positive when it means that students are avoiding negative behaviors, such as alcohol and drug abuse and reckless sexual activities.

There are many studies that highlight the significance of understanding coping ability in college students. Lazarus's (1966) work has generated vast amounts of research on stress and coping behaviors. His theory has been applied widely in many settings (Lazarus & Folkman, 1984). Of particular relevance to the current study, Eaton and Bean's (1995) study of approach and avoidant behaviors among a college student sample lends weight to Bean's overall theory.

Eaton and Bean (1995) created their own questionnaire to measure approach and avoidant behaviors among a sample of 262 primarily first and second year college students enrolled in math and learning skills courses. Their purpose was to build upon Bean's earlier research on retention/attrition models (Bean, 1982, 1983, 1985, 1990). Results indicated that, as hypothesized, academic and social approach and avoidant behaviors were significantly correlated with academic and social integration. Notably, students with greater perceived control over their environment displayed increased approach behaviors, both academically and socially. This indicates a theoretical link between coping behaviors and locus of control addressed later by Bean (Bean & Eaton, 2000).

Smith (1989) examined the relationship between training in coping skills and both self-efficacy and locus of control measures. Smith asked 42 students in an introductory psychology course to enroll in five 60-minute group sessions for coping skills training. Subjects completed, among other measures, pre- and post-treatment measures of locus of control (Rotter, 1966) and

test-taking self-efficacy (Coppel, 1980). Results indicated that subjects who received the intervention, compared with a wait list control group, showed increased scores on self-efficacy related to anxiety management and academic performance. There was no significant relationship between the intervention and scores on locus of control (Smith, 1989).

These studies demonstrate that coping behaviors are linked to academic performance and integration. They lend weight to Bean's (2001) inclusion of approach/avoidant behavior theory into his model.

### *Key Attitudes*

In addition to the three psychological factors of self-efficacy, locus of control and coping behaviors, Bean (2005) identified nine themes that affect student retention: (1) the student's background; (2) money and finance; (3) grades and academic performance; (4) social factors; (5) bureaucratic factors; (6) the external environment; (7) psychological and attitudinal factors; (8) institutional fit and commitment; and (9) intentions. In these, he summarizes his model as, "The retention model posits that student departure is the result of the intention to leave. Intention is based on pre-matriculation attitudes and behaviors that affect the way a student interacts with the institution. On the basis of this interaction, the student develops attitudes toward their experiences and norms related to student behavior" (Bean, 2005, p. 218).

Bean (2005) discussed two sets of key attitudes involved in student retention; attitudes about attachment to the institution, and attitudes about being a student. The first attitude, has two components: (1) loyalty – a sense of fitting in with others at a college; and (2) institutional commitment – a commitment to a specific institution. A second set of attitudes relates to the concept of "fit" and includes satisfaction with being a student, feeling a sense of self-efficacy as a student, knowing the value of one's education for getting a job, feeling stress as a student, and

believing that one's education will lead to employment (Bean, 2005). This attitude that one's education will lead to employment is the attitude most salient for the current investigation. As discussed above, the 1950s began a shift away from college as enlightenment alone to college as a passport to career opportunities. Therefore, in the modern age:

The practical value of an education comes from learning skills or getting good grades in courses that will provide access to jobs requiring these skills. Students who make no connection between what they study and their future plans for employment are less likely to be loyal to a school or feel that they fit in... Again, it is their attitude that is important in affecting their intentions to stay or leave. Believing their courses and major will get them a job they will like can be a powerful motivating force to get good grades and stay enrolled in college regardless of whether or not such preparation actually leads to a particular kind of employment (Bean, 2005, p. 222).

Hulls-Blanks, et al. (2005) examined career goals and retention-related factors among 401 college freshmen. Their study explored such factors as career goals, academic retention, academic performance, self-esteem, educational self-efficacy, school and career commitment, compared with four levels of career related goals: job related, value related, school related and unknown. The authors reported that students with uncertain career plans also reported lower persistence intentions. Of the career related goals, job related goals correlated mostly significantly with positive persistence decisions. It is also important to note that the study found statistically significant correlations between self-efficacy and persistence and commitment.

Spady (1970), Tinto (1975), Pascarella and Terenzini (1991, 2005), and Bean (2000, 2005) provided evidence of the connection between development of vocational identity and

institutional loyalty and fit (intent to remain in college). Terenzini and Pascarella (1976) also found that students who believe their education will lead to a job (or graduate or professional school) are more likely to persist in school. The implication here is that regardless of whether or not a student will find employment, their belief about their ability to find employment (and that related to their academic work) at a given institution will influence their attitude about the institution and subsequent intent to remain.

This connection is vital at small, private liberal arts colleges. To the extent that Bean's theory is true for large universities with innumerable specific fields of study available, it is even truer for these smaller, broadly focused institutions. Pascarella's (2005) investigation of liberal arts institutions highlights this reality. While liberal arts students develop unique skills for the workplace, they often struggle to see the connection between the development of these skills and their application to the workplace. Additionally, liberal arts institutions typically encourage exploration and while this is a meaningful ideal, it can delay the identity development of the student during a crucial period of commitment to the institution. Pascarella observes that students with a major have an identity, such as 'journalism major'. This provides a social identity that allows them to feel as though they are a part of a group. This identity also connects them with a concrete, identifiable career path. In contrast, students without a major, or lack of connection between academic work and future employment paths, can fail to recognize the connection between academic work and vocational goals.

In summary, Bean's (1980, 2000, 2005) psychological model of student retention provides description and interaction of three psychological factors with key attitudes. Together these factors interact with individual background variables and organizational structures. These

interactions create a perception of institutional loyalty and fit, which in turn lead to intent to remain or leave.

### Academic Major

The current study seeks to understand the psychological factors affecting intent to remain in college for all undergraduates at a particular institution. Among the myriad challenges students face is Bean's (2005) key attitude that one's education will lead to employment. Selection of an academic major is critical to making this connection. Pascarella and Terenzini (2005) reviewed the literature on attainment and persistence, and found that differences within institutions included academic major and general academic and social integration.

While much of the literature on college student development has focused on freshmen, and to lesser extent seniors, sophomores and juniors have received very limited attention. Certain studies focus on specific cohorts, but each help support the rationale for the current study. Much of the research regarding student success and attrition has focused on first-year students increasing retention in the first year (Graunke & Woosley, 2005). Yet, despite progress in first-year efforts to increase integration, that effort has had little impact on retention rates of freshmen or any undergraduates (Seidman, 2005) and has led to other cohorts receiving significantly less retention research. As a result of this limited attention, developmental issues, such as major selection and career development, among sophomores and juniors have received comparatively limited attention in the literature (Schaller, 2007).

Among the issues college students face are identity and motivation, personal responsibility regarding life choices, decreased institutional attention from the first to second year, and major and career ambiguity (Pattengale, 2000). Issues related to one's academic major and career include: indecision about academic major, poor decision-making, and low academic

engagement and commitment (Gardner, Pattengale, & Schreiner, 2000). In a study of 422 sophomores one year after dropping out of college Juillerat (1999) found that sophomores had higher expectations and significantly less satisfaction than freshmen, juniors, and seniors. Doubts about one's career contribute to dissatisfaction and attrition (Gahagan & Hunter, 2006). Much of the conflict students experience centers on major and career issues. Students are confronted with these issues for perhaps the first time, or they begin to realize the limits of their access to certain majors and careers. During this time, increasing pressure can exacerbate ever-growing anxiety about their future (Anderson & Schreiner, 2000).

One study of sophomore engagement reported that confirming their selection of an academic major or making decisions about their career options were students' biggest personal problems. Students who feel directionless and who cannot relate what they are doing in the classroom to what they want to do in the future are vulnerable to frustration, anxiety, and tentative about planning for their future. (Gardner, 2000, p. 72). Gardner suggests that the goal then is to help these students connect majors with career goals.

Pascarella and Terenzini (2005) also discussed literature that found a correlation between type of major selected and persistence. "Students majoring in the sciences, mathematics, and engineering (SME) and/or business and health-related professions are more likely to persist and earn bachelors degrees than their peers with majors in the social sciences, humanities, or education" (p. 424). This finding is significant for liberal arts colleges, which tend to offer a limited number of degrees in SME areas.

It is vital, therefore, that institutions increase their understanding of how students come to make these connections between academic major and future employment decisions. As the purpose of this study is to examine the three psychological factors described earlier, in addition

to Bean's key attitude of believing that one's academic work will lead to employment, a brief review of the history of key career development theories is necessary.

### History and Theories of Career Development

The literature on understanding career development is truly expansive and stretches back 100 years or more (Gelatt, 1962, 1987; Gottfredson, 1981; Hackett & Betz, 1981, 1983; Holland, 1973, 1992; Holland & Holland, 1977; Krumboltz, 1976, 1979; Krumboltz, Mitchell, & Gelatt, 1975; Lent, Brown, & Hackett, 1996; Mitchell, Levin, & Krumboltz, 1999; Parsons, 1909; Peterson, Sampson, & Reardon, 1991; Savickas, 1997; Super, 1953, 1963; Tiedeman & O'Hara, 1963; & Williamson, 1939, 1965). While many of these theories attempt to understand career development, the complexities of assisting students in making connections between their academic work and future careers is due in part to the developmental nature of the issue. No intervention, regardless of its effectiveness can accelerate time. Herr (2001) provides a historical overview of theories and interventions in career development.

In examining theories and techniques it is helpful to briefly discuss the historical precedents that make such an exploration possible. Theories of career development took place against the backdrop of the industrial revolution, in which Parsons (1909), the father of vocational guidance, wrote his seminal work entitled *Choosing a Vocation*. In it, Parsons identified a tripartite model of vocational development, in which one developed self-knowledge, knowledge of the world of work, and then exercised "true reasoning" between the two. The nature of this radical shift can be seen in the title itself. Prior to this time, work largely had been assigned, not chosen. Parsons brought about a paradigm shift in vocation and established a model that would undergird much of the next century of career development models. He laid the

foundation for matching theories, also known as trait-and-factor models, as well as for the value of self-awareness and reflection, along with personal responsibility in vocational decisions.

Super (1957, 1963) expanded the idea of career and vocational development to include multiple facets of an individual's life. In *Psychology of Careers* (1957) Super discusses career development across the life-span, as well as the cyclical nature of career tasks. His self-concept theory, and later his life-span, life-space theory of development provided significant advancements in understanding the holistic nature of vocational development. This made the way for later theories to address gender and minority issues in career development (Herr, 2001). In describing the six epochs or stages in the history of career development theory, Pope (2000) discusses how theory development has been moving toward an emphasis on school-to-work transitions. This description has special relevance to Bean's (2005) description of the education-employment connection in students' decision to remain in college or not.

These theories emerged and developed alongside theories of college student development and theories of college student retention. Their interconnectedness makes sense in light of their shared recent history, and can be seen in the theory used in the current study (Bean, 1982, 2000). Reviewing the literature on student cognition and decision-making, however, can augment our understanding of these histories.

### Student Cognition and Decision Making

One way of addressing the complexities involved in major and career decision making is through a deeper understanding of the developmental issues involved in the decision-making process, and of suitable interventions. In doing so, career decision-making models need to be differentiated from career development models (Harren, 1979). Career decision-making models focus on the characteristics of the decision-maker and the developmental tasks confronting the



individual at each stage or period in life. In contrast, career development models are broader in scope. They focus less on the psychological processes the person uses to successfully resolve developmental tasks and more on the larger processes involved. Harren suggests four stages: (1) Process (awareness, planning, commitment, implementation); (2) Characteristics (self-concept-identity and self-esteem, and style- rational, intuitive, dependent); (3) Tasks (autonomy, interpersonal maturity, sense of purpose); and (4) Conditions (interpersonal evaluations and psychological states, task conditions- immanence, alternatives, consequences, and context conditions- mutuality, support, probability). Harren's model assumes that progress through the stages of the decision-making process depends upon three factors: (1) the characteristics of the decision maker; (2) the type of decision involved; and (3) the decision-making context. Harren's work defines a link between the characteristics of the decision-maker and the ways in which decisions are made. For the current work, understanding how self-efficacy, locus of control and coping skills – characteristics of the decision-maker – impact decisions about major, career, and ultimately intention to remain at the institution are significant.

The ambiguity associated with the developmental tasks of academic major selection and career decision-making, combined with decision-making characteristics among college students can exacerbate the challenges these students face. Galotti (1999) found that students changed criteria in making academic major and career decisions, and inexplicably limited their alternatives. Despite being intelligent, students displayed confusion about their process of decision-making and were overly simplistic with decision-making strategies in evaluating majors. In describing decision-making among college students, Klaczinski et al. (2001) noted that many students make decisions first and then go back and look for support for the decision later. The processes involved can be largely unconscious and not focused on relevant

information. “Conscious activity, in these cases, functions to rationalize and support, rather than to make, decisions” (p. 228). College students are particularly susceptible to ineffective thinking patterns that left unchallenged can lead to self-defeating experiences (Kinnier & Krumboltz, 1986). Judge and Locke (1993) concluded that, “dysfunctional cognitions related to self-worth, perfectionism, and overgeneralization decrease the chances for job and life satisfaction” (p. 484). These observations lend weight to Bean’s (2005) theory of the impact of psychological factors and attitudes in student retention.

Saunders et al. (2000) established the link between dysfunctional career thoughts and emotional deregulation. Their study of 215 undergraduates found a significant correlation between dysfunctional career thoughts, career indecision, and depression. They observed that, “Confused or disabling thought processes inhibit one from being able to think through a career problem and to make a decision in a logical and systematic way” (p. 295). The outcomes of such a condition include depression, anxiety and an external locus of control. These ineffective, disabling thought processes include (a) faulty generalizations, (b) self-comparisons, (c) exaggerated estimates of emotional impact of an outcome, (d) false causal relationships, (e) ignorance of relevant facts, (f) undue weight given to low-probability events, and (g) self-deception (Krumboltz, 1983.). These dysfunctional thoughts in turn lead to ineffective choices, anxiety over these choices, lack of effort, or ignorance about there being any problem in the first place.

Students can be especially vulnerable to self-defeating beliefs. Beliefs about their ability (self-efficacy), responsibility (locus of control), adaptability (coping behaviors) and accountability (making connections between education and employment) can significantly

impact student decision-making. Understanding the mechanisms that impact these connections and understanding the connections themselves, can serve to increase understanding of retention.

### Chapter Summary

The link between these psychological factors – self-efficacy, locus of control, and coping skills – and the attitude that one’s educational activities will lead to rewarding employment, as they relate to student retention remains unclear. Bean (1980, 1982, 2000) has conceptualized this idea but has not empirically tested it. Many have examined student thoughts, behaviors, attitudes related to selecting an academic major and college retention and persistence. No studies however, have examined Bean’s three psychological processes and the career attitude that education will lead to employment and intent to return to college the following semester. Retention is important and critical at liberal arts institutions. Pascarella, et al (2005) identified liberal arts institutions’ challenges involving misunderstandings and misconceptions about liberal arts education and employability. He notes that beliefs persist that liberal arts college faculty focus only on personal and intellectual development rather than on more traditionally marketable skills that are valued in the workplace. The accuracy of this belief is not as important as the reality of its influence on the perception of liberal arts college faculty’s ability to prepare students for the world of work (Pascarella, 2005). As such, liberal arts colleges provide an excellent environment for testing Bean’s model.

## CHAPTER THREE: METHOD

The purpose of this chapter is to describe the following: population, instrument, procedures, and data analysis used in this study. Research exploring institutional commitments, goals and intentions has not yet focused on self-efficacy, locus of control, and coping behaviors with undergraduate students enrolled in a small, private liberal arts college. These could have significant impact on the design and implementation of specific interventions, particularly those related to the connection between education and employment. This study utilized a quantitative design to assess multiple interactions and linear regression of data derived from survey instruments. This study was designed to be explanatory in nature and used self-reported information to identify predictor variables.

### Research Questions

Research questions guided the study in a clear and purposeful manner and present the researcher's main points of inquiry. Three research questions guided this study. The research questions were as follows:

1. How do the psychological factors (measures of college self-efficacy, locus of control and coping with stress) and attitudes (measures of connection between education and employment) interact with intent to return to college the following semester?
2. How do demographic and other factors, such as certainty in choice of academic major, age, GPA, gender, race, and year in college, interact with intent to return to the college the following semester?

3. How do psychological factors and attitudes, along with demographic variables, predict intent to return to college the following semester among undergraduate students at a small, private liberal arts college?

### Participants

This study was conducted on the campus of Maryville College in Maryville Tennessee. Maryville College is a small, private, four-year liberal arts college in the southeastern United States, offering 33 undergraduate majors. Maryville College is located in Maryville Tennessee, a town of just under 30,000 residents, 16 miles south of Knoxville, in the Smoky Mountains. The college is made up of 55.7% females, and 14% minority students, including International students. Seventy-seven percent of students are from Tennessee. The college meets the classification of less- to moderately selective given its acceptance rate of 77.7%. Lastly, 69% of the student body resides in on-campus housing.

The total population available for this study was 1054 undergraduate students. Students varied in their status of declared or undeclared in their academic major, as well as degree of certainty in their choice of major. Due to the developmental nature of this study all class years of students were included in the study, 1054 students, in order to allow for exploration of differences between class cohorts. This campus population was used for the study because of the specificity of focus on this particular institution and the size of the college.

### Procedure

Participants were self-selected and 413 completed a questionnaire designed to obtain background information and demographic data (Appendix A). The researcher pilot tested and revised the questionnaire to ensure appropriateness and that response time was less than 10 minutes. Students were asked to respond to a general question about having an academic major:

“Do you currently have a major”? Because of the literature indicating that “declared” does not mean “decided” or certain, students were identified according to their level of certainty in their major, not whether or not they had declared a major. Students responded to the following statement: “I feel (felt) comfortable about choosing a major”. Responses were recorded and coded via a 9-point Likert-type measure: 9 = Strongly Agree and 1 = Strongly Disagree. Freshmen, sophomores, and juniors were asked a question about their intent to return to the college the following semester. The responses were measured using a 9-point Likert-type scale and grouped according to responses: 1, 2, or 3 indicated little to no intent to return the following semester; 4, 5, or 6 indicated ambivalence or uncertainty; and 7, 8, or 9 indicated relatively strong intent to return the following semester

Students’ responses to the each of the three assessment instruments were then compared with published normative data for each of the instruments. It is important to note that it has been demonstrated that at this institution, uncertainty in selecting an academic major is positively correlated to uncertainty in exploring and selecting a career path (Luke, 2008).

Participants comprised the whole undergraduate student population at Maryville College, a small, private, liberal arts college located in the southeastern U.S. It included all students enrolled in the spring semester of the academic year. This enrollment totaled 1,054 students. It was hoped that a majority of students would complete all research instruments. The study included freshmen, sophomores, juniors and seniors, though graduating seniors were not asked about their intent to return to the institution the following semester. For this study, freshmen students were defined as having completed at least 12 hours but less than 32 hours, and were in their first academic year of college. Sophomores were defined as having completed between 32-59 credit hours in at least one year but no more than two years. Juniors were defined as students

having completed 60-89 credits in a minimum of two years. Seniors were students having completed 90 or more credits in at least three years or more. The link to the survey was distributed via an electronic student newsletter. Students were also sent an email directly with a link to the survey.

The researcher administered the instruments via a secure web-based survey site through the University of Tennessee in order to provide access to the most students and to ensure anonymity. Instructions were provided at the beginning of the survey (Appendix B). Data collection took place during the spring semester, in mid-April 2009. Bean (2000) has suggested that measuring students' intention to remain at an institution is best conducted later in the spring semester, given that this is the time that students begin registering for the next semester's courses. The researcher submitted a request to the Office of the Dean of Students for an email to be sent to all students, and this email was sent to all students through the Dean's office. Students were informed that completion of the survey constituted consent (Appendix C).

To increase the likelihood that students read and responded to the email, the researcher sent the first email following students' return from Spring Break (Appendix D). A follow up email was sent again four days later. A final email was sent four days after the second email. Since the survey was online and anonymous, no coercion by faculty was anticipated. In addition, an incentive was used to encourage participation. Participants had the opportunity to enter their email address at the end of the survey to be included in a random drawing to win one of two gift cards. Participants were informed that this was voluntary and that their email address would be separated from their survey prior to data analysis.

All participants took the three instruments designed to measure the psychological factors identified in Bean's (2000) model. In addition, all participants took the demographic

questionnaire, which was designed to measure one of Bean's (2005) key attitudes: seeing connections between academic work and career development.

The researcher followed university protocol for protecting rights and privacy of participants as outlined by the Institutional Review Board for the University of Tennessee, as well as policies outlined by Maryville College, the location of the study (Appendix E). Faculty members were contacted by the Dean's office and asked to encourage student participation. The link to the survey was placed on course websites via Blackboard, as well as emailed to students individually. Incentives were provided in the form of page count to measure progress and entry into a drawing to win one of two fifty-dollar gift cards. In addition, individual instructors may have offered extra credit for class participation.

#### *Instrumentation*

Participants were asked to complete a demographic questionnaire, along with the College Self-Efficacy Inventory (Solberg, 1993), the Internal Control Index (Duttweiler, 1984), and the Coping Stress Inventory (Gadzella, 2008), all of which were compiled into one electronic survey instrument. The total time expected for completion of the survey battery was 10-15 minutes. The questionnaire included items about age, race, gender, sex, year in college, first semester (for freshmen) or cumulative (for sophomores, juniors and seniors) grade-point average, parents' education level, academic major, and level of certainty in selecting an academic major. In addition, participants were asked to rate the degree of connection between educational work and future career goals. A nine-point Likert-type scale was used for this question in order to measure responses on a continuum.



*College Self-Efficacy Scale- (CSEI) Solberg (1993)*

Bean has suggested that self-efficacy related to academic and other tasks in college are the most useful self-efficacy measures. In addition, self-efficacy is task-specific and therefore must be measured in relation to specific tasks (Bandura, 1977). Given that social and academic integration are vital in retention models (Tinto, 1987; Bean, 1990), the College Self-Efficacy Inventory (CSEI) was deemed to be the best match for this particular study (Appendix F). Therefore participants completed the CSEI (Solberg, et. al, 1993), a 20-item self-report survey designed to measure students' beliefs in their ability to successfully complete college related tasks (Gore, et. al, 2005). The categories of tasks include academic courses, roommates, and social self-efficacy. Students described their level of confidence in their ability to complete each of the tasks related to college life, on a scale from 1-9 (1 = Not at all confident; 9 = Extremely confident). The CSEI takes approximately 3-5 minutes to complete.

Solberg and O'Brien (1993) developed the CSEI from a sample of 164 Mexican-American and Latino-American students. The 20-item instrument addresses three categories of self-efficacy related to the college experience. The first, course self-efficacy, measures student's belief in their ability to write term papers, take exams. Roommate self-efficacy measures student's belief in their ability to socialize with roommates, live in an apartment. Social self-efficacy measures student's belief in their ability to make friends at school, talk with professors. Solberg and O'Brien report reliability alpha coefficients for the CSEI total score of .93, and .88 for each of the three subscales. They also reported strong convergent and discriminant validity.

Gore, Leuwerke, and Turley (2005) sampled 257 first-year students in order to validate the CSEI. Gore et al. report internal consistency reliability scores for each sub-category as follows: course self-efficacy (.88), roommate self-efficacy (.83), and social self-efficacy (.86).

Total score reliability was .92. Torres and Solberg (2001) used the CSEI to examine the relationships among self-efficacy, social integration, stress, and family support on college persistence intentions among 179 Latino students. Results demonstrated that higher scores on college self-efficacy were correlated with lower stress and greater intent to persist. Because the instrument was developed using Latino students, a population that has historically been first-generation college students, and that Gore et al (2005) used the instrument more broadly, this instrument was appropriate for use in the current study.

*Internal Control Index- (ICI) Duttweiler (1984)*

Locus of control, one of three constructs in Weiner's (1986) attribution theory, and the primary construct in Rotter's (1966, 1975) social learning theory, is concerned with reinforcements. Specifically, it describes individuals' beliefs about whether reinforcement of behavior is contingent upon internal factors (skills, hard work) or external factors (luck, powerful other). Individuals with an internal locus of control view that reinforcement is contingent on their behavior; whereas individuals with an external locus of control view reinforcement as due to something outside their behaviors, such as luck or chance (Rotter, Chance, & Phares, 1972).

Duttweiler's Internal Control Index (ICI, Appendix H) has several advantages: (a) the *ICI* assesses locus of control in a more general way, and is therefore a more global measure of the construct; (b) for correlation purposes a global assessment maintains conceptual discreteness among the three instruments used in the current study; and (c) the effect of social desirability in the *ICI* is mitigated more easily than in other more narrowly focused scales. Finally, the *ICI* addresses the criticisms leveled against many measure of the construct. Many instruments have been designed in response to Rotter's (1975) recommendation that the scales be more precise and specific (Duttweiler, 1984; Fournier & Jeanrie, 1999; Levenson, 1973; Millar & Shevlin, 2007;

Trice, Haire, & Elliott, 1989). However, Duttweiler's *ICI* appears to be a more accurate measure of the construct for the current study.

The *ICI* is a 28-item instrument was designed to measure more specific beliefs a person has about whether outcomes are contingent upon their behaviors or forces outside of them. Scores are measured on a 5-point Likert-type scale. Duttweiler (1984) reports internal consistency alphas of .84. The *ICI* addresses the following concerns identified in Rotter's (1966) original instrument: "(a) low item total-score correlations, (b) the multidimensionality of the scale, (c) the forced-choice format, (d) inclusion of items that are not representative of the construct, (e) the item referents, and (f) the heterogeneity of the external control orientation" (Duttweiler, 1984, p. 210).

In a follow-up study, Meyers and Wong (1988) compared the *ICI* with Rotter's Internal Versus External Reinforcement Scale (1965) along with measures of anxiety, depression, personality traits, and self-esteem. Participants were 259 undergraduate students enrolled in an introductory psychology course. Meyers and Wong reported internal consistency reliability alpha of .85. The authors found the *ICI* to be a more reliable measure of locus of control than the I-E Scale. Similarly, Jacobs's (1993) study of 85 college students provided further validation for the *ICI*. Jacobs reported a reliability alpha coefficient of .82. Anticipated response time for the *ICI* was 3-5 minutes.

#### *Coping Stress Inventory- (CSI) Gadzella (2008)*

Coping styles and abilities have been identified with success in academic and social adjustment in college (Berzonsky, 1992; Leong & Bonz, 1997; Smith, 1989). There have been many different kinds and forms of instruments used to measure stress responses and coping behaviors in myriad contexts since Lazarus's original work (1966) (Duttweiler, 1984; Fournier &

Jeanrie, 1999; Levenson, 1973; Millar & Shevlin, 2007; Trice, Haire, & Elliott, 1989). Gadzella (2008) recently developed the *CSI*. The *CSI* is a 16-item survey with 3 intercorrelated categories: behavioral, emotional, and cognitive appraisal (Appendix J). It is used to examine the degree and types of strategies college students use in dealing with stressful situations. Respondents select a recent stressful experience and select one of four levels of responses to the 16 items: (a) I didn't do any of it; (b) I did a little of it; (c) I did a medium amount of it; and (d) I did a lot (most) of it. This scale was chosen for the current study in order to identify the particular type of coping skill utilized- cognitive, behavioral or emotional. These are key components related to Bean's (2005) model.

Development of the *CSI* took place in several stages. First, a large number of graduate and undergraduate students were asked to list ways they tend to deal with stress. These responses were then grouped into three categories: behavioral, emotional and cognitive. The statements from the students were then reworded to match the three categories. The 22-item pilot version was then administered to these participants and reduced to sixteen items. The *CSI* was then administered to 344 undergraduate and graduate students. Gadzella et al. reported internal consistency alphas of .71. Because of its relatively recent development, no other validation studies were available as of this writing. The *CSI* requires 3-5 minutes to complete.

#### Data Analysis

Bivariate correlations were used to examine relationships between intent to return to the college the following semester and measures of certainty in academic major choice, age, grade-point average, race and gender, and scores on the ICI, CSEI, and *CSI*. T-tests for independent variables were used to examine interactions between intent to return to college the following semester. Finally, stepwise regression was used to identify the strongest correlations for use in

predicting intent to return to college the following semester. In order to use stepwise regression analysis, a minimum of 100 participants is needed - 9 independent variables and 1 dependent variable x 10 subjects per variable (Cary Springer, personal communication, December 8, 2008). The dependent variable was the measure of intent to return to the college the following semester, measured by a 9-point Likert scale as described above. Responses to the dependent variable were grouped according to “no intent to return (1-3), ambivalence or uncertainty about intent to return (4-6) and positive intent to return (7-9).

Based on the literature regarding college student retention, this study seeks to use the above method to answer some fundamental questions about the model used. This method will provide insight into Bean’s (1982) approach to understanding retention, with particular emphasis on student attitudes. The results of the study are provided below.

## CHAPTER FOUR: RESULTS

This chapter presents the statistical findings of the data analyses. A description of the population is presented as well as descriptions of each statistical process that were used. The primary research questions are presented along with the results.

### *Description of the Population*

Four hundred and thirteen students responded to the survey. Females comprised 73.6% (304) of respondents while males comprised 26.4% (109) of respondents. Three hundred and sixty-six of the participants (88.6%) identified themselves as White, 15 (4%) were African American, seven (2%) were Latino or Hispanic, nine (2%) were Asian, one was Native American, and 15 (4%) selected Other, but did not specify. Of the 413 participants, 104 (25.2%) met the criteria for freshmen, 73 (17.7%) were sophomores, 95 (23.0%) were juniors, and 141 (34.1%) were seniors. Almost 99% (408) indicated they had a major with only 1% (5) indicating they did not. Two hundred and eighty-seven (86.4%) respondents intended to return to the institution the following semester; the sample was adjusted for seniors who would be graduating (i.e., senior respondents answered N/A to the question about intent to return). Table 1 presents categorical data describing the respondents.

Table 1.

<i>Respondent Description</i>		N	%
Gender	Male	109	26.4%
	Female	304	73.6%
Race	White	366	88.6%
	African American	15	4%
	Latino/a	7	<2%
	Asian	9	<2%
	Native American	1	<1%
	“Other”	15	<4%
Year/Class	Freshmen	104	25.2%
	Sophomores	73	17.7%
	Juniors	95	23.0%
	Seniors	141	34.1%
Do you have a major?	Yes	408	98.8%
	No	5	1.2%
Return	No	45	13.6%
	Yes	287	86.4%

Table 2 provides continuous data for respondents. The mean age of participants was 21.20 years. Participants reported having completed an average of 69.97 credits each, and had spent an average of 2.68 years in college. The mean GPA reported was 3.36. Three questions focused on participant attitude about the connection between academic work and future employment. Measured on 9-point Likert scales, participants' mean score for comfort in selecting a major was 7.16. Participant belief that their academic work would lead to a job had a mean score of 6.45. The mean score for belief that academic work would help them succeed was 6.67. Participants also indicated that their intent to return to the college the following semester was  $M=7.94$  on a 9-point scale, implying high intent to return. The following were the mean scores for the CSI on a 4-point scale: Behavioral (1.74); Emotional (2.50); and Appraisal (2.13). The mean score for the ICI was 3.58, on a 5-point scale. Mean scores on the CSEI were as follows: Course (7.19); Social (7.30); Academic (7.23); and Social Integration (6.21), on a 9-point scale.



Table 2.

*Descriptive Statistics*

	Mean	Standard Deviation
Age:	21.20	4.78
Credits Completed	69.97	40.24
Years in College	2.68	1.88
Current GPA	3.36	.48
“I feel (felt) comfortable about choosing a major”	7.16	2.23
“I believe my academic work this semester will help me get a job when I graduate”	6.45	2.17
“My academic work this year will help me succeed in my chosen career field”	6.67	2.17
“I plan to return to this same college next semester”	7.94	2.40
CSI Behavioral	1.74	.40
CSI Emotional	2.50	.75
CSI Appraisal	2.13	.50
ICI Mean	3.58	.39
CSEI Course	7.19	1.17
CSEI Social	7.30	1.18
CSEI Roommate	7.23	1.25
CSEI Social Integration	6.21	1.68

## Research Questions

Research questions guided the study in a clear and purposeful manner and present the researcher's main points of inquiry. Three primary research questions were used in this study. The alpha level for the tests related to each of the research questions was .05. It is important to note that the dependent variable, intent to return to the college the following semester, was initially asked as a continuous response item (1-9). However, due to a skewed distribution, the item was dichotomized, wherein *Intent* was divided into low intent (scores of 1-6; n = 45), and high intent (scores of 7-9; n = 287).

### *Research Question 1*

*How do the psychological factors (measures of college self-efficacy, locus of control and coping with stress) and attitudes (measures of connection between education and employment) interact with intent to return to college the following semester?*

*Question 1-A: Do the College Self-Efficacy Inventory (CSEI) subscales differ between students with high and low intent?*

Table 3 displays the mean scores on the CSEI subscales for high intent and low intent to return to the institution. Mean Course scores for those with high intent to return were 7.07, while means for those with low intent were 6.92. Mean Social scores for those with high intent to return were 7.25, while means for those with low intent were 7.03. Mean Roommate scores for those with high intent to return were 7.21, while means for those with low intent were 6.66. Mean Social Integration scores for those with high intent to return were 6.25, while means for those with low intent were 5.60.

Table 3.

*CSEI and Intent to Return*

Dependent Variable	Intend to Return	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
CSEI Course	No	6.924	.181	6.567	7.281
	Yes	7.070	.072	6.929	7.212
CSEI Social	No	7.031	.182	6.674	7.388
	Yes	7.251	.072	7.109	7.393
CSEI Roommate	No	6.663	.193	6.282	7.043
	Yes	7.210	.077	7.059	7.361
CSEI Social Integration	No	5.597	.252	5.101	6.093
	Yes	6.252	.100	6.055	6.448

A multiple analysis of variance (MANOVA) was run and the results were  $F(4,311) = 2.375, p = .052$ . This indicates there were no significant differences between those with high intent and low intent for the coping subscales at an alpha of .05. However, because it is approaching significance, post hoc analyses were run and were carefully examined.

Independent samples t-tests indicated that roommate self-efficacy ( $p = .009$ ) and social integration self-efficacy ( $p = .016$ ) possibly differed between those with high and low intent. Those students with higher roommate self-efficacy and higher social integration self-efficacy appeared to have high intent to return to the college. There appear to be no differences for academic ( $p = .452$ ) and social ( $p = .260$ ) self-efficacy.

*Question 1-B: Do Internal Control Index (ICI) scores differ between those with high and low Intent?*

The mean ICI was 3.56 for high intent, and 3.50 for low intent. To test if these were different, an independent samples t-test was run. The results were  $t(330) = .962, p = .337$ . This indicates there were no significant differences between those with high intent and low intent for the ICI scores.

*Question 1-C: Do the Coping Stress Inventory (CSI) subscales differ between those with high and low Intent?*

Table 4 displays mean scores on the CSI subscales for those participants with high intent to return to the institution the following semester and those with low intent to return. Mean scores for Behavior were 1.73 for high intent and 1.82 for low intent. Mean scores for Emotional were 2.51 for high intent and 2.73 for low intent. Mean scores for Appraisal were 2.12 for high intent and 2.27 for low intent.

A MANOVA was run and the results were  $F(3,328) = 1.603, p = .189$ . This indicates there were no significant differences between those with high intent and low intent for the coping subscales. Students with high intent used similar coping styles to those with low intent.

Table 4.

*CSI and Intent to Return*

Dependent Variable	Intend to Return	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
CSI Behavior	No	1.820	.060	1.701	1.939
	Yes	1.726	.024	1.679	1.773
CSI Emotional	No	2.730	.112	2.509	2.950
	Yes	2.511	.044	2.424	2.598
CSI Appraisal	No	2.267	.075	2.119	2.414
	Yes	2.124	.030	2.065	2.182

*Question 1-d: Does the attitude that education will lead to employment differ between those with high and low Intent?*

Table 5 displays mean scores for the three questions regarding attitudes for participants with high intent to return to the institution the following semester and those with low intent to return. The means scores for Item 1 (“I feel (felt) comfortable about choosing a major”) were 7.38 for high intent and 5.4 for low intent. The mean scores for Item 2 (“I believe my academic work this semester will help me get a job when I graduate”) were 6.68 for high intent and 4.96 for low intent. The mean scores for Item 3 (“My academic work this year will help me succeed in my chosen career field”) were 6.86 for high intent and 4.87 for low intent.

Table 5.

*Intent to Return based on Attitudes*

Dependent Variable	Intend to Return	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
“I feel (felt) comfortable about choosing a major”	No	5.400	.316	4.779	6.021
	Yes	7.381	.125	7.135	7.628
“I believe my academic work this semester will help me get a job when I graduate”	No	4.956	.304	4.358	5.553
	Yes	6.682	.120	6.445	6.919
“My academic work this year will help me succeed in my chosen career field”	No	4.867	.304	4.269	5.465
	Yes	6.860	.121	6.623	7.097

A MANOVA was run and the results were  $F(3,327) = 17.851, p < .001$ . This indicates that at least one attitude difference was present between those with high intent and low intent for the coping subscales. To determine which attitudes differ, independent sample t-tests were run for each attitude, and all three were significant with  $p \text{ values} < .001$ . Examining the means, all three attitudes were more positive for those with high intent compared to those with low intent.

## Research Question 2

*How do demographic and other factors, such as certainty in choice of academic major, age, GPA, gender, race, and year in college, interact with intent to return to the college the following semester?*

*Question 2-a: Does age differ between those with high and low Intent?*

For high intent, the mean age was 20.64 and for low intent the mean was 21.16. To test if these were different, an independent samples t-test was run. The results were  $t(330) = -.735, p = .463$ . This indicates there were no significant differences between those with high intent and low intent for age.

*Question 2-b: Does grade-point average (GPA) differ between those with high and low intent?*

For high intent, the mean GPA was 3.36 and for low intent the mean was 3.30. To test if these means were significantly different, an independent samples t-test was run. The results were  $t(330) = .706, p = .481$ . This indicates there were no significant differences between those with high intent and low intent for GPA.

*Question 2-c: Does gender differ between those with high and low intent?*

The vast majority of males (91.7%) had high level of intent and 84.7% of the females had high intent. To test whether this difference was significant a Chi Square was run. The results are

$\chi^2(1) = 2.616, p = .106$ . This indicates that males and females were equally likely to have high intent.

*Question 2-d: Does race differ between those with high and low intent?*

It was expected that differences between high and low intent to return would be examined based on race or ethnicity. However, due to the racial homogeneity to the population, it was determined that other races could not be adequately represented. White participants made up about 88% of the study. Therefore, statistics for differences among intent based on race were not included.

*Question 2-e: Does classification differ between those with high and low intent?*

Table 6 displays the counts and percentages of participants with high intent to return to the institution the following semester and those with low intent to return, by classification (year in college). Fifteen freshmen (14.6%) had low intent to return, whereas of those participants with low intent to return 33.3% are freshmen. Seven sophomores (9.6%) had low intent to return, whereas of those with low intent to return 15.6% are sophomores. Five juniors have low intent to return, whereas of those with low intent to return 11.1% are juniors. Eighteen seniors (28.6%) who answered the question about intent to return, indicating they are not graduating, whereas 40% of those with low intent to return were seniors.

Table 6.

		Intend to Return		
		No	Yes	Total
Freshmen		15	88	103
	% of Freshmen who intend to return	14.6%	85.4%	100.0%
	% of students intending to return who were Freshmen	33.3%	30.7%	31.0%
Sophomores		7	66	73
	% of Sophomores who intend to return	9.6%	90.4%	100.0%
	% of students intending to return who were Sophomores	15.6%	23.0%	22.0%
Juniors		5	88	93
	% of Juniors who intend to return	5.4%	94.6%	100.0%
	% of students intending to return who were Juniors	11.1%	30.7%	28.0%
Seniors		18	45	63
	% of Seniors not graduating who intend to return	28.6%	71.4%	100.0%
	% of students not graduating intending to return who were Seniors	40.0%	15.7%	19.0%



To test this research question a Chi Square was run. The results are  $\chi^2 (3) = 18.503, p < .001$ . This indicates that intent differs between classifications. Sophomores (90.4%) and Juniors (94.6%) are more likely to intend to return. Freshmen (85.4%) and Seniors (71.4%) were less likely to intend to return.

### Research Question 3

*How do psychological factors and attitudes, along with demographic variables, predict intent to return to college the following semester among undergraduate students at a small, private liberal arts college?*

Stepwise logistic regression moved in Classification and the CSEI roommate subscale. The overall model is significant,  $p = .016$ ; however, it is a weak model. As Table 7 demonstrates, the model identifies correctly 99.3% of those with high intent of returning; however, it identifies 0% of those with low intent to return.

Table 7.

#### *Student Classification*

		Predicted			
		Return		Percentage Correct	
Observed		No	Yes		
Step 1	Return	No	0	43	.0
		Yes	0	273	100.0
		Overall Percentage			86.4
Step 2	Return	No	0	43	.0
		Yes	2	271	99.3
		Overall Percentage			85.8

Note: The cut value is .500

## Summary of Findings

The results of the data analyses indicate that Research Question 1 was not supported, though Research Question 1-a did approach significance. The analysis of the data in Research Question 2 supported only that sophomores and junior status students had higher intent to return than did freshmen and seniors. Finally, as a predictor model, the data analysis did not support any factors that would predict with any accuracy those students who did not intend to return.

## CHAPTER FIVE: DISCUSSION

Chapter five discusses the findings of the current study, results of the statistical analyses, implications of those results and directions for future research in this area. The chapter is divided into: (a) summary of the research, including purpose, model and instruments, (b) similarities and differences among participants based on intent to return, (c) discussion of psychological factors and attitudes related to intent, (d) demographic variables and intent, (e) predictive value of the model, (f) evaluation of Bean's (2005) model based on the current population, (g) implications for future research, and (h) limitations of the current study.

### *Summary of the Research*

The current study explored the interactions between college student participants' intent to return to the institution the following semester. Factors hypothesized to impact intent to return included: (a) psychological factors (college self-efficacy, locus of control, and coping skills), (b) attitudes related to academic major, connection between academics and employment, and current academic work and future success, and (c) other variables, such as age, race, gender, GPA, and year in college. Bean's (1981, 2001, 2005) model of psychological factors of college student retention served as a framework for the study. Bean's model elaborates on Tinto's (1987, 1993) sociological model of retention based on precipitant and subsequent factors of academic and social integration, respectively. The instruments for this study included a demographic questionnaire that contained questions about key attitudes toward college, the College Self-Efficacy Inventory (CSEI), Internal Control Index (ICI), and the Coping-Stress Inventory (CSI).

### *College Student Intent – Similarities and Differences*

The first four research questions explored interactions among students' intent to return to the institution the following semester based upon four measures. Mean scores, MANOVAs, and t-tests were used to determine the similarities and differences between these factors and intent to return. Demographic variables were also examined in regard to intent.

#### *Psychological Factors and Key Attitudes*

There were no significant differences identified in any of the subscales or total scores on the CSEI among students with high and low intent to return. The CSEI measures students' perception of their ability to complete tasks related to academic courses (e.g., "Take good class notes"), social activities (e.g., "Make new friends at college"), roommates (e.g., "Get along with others you live with"), and social integration (e.g., "Join a student organization"). According to the results of the multiple analysis of variance, differences between high and low intent to return and CSEI scores only approached significance ( $p = .052$ ). While the results were not statistically significant, post hoc tests indicated that scores on roommate self-efficacy and social integration self-efficacy were the factors causing the p value to approach significance. This indicates that perceived ability to get along with a roommate and integrate socially into the college community may impact high versus low intent to return to the institution the following semester. This conclusion is speculative and must be regarded with caution, given the lack of statistical significance.

There were no statistically significant differences identified in internal versus external locus of control on intent to return to the institution. It was expected that students with a higher internal locus of control would take more ownership of their education and therefore exhibit high intent to return; however, no such link was established for this population. One observation from

the data set was that, for this population, the ICI mean score was 100.24. According to published norms for college student populations (Falokowski, 2002), the average range is 99.3-120.8, where higher scores indicate higher internal locus of control, and lower scores falling below this range indicate more external locus of control. The current population scored at the very lowest end of the normal range, yet still had high intent to return. This seems to contradict previous research that suggests individuals with external locus of control are less likely to place responsibility for the outcomes of their behaviors on themselves and may therefore take less initiative. However, given that this population is over 75% residential and attendance at a private college requires increased financial resources, it may be that parental influence affected ICI scores to some degree.

As with the first two psychological factors in the model, there were no significant differences between coping skills and high or low intent to return. It was expected that individuals with more adaptive coping skills would be more likely to intend to return to the institution. The mean scores for the subscales on the CSI indicate that participants in this population were more likely to use emotion-based coping skills to deal with stress ( $M = 2.50$ ) (e.g., “I got angry”, “I felt I needed to vent out my emotions”). Cognitive appraisal, or evaluation was next ( $M = 2.13$ ) (e.g., “I took time to plan what to do”, “I decided not to do anything”). Behavioral coping was the least likely form of coping to be used by these respondents ( $M = 1.74$ ) (e.g., “I gave up because I could not handle it”, “I watched TV, played games”). One interpretation of this finding, although not statistically significant, is that students in this population were more likely to indicate emotional expression as the primary form of coping, while being less likely to indicate taking action (whether positive or negative) in response to stressful situations.

Bean's key attitude (2005) used in this study- making the connection between one's education and future employment- was measured using three Likert-type questions: (a) "I feel (felt) comfortable about choosing a major" (M=7.16, SD2.23), (b) "I believe my academic work this semester will help be get a job when I graduate" (M=6.45, SD2.17), and (c) "My academic work this year will help me succeed in my chosen career field" (M=6.67, SD2.17). In this case, all three responses resulted in significant differences among high intent versus low intent. In each case, participants who indicated high intent to return to the institution, also indicated high comfort with their academic major, strongly believed that their academic work during the current semester would help them get a job after graduation, and strongly believed their academic work in the current year would help them succeed in their career field. These findings are not only statistically significant but are also practically meaningful. Students, who are able to feel confident in their selection of an academic major, connect their education with future employment specifically and to future success generally, may be more likely to have high intent to return the following semester.

While the three psychological factors identified in Bean's (2005) model showed no statistically significant interaction with intent to return, the key attitude reflected in the three questions did. This finding has relevance in the current study in two major ways. First, freshmen in this population do not declare an academic major until the end of their freshmen year, and therefore may express more ambivalence about the major selection process. Freshmen in this population were also less likely than sophomores and juniors to intend to return. While it seems apparent that freshmen choose not to return to a particular institution for a variety of reasons, selection of an academic major appears to play some role. Second, the much written about "sophomore slump" (Graunke & Woosley, 2005; Schaller, 2007) includes a component of

vocational ambivalence, wherein sophomore students see little to no connection between the work they perform in the classroom and their occupational prospects. When combined with other factors, these students are less likely to return to the institution.

A third matter of relevance of this finding is that it lends support to Bean's (2005) model, affirming that, for this population, making the academics-employment connection may be vital to student success. Students such as first-generation, underrepresented populations, ill-prepared high school graduates may be especially vulnerable to college attrition, having limited exposure, either direct or vicarious, to navigating the challenges of college life. When these students are not able to connect coursework to employment prospects, it can be difficult to envisage the point of that education. This has particular relevance to the private liberal arts institutions such as this population in the current study. Front-loaded core, yet general education, curriculum requirements can obscure the tangible vocational skills students are and can be developing through such coursework. Helping these college students in particular to make these connections may assist in retaining them long enough to get them into coursework in their major.

#### *Demographic Variables and Intent*

This study also examined the impact of demographic and other variables on intent to return to the institution. The first variable, age, resulted in no significant differences between high and low intent participants. The mean age of respondents was 21.20 years of age. It appears that age of participants was not a significant factor in their intent to return. Similarly, racial status had no statistically significant impact on intent. Of course, this finding is limited given the homogeneity of the participants - 88% of the sample identified themselves as White. The variable "certainty in selecting an academic major" has been

grouped with data on the key attitude of academic-employment connection, and described above. GPA was also tested for connection to intent, with similar, non-significant results. This finding of non-statistically significant differences between high and low intent to return across a variety of demographic variables may be interpreted in a couple of ways. First of all, the skewed distribution and homogeneity may be the most significant cause for this. However, it also may indicate that, at least for this population, demographic variables do not play as large a role in this particular population as may be found in other institutions. For this population, students did not differ significantly in intent to return, in relation to CSEI scores, ICI scores or CSI scores across age, race, gender, or GPA.

For this study, rather than asking students their classification (freshman, sophomore, junior, and senior), they were asked to list the number of credit hours completed. Classification was operationally defined based upon the institution's definitions. Then, based on these numbers, participants were coded according to classification: Freshmen, 1; Sophomores, 2; Juniors, 3; and Seniors, 4. Therefore, participants coded as a "senior" may not necessarily be in their final year. As such, of the 141 participants who listed number of credits that met the criteria for senior status, 63 of the students felt that the question about Intent applied to them, and answered accordingly. The remaining 78 felt that the question about Intent did not apply and marked N/A. Forty-five of the 63 who felt the question did apply indicated high intent to return. The remaining 18 who felt it applied to them indicated low intent to return. Based on the structure of the question, it is not known why the 18, for whom the question applied, indicated low intent to return. Response options, such as, "Not returning because graduating" and/or "Not returning because of other reasons. Please list" are recommended for future research



The only demographic variable that yielded a statistically significant result was academic status, or classification. Sophomore and junior status students differed significantly in their intent to return to the institution from freshmen and seniors. Sophomores and juniors were more likely than freshmen and seniors to express high intent to return. This finding has intuitive appeal since freshmen students have historically been cohorts at risk of attrition in moderately selective liberal arts institutions. Additionally, measuring seniors' intent proved somewhat problematic. While seniors were directed to respond to the question of intent to return as "not applicable" if they were graduating, many responded with scores of low intent to return. Since the survey did not ask seniors follow up questions regarding their graduation status, this finding is somewhat contaminated.

The significant differences between intent and academic year or classification could indicate that something happens in or throughout their first and/or second years at the institution that galvanizes their commitment to either themselves or the institution. It is unclear at this time what that process is, but Chickering and Reisser's (1993) seven vectors of college student development may offer some insight. As vocational identity is the sixth of the 7 vectors, college students need to have achieved some success in a variety of other areas (e.g., identity, interpersonal relationships). However, an exploration of this question is beyond the scope of the current work, but may be useful for future research.

### *Predicting Intent*

Stepwise logistic regression identified year classification and roommate self-efficacy as statistically significant,  $p = .016$ . While the model is able to predict 99% of students with high intent to return, it was able to predict 0% of those with low intent to return. Given the skewed

distribution, there were simply not enough students with low intent to return for the model to have any predictive power. It does reinforce the finding that sophomores and juniors are likely to have higher intent to return, as are students who believe that they can have successful roommate relationships. It may be, in the case of sophomores and juniors, that they have had at least one year's experience in negotiating roommate relationships. It may also be that students who are retained into their sophomore and junior years are more likely to also have the social and negotiating skills necessary to succeed in college life, vis-à-vis roommate relationships. One explanation for this finding may be that the years following the first year, students' often self-select roommates. This self-selection likely accounts for better roommate relation, at least in many cases.

#### *Support for Bean's Model*

Bean's model (2005) draws upon Tinto's (1979, 1987, 1993) theory that academic integration and social integration are the twin pillars in retention. The model posits that attitudes lead to beliefs, beliefs lead to intentions, and intentions lead to behaviors. Understanding student attitudes is fundamental to understanding and predicting college integration, loyalty and fit, all three factors in Bean's retention model. Attitudes themselves, and the psychological processes that give rise to these attitudes is key in understanding intentions. Self-efficacy, locus of control, and coping strategies are the three psychological processes underlying the theory. It is a challenge to come to an awareness of individuals' perceptions about such factors without asking them directly; however, asking about perceptions of perceptions is tricky at best. This is one of the most significant challenges to the current study and to testing Bean's model. College students are asked to reflect on their own beliefs about their ability to accomplish certain tasks (self-

efficacy), whether outcomes are contingent on their or others' efforts (locus of control), and their ability to cope with stress (coping skills). These issues are difficult enough for adults who have had decades of experience and reflection from which to draw.

Given that the distribution in this study was skewed toward high intent to return (86%), it is difficult to conclude with any certainty whether the psychological factors identified in Bean's (2001) model are indeed a key to understanding student retention. In the case of the current population, these psychological factors seem to explain very little about students' decision to return to an institution. The study does, however, offer support for two components of social integration, one of the two pillars of retention models and one that Bean claims is supported by the psychological factors identified in his model (2001). Social integration self-efficacy is a construct disaggregated by Solberg in his CSEI from social self-efficacy (Solberg, et al., 1998). This factor consists of three items: Confidence in ability to (a) join an intramural sports team, (b) get a date when you want one, and (c) join a student organization. According to the model, students who feel more confident in their ability to integrate socially, as in the case of the CSEI, will feel more connected to the institution. This connection, in turn, results in increased intent to remain at the institution. In a similar way, students who believe they are capable of dealing positively with a roommate are more likely to remain at the institution.

Academic integration, the second pillar in Bean's and others' models of retention (see Astin, 1984; Tinto, 1987), consists of a variety of factors that influence academic success. For example, students who believe that they can make satisfactory grades, benefit in some way from the education they receive, or engage with faculty outside of class, are more likely to feel integrated into the academic community. This perception leads to the belief in goodness of fit, or

loyalty to the institution, thereby increasing the likelihood of retention (Bean, 2001). However, the findings of the current study demonstrate very little support for this.

Another one of the challenges in obtaining self-report survey data from adolescents regarding concepts such as self-efficacy is their lack of self-awareness (Erikson, 1998). For example, adolescents, and in this case older adolescents or young adults may tend toward overestimating their confidence in their abilities to accomplish certain tasks. Elkind (1982) described adolescent egocentrism as the individual's perception that they are invincible and are uniquely special. This developmental phenomenon can lend itself to overestimation of an adolescent's abilities.

### *Self-Efficacy*

While the interaction between scores on college self-efficacy and intent to return were not significant, the mean scores of respondents on this construct appear to be meaningful in a practical way. The current population had total College Self-Efficacy inventory (CSEI) scores of  $M=6.98$ . Solberg and Torres (2001) reported mean scores of 5.16; whereas Gore et al. (2005) reported means of 7.03; however, on course (academic) self-efficacy, the mean of respondents was 7.19, whereas Gore's sample mean for course self-efficacy was 6.69, at the end of the semester. Because the number of students with high intent to return in this population was so large relative to the number of those with low intent, there were no statistically significant differences observed. However, mean scores on the CSEI were relatively high. Mean scores appear to suggest that self-efficacy may be an important consideration in college student development. To highlight the observation made by Bandura (1998), an individual's perception of his/her ability to complete a task, along with actual ability is much stronger than ability without perceived ability. The value in using an instrument such as the CSEI is that it is able to

break down college self-efficacy into even more specific tasks, consistent with Bandura's admonitions regarding the measurement of self-efficacy (Bandura, 1998). Rather than focusing primarily on a wider construct such as college self-efficacy, the instrument's bifurcation into course (academic), social, and roommate, and later social integration, allows for college staff to identify localized areas of self-efficacy deficits and strengths within their particular population. Because of this, interventions for increasing self-efficacy among college students can be targeted for specific sub-groups.

### *Locus of Control*

Scores on the Internal Control Index (ICI), while not statistically significant, when analyzed with intent to return, the instrument and construct shows promise in assessing college students' beliefs in their level of responsibility for outcomes of their education. As stated above, the skewed distribution obscures any statistical differences between high and low intent to return groups. However, mean scores taken at face value reveal relatively low internal locus of control among this population. In fact, mean scores were just inside the lower bounds of the published norms for this instrument (Falikowski, 2002). Individuals with an internal locus of control believe that the outcomes of a given behavior or set of behaviors is contingent upon them. In contrast, individuals with an external locus of control tend to place the outcomes of behaviors outside themselves (e.g., powerful others, luck, chance, fate). In the current population, the tendency toward an external locus of control could have impacted participants' scores on intent to return and the academic-employment connection. Students, who believe that their return to the institution or obtaining employment following college is ultimately outside of their control, may show less concern about returning or future employment. This finding actually represents the opposite of what might be expected for locus of control. Rather than being a negative indicator

for well being, having a more external locus of control can be seen in some ways to be more adaptive. The unfortunate side effect, however, is that this is perhaps a more early adolescent coping skill, that of abdicating responsibility for one's future to others. Further exploration of this unique dynamic is recommended.

### *Coping Style*

Scores on the Coping Stress Inventory (CSI) subscales indicate that, for population, participants were more likely to adopt emotional coping (M=2.50) strategies, followed by appraisal (cognitive) strategies (M=2.13), and finally behavioral strategies (M=1.76). These response patterns indicate that participants' initial responses to stressful events include an emotional reaction (e.g., anger, crying, self-blame, needing advice, needing moral support, or needing to vent emotion). In contrast, participants indicated they were least likely to engage in behavioral coping strategies (e.g., giving up, going to sleep, punishing one's self, taking pain killers, hitting others, or drinking alcohol). Participants were only moderately likely to engage in what Gadzella (2008) identifies as the most adaptive coping behaviors, that of cognitive appraisal. Cognitive appraisal in the CSI includes the following items: taking time to plan, praying, analyzing the situation, and re-evaluating the situation. It seems consistent with the literature on adolescent and college student development that students would first generate an emotional response to a stressful situation. However, it is also likely that these emotional responses will be followed by a behavioral reaction. Yet, in this study, participants indicated that while their first reaction may be emotional, their next one involves cognitive appraisal, a factor which may have an impact on their intent to remain. Speculatively, cognitive appraisal means could be compared with means on roommate and social integration scores on the CSEI to

determine any possible connections therein. Stated differently, what, if any, is the connection between the CSI Appraisal subscale and the CSEI subscales?

### *Education-Employment Connection*

A significant finding in the current study involved three dimensions or statements designed to measure one of Bean's (2005) key attitudes related to intent to return. The three statements, "I feel (felt) comfortable about choosing a major", "I believe my academic work this semester will help me get a job when I graduate", and "My academic work this year will help me succeed in my chosen career field" all resulted in statistically significant differences between low and high intent to return. Mean scores on high intent to return correlate significantly with high scores on each of the three statements that denoted high agreement with each statement.

Accountability in the current work means believing that a person has some responsibility to their future through the work in which they are currently involved. It also involves the belief that current activities, such as academic work and selection of an academic major, have a bearing on future employment and success. Students who can make these vital links are more likely to persevere despite setbacks or frustrations in the course of their collegiate career (Bean, 2005). This implies, at least among the current population, that participants believe that the academic activities in which they are presently engaged matter for their future. This finding is significant statistically and also meaningful in the liberal arts college context. Pascarella, et al (2005) indicated that liberal arts students may be at higher risk for attrition due to the limited number of concrete career options perceived to be available. Essentially, majors outside of science, technology, engineering, and mathematics (STEM) majors are seen to be less directly linked to specific career paths, therefore it was anticipated that these students would be less able to make the vital education-employment connections. In contrast, the findings of the current investigation

indicate that, at least for these respondents, liberal arts students are able to make connections between their academic work and their future employment prospects. What remains unclear is whether this connection is based on conscious cognitive processing of career options related to their major or if it represents an optimistic naïveté. Future investigations need to explore this distinction further.

### *Limitations*

The clearest limitation of the current study is the homogeneity of the respondents. With more than 88% of the respondents identified as white, attending a small, private, liberal arts college in the southeast, there are limited generalizations that can be made to other groups. The most confounding factor in this study was the skewed distribution of intent to return to the college. Over 86% of participants indicated high intent to return to the institution the following semester resulting in an inaccurate picture of the population and the scores on other measures. This finding does not accurately reflect the institution's retention history. In fact, it is considerably more optimistic than recent trends would suggest. This distribution likely reflects the motivation of students willing to take a survey, especially during a busy time of the semester. A similar explanation may also fit the apparently unusually high scores on many of the instruments, further limiting the findings herein. Additionally, in many cases, students are not actually the ones who determine whether or not they return to the institution; rather, parents make that decision, so student intent may not always be the most accurate measure of retention. Another significant limitation was the lack of clarity of the intent to return question for seniors in particular. Most senior participants appropriately selected the "N/A" response to the question of whether or not they intend to return to the institution the following semester. Some also indicated low intent to return (rather than selecting N/A), but there was no follow up item for them to



select identifying their status as graduating or not. Similarly, there was no follow up item for students with low intent to return to indicate their reasons for not intending to return. Finally, given the economic crisis that hit in late 2008, financial and employment instability may have been extraneous variables that were unable to be controlled, and therefore may have confounded the results.

### *Future Research*

The current study used instruments related to Bean's (2001) psychological theory of student retention. Two of these instruments also, however, contained subscales that helped identify nuanced components on the concepts, such as the subscales of behavioral, emotional and appraisal used in the CSI. Future research needs to focus on the subtle sub-factors of Bean's concepts in order further refine any observed differences between and among subgroups. For example, what is the nature of the relationships among behavioral, emotional, and appraisal approaches to coping with measures of course, social, roommate, and social integration self-efficacy in the CSEI? Due to the multitude of factors that impact a student's decision to leave or remain at an institution, increased specificity in the concepts examined may also increase levels of significance in the findings.

One of the limitations identified above in the current study is self-report, and in particular, quantitative self-report. Therefore, future researchers could follow up with students through qualitative means, such as semi-structured interviews or focus groups. These processes would allow researchers to further identify students' thinking that led to certain responses. One obvious example from the current study is the thinking behind seniors who are not graduating but who are also not planning to return to the institution. Another purpose in following up

student responses would be to simply ascertain what reasons students would give for their intent to return. While Bean's (2001) theory has outlined a framework for inquiry, its focus may also inadvertently exclude factors of greater relevance to students.

Due to one of the limitations of the study enumerated above, senior intent to return among this population remains unclear. Therefore, the cohort with clearly the lowest intent to return, at least among these respondents, was freshmen. While others have also identified this pattern (Schreiner & Pattengale, 2000) it is still a source of speculation. It is important to understand more clearly the factors that affect freshmen decisions to leave an institution after their first year, especially at such rates. Because freshmen attrition results in a necessary reduction in sophomore, junior, and senior students who can no longer choose whether or not to return, freshmen retention has been and will need to continue to be a high priority for college administrators.

Another direction for future research is to explore differences of scores among similar institutions, as well as across various types of institutions. Are the variations observed in the current institution consistent with findings among peer institutions, or were the current findings anomalous? Given the vulnerability of tuition-driven private liberal arts institutions to the vicissitudes of student enrollment and retention, how do the factors identified in the current study look in other college contexts?

### *Summary*

This study explored the interactions among psychological factors, key attitudes, demographics and related variables to intent to return to an academic institution the following semester. The purpose of the study was to examine the interaction of these factors on college

student retention for a population of students at a small, private, liberal arts college. Results indicated no significant interaction between the three psychological factors used; however, the key attitude used resulted in significant interaction with high intent to return. Demographics showed no significant differences among high and low intent to return, except for student classification. Sophomores and juniors indicated statistically significant higher intent to return than freshmen or seniors. Additional key findings of the study not addressed due to the nature of the research questions are presented in Appendix L.

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## Appendices

Appendix A

**DEMOGRAPHIC QUESTIONNAIRE**

**Age:** \_\_\_\_\_

**Sex:**

Male

Female

**Race/Ethnicity:**

Caucasian

African American

Latino or Hispanic- Specify \_\_\_\_\_

Asian

Native American

Other \_\_\_\_\_

**Educational History:**

*Educational Level at MC:*

At this time, how many college credits have you completed, not counting current courses?

\_\_\_\_\_

At this time, how long have you been enrolled in college? \_\_\_\_\_

*Major Information:*

Do you currently have a major?

Yes

No

Please list:

What is your current GPA? \_\_\_\_\_

What is the highest level of education completed by your...

Mother? \_\_\_\_\_

Father? \_\_\_\_\_

Please respond to the following statements:

1 = Strongly Disagree .....9 = Strongly Agree

1. I feel (felt) comfortable about choosing a major.

1      2      3      4      5      6      7      8      9

2. I believe my academic work this semester will help be get a job when I graduate.

1      2      3      4      5      6      7      8      9

3. My academic work this year will help me succeed in my chosen career field.

1      2      3      4      5      6      7      8      9

4. I plan to return to Maryville College next semester (freshmen, sophomores, and juniors only).

1      2      3      4      5      6      7      8      9

## Appendix B

### **INSTRUCTION SHEET**

Participant instruction sheet for demographic form and assessments:

1. Check the box that you have read and understand the consent form before proceeding (the survey will not allow you to proceed without checking).
2. Directions: Please read the directions for each of the surveys as they appear at the top of each page.
3. Click next at the bottom of each page to continue.
4. At the end of the survey, you will be prompted to enter your email address to be eligible for the drawing to win a gift card. This is voluntary. If you choose to enter, your contact information will be separated from your survey responses.

Thank You for your participation!

## Appendix C

### **INFORMED CONSENT**

*"Examining relationships among psychological factors and attitudes in predicting intent to persist among liberal arts undergraduates"*

#### **INTRODUCTION**

As a doctoral graduate student in Counselor Education at the University of Tennessee, I am currently collecting data for my dissertation. The purpose of this study is to explore ways in which Maryville College students view their confidence in their ability to be successful both in school and beyond. The earlier in the college career that students can a) grow in confidence, b) take responsibility for their growth, c) adapt to difficult situations, and d) develop an understanding of their place in the world, the more successful they will be in navigating decisions about academic major and career options.

#### **INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY**

Participants who voluntarily give their consent to participate in this study will be given 3 surveys to complete: the College Self-Efficacy Inventory (15 minutes), the Internal Control Index (15 minutes), and the Coping Stress Inventory (30 minutes), all online (Appendices D, E, and F).

Participants will also be given a demographic information form to complete (Appendix C). The form is comprised of the following: gender, age, race and description of educational level, and questions about major and career thoughts.

Administration of the instrument will take place on the campus of Maryville College, in a proctored, controlled setting, as follows:

1. Complete a short demographic survey and questionnaire.
2. Take three (3) assessment instruments during a scheduled time.

The total time for these will take approximately 60 minutes to complete.

#### **RISKS**

There are no anticipated risks associated with this study since the instruments are self-report surveys. In addition, the instructor will not utilize risky experimental methods in conducting this research.



Participant Initials \_\_\_\_\_

## **BENEFITS**

Participants in this study may benefit from knowing how their career thoughts may effect or be affected by certainty in choosing a major and/or career.

## **CONFIDENTIALITY**

The information in the study records will be kept confidential. Data will be stored securely in a locked file cabinet in the dissertation chair's office (Dr. Joel Diambra), Claxton Complex 449, and will be made available only to persons conducting the study. No reference will be made in oral or written reports which could link participants to the study by name. Three years after completion of the research project, the assessment instruments will be destroyed.

It is possible that this study, when completed, will be published or presented in a public forum (e.g., a professional conference). By signing this form, you are consenting not only to participate in the study, but also to agree that the aggregate data can be used in a professional publication and/or presentation.

## **PARTICIPATION**

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at anytime without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be destroyed. Return of the completed survey (questionnaire) constitutes your consent to participate.

If you have questions at this time or at any point later in the study, please ask them. If you decide to participate, you will be given a copy of this form to keep. You may contact one of us at the following address, phone number, or email address any time you have questions or concerns about this project. If you call and do not reach any of us, we will respond to you as soon as possible.

Chad Luke  
Doctoral Student, Counselor Education  
51 Ankara Court  
Knoxville, TN 37923  
865-850-5771  
[cluke@uthk.edu](mailto:cluke@uthk.edu)

Participant Initials \_\_\_\_\_

Joel F. Diambra, Ed.D. LPC-MHSP, NCC  
1122 Volunteer Boulevard  
CC449 Claxton Complex  
Knoxville, TN 37996-3452  
Phone: 865-974-8774  
Fax: 865-974-0135  
Email: [jdiambra@utk.edu](mailto:jdiambra@utk.edu)

I have read the above Information and Consent form, and I agree to participate in this project. I also agree to have all my assessment scores, reported in aggregate, included in any professional publication and/or presentation of this study.

Name (printed): \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## Appendix D

### Email to Students

*“Dear student,*

*The Center for Calling & Career needs your assistance to understand your experience here at Maryville College and what we can do to serve you better. Please take a few moments to complete the voluntary survey found at the link below. We really value your input and encourage your participation. Thank you for your help!*

*Sincerely,*

*Chad*

*Directions:*

*Follow the link provided. Read the instructions (Appendix A) and the informed consent statement (Appendix C) found on the first page. Completion of the survey constitutes consent. Answer all questions before continuing to the next page. The questions will ask you to respond based on your perceptions and opinions- there are no ‘right’ or ‘wrong’ responses. Your responses are completely confidential.”*

*Hyperlink to be inserted here*

Appendix E

**Approval from Maryville College's Human Subjects Review Board  
-pending UT IRB Approval-  
(Please See Attached)**

**Principal Researcher:** Chad Luke  
**Division:** Educational Psychology and Counseling (University of Tennessee, Knoxville)  
**Title:** "Examining relationships among psychological factors and attitudes in predicting intent to persist among liberal arts undergraduates"  
**Protocol#** 260108-01  
**Approval Status:** Approved

January 26, 2009

Dear Chad:

The Maryville College Institutional Review Board (IRB) has carefully considered your proposal referenced above. The proposed procedures afford reasonable protection to the human participants involved and therefore you are granted approval for the study.

Your approval is effective January 26, 2009 and will expire one year from this date. Thereafter, continued approval is contingent upon submission of a progress report that must be reviewed and approved prior to the expiration date.

Approval is contingent upon your agreement to obtain informed consent from your participants, to abide by the protocol summarized in the approved IRB application, and to keep appropriate records concerning your participants. In addition, approval is contingent on obtaining approval for the project from the IRB committee at the University of Tennessee. Please forward a copy of the statement of approval once obtained.

You are required to submit to the Maryville College IRB for review any changes in procedures involving human participants prior to the implementation of such changes.

If you have any questions concerning this approval or regulations governing human participant activities, please contact Dr. Chad Schrock, Chair of the Maryville College IRB at 865.981.8268, e-mail at [chad.schrock@maryvillecollege.edu](mailto:chad.schrock@maryvillecollege.edu).

Sincerely,



Dr. Chad Schrock  
Chair, Maryville College Institutional Review Board

## Appendix F

### College Self-Efficacy Inventory

Adapted from Solberg, 1993, with permission

This questionnaire seeks information regarding your degree of confidence in completing tasks associated with being a student at your college. You will be asked to respond to a series of statements by selecting the number that best represents your present attitude or opinion. Remember this not a test and there are no right or wrong answers. The categories range from:

- 0= totally unconfident
- 1 = very unconfident
- 2 = unconfident
- 3 = somewhat unconfident
- 4 = undecided
- 5 = somewhat confident
- 6 = confident
- 7 = very confident
- 8 = totally confident

Please answer all items

1. Make new friends at college
2. Talk to your professors/instructors
3. Take good class notes
4. Divide chores with others you live with
5. Research a term paper
6. Join an intramural sports team
7. Understand your textbooks
8. Get a date when you want one
9. Ask a professor or instructor a question outside of class
10. Get along with others you live with
11. Write a course paper
12. Work on a group project
13. Socialize with others you live with
14. Do well on your exams
15. Talk with a school academic and support (e.g. advising) staff
16. Manage your time effectively
17. Use the library
18. Join a student organization
19. Ask a question in class
20. Divide space in your residence (if applicable)
21. Participate in class discussions
22. Keep up to date with your school work

## Appendix G

### Permission to Use Instrument

-see email transcript

Chad

here are some articles and the measure

regards

scott

Chad Luke wrote:

> I hate to bother you, Dr. Solberg, but do you have the 1993 College  
> Self-Efficacy instrument, and if so, may I use it (and have a copy of  
> it)?

> Thank you for your time,

> Chad

> -----Original Message-----

> From: Scott Solberg [mailto:ssolberg@education.wisc.edu]

> Sent: Monday, December 15, 2008 11:24 AM

> To: Chad Luke

> Subject: Re: CSEI question

> Chad

> sorry for the delay

> good luck with your research. I am attaching a couple of articles as

> well as the measure

> scott solberg

> Chad Luke wrote:

>> Dear Dr. Solberg,

>> My name is Chad Luke and I am a doctoral student in counselor

>> education at the University of Tennessee. I am studying college

>> student retention and career decision-making for my dissertation and

>> am very interested in using the College Self-Efficacy Inventory as one

>> of the instruments. However, I am having a bit of difficulty locating

>> a copy of it.

>> I would be very grateful for any direction you could provide in

>> procuring the instrument.

>> Sincerely,

>> Chad

## Appendix H

### Internal Control Index

#### Index Instructions

Please read each statement. Where there is a blank \_\_\_\_\_, decide what your normal or usual attitude, feeling, or behavior would be:

- (A) Rarely (Less than 10% of the time)
- (B) Occasionally (About 30% of the time)
- (C) Sometimes (About half of the time)
- (D) Frequently (About 70% of the time)
- (E) Usually (More than 10% of the time)

Of course, there are always unusual situations in which this would not be the case, but think of what you would do or feel in most normal situations.

Write the letter that describes your usual attitude or behavior in the space provided on the response sheet.

1. When faced with a problem I \_\_\_\_\_ try to forget it.
2. I \_\_\_\_\_ need frequent encouragement from others for me to keep working at a difficult task.
3. I \_\_\_\_\_ like jobs where I can make decisions and be responsible for my own work.
4. I \_\_\_\_\_ change my opinion when someone I admire disagrees with me.
5. If I want something I \_\_\_\_\_ work hard to get it.
6. I \_\_\_\_\_ prefer to learn the facts about something from someone else rather than have to dig them out for myself.
7. I \_\_\_\_\_ will accept jobs that require me to supervise others.
8. I \_\_\_\_\_ have a hard time saying “no” when someone is trying to sell me something I don’t want.
9. I \_\_\_\_\_ like to have a say in any decisions made by any group I’m in.
10. I \_\_\_\_\_ consider the different sides of an issue before making any decisions.
11. What other people think \_\_\_\_\_ has great influence on my behavior.
12. Whenever something good happens to me I \_\_\_\_\_ feel it is because I’ve earned it.
13. I \_\_\_\_\_ enjoy being in a position of leadership.
14. I \_\_\_\_\_ need someone else to praise my work before I am satisfied with what I’ve done.
15. I am \_\_\_\_\_ sure enough of my opinions to try and influence others.
16. When something is going to affect me I \_\_\_\_\_ learn as much about it as I can.
17. I \_\_\_\_\_ decide to do things on the spur of the moment.
18. For me, knowing I’ve done something well is \_\_\_\_\_ more important to me than being praised by someone else.
19. I \_\_\_\_\_ let other people’s demands keep me from doing things I want to do.
20. I \_\_\_\_\_ stick to my opinions when someone disagrees with me.
21. I \_\_\_\_\_ do what I feel like doing not what other people think I ought to do.

22. I \_\_\_\_\_ get discouraged when doing something that takes a long time to achieve results.
23. When part of a group I \_\_\_\_\_ prefer to let other people make all the decisions.
24. When I have a problem I \_\_\_\_\_ follow the advice of friends or relatives.
25. I \_\_\_\_\_ enjoy trying to do difficult tasks more than I enjoy trying to do easy tasks.
26. I \_\_\_\_\_ prefer situations where I can depend on someone else's ability rather than just my own.
27. Having someone important tell me I did a good job is \_\_\_\_\_ more important to me than feeling I've done a good job.
28. When I'm involved in something I \_\_\_\_\_ try to find out all I can about what is going on even when someone else is in charge.



## Appendix I

### Permission to Use Instrument

See email transcript

From: Patricia Duttweiler [pdutt@satx.rr.com]  
Sent: Friday, January 23, 2009 2:00 PM  
To: Chad Luke  
Subject: Re: ICI  
Chad,

The version in the 1984 journal is the latest version. I ended up working in a field that was not conducive to further testing of the instrument. I know it has been used extensively, and perhaps someone else has recommendations for adjusting it.

You certainly have my permission to use the Internal Control Index. Good luck with your work.

Patricia Cloud Duttweiler, EdD

----- Original Message -----

From: Chad Luke  
To: Patricia Duttweiler  
Sent: Friday, January 23, 2009 9:39 AM  
Subject: RE: ICI

Good morning Dr. Duttweiler,

Thank you for getting back in touch with me. I noted that the ICI is in the 1984 article (appendix) and I wanted to get your permission to use the instrument, and to make certain I really appreciate your time,

Chad

Appendix J

**Coping Stress Inventory**

**COPING STRESS INVENTORY**

Bernadette M. Godzella, Ph.D.  
Texas A&M University-Commerce

Think of a stressful situation you experienced and indicate its meaningfulness and importance to you. Then, on line 40 check ONE statement that best describes it as;

- (a) Not very meaningful and important
- (b) Medium meaningfulness and importance
- (c) Very meaningful and important

Then, rate each of the statements below separately on the answer sheet (or scantron sheet) as to what you did (not what you should have done) as follows:

- (a) I didn't do any of it
- (b) I did a little of it
- (c) I did a medium amount of it
- (d) I did a lot (most) of it

**ITEMS**

A. Behavioral (action)

- 1. I gave up because I couldn't handle it
- 2. I went to sleep
- 3. I went for a walk (or jogged)
- 4. I punished myself
- 5. I ate food and drank soda
- 6. I took pain killers (aspirin, Tylenol)
- 7. I smoked cigarettes
- 8. I watched TV, played games, etc.
- 9. I got angry and hit other people/or things
- 10. I drank alcohol and/or took drugs

B. Emotional (feeling)

- 11. I got angry
- 12. I cried
- 13. I felt I was to blame

14. I felt I needed some advice
15. I felt I needed moral support
16. I felt I needed to vent out my emotions

C. Appraisal (evaluation)

17. I took time to plan what to do
18. I denied it really happened
19. I decided not to do anything
20. I decided to pray (meditate)
21. I analyzed the situation as to why it happened
22. I re-evaluated the situation and accepted it as my fault

Appendix K

Permission to Use Instrument

Chad Locke

Enclosed is a copy of the Coping Stress Inventory. We used Scantron sheets for students to record their answers.

Enclosed is a copy of an article with references which may help you.

Prepare a Research Consent form for your participant (sample enclosed)

Scoring is adding values of each item and comparing with different groups. (e.g. Hon with med. mean, high & low scores or share of very meaningful & important or gender difference.) See article enclosed.

I am sending this package to Maryville College - as you did not provide your address. I hope you get it.

Sincerely  
Bernadette Gabyella

Appendix L  
Additional Findings

Correlations

		Intent to Return	CSI behave	CSI emotional	CSI Appraisal	ICI mean	CSEI Course	CSEI Social	CSEI Roommate	CSEI Social Integration	Question 1	Question 2	Question 3		
Spearman's rho	Intent to Return	Correlation	1.000	-.081	-.051	-.033	.080	.073	.111*	.144*	.125*	.242**	.241**	.297**	
		Coefficient													
		Sig. (2-tailed)	.	.142	.355	.543	.144	.186	.043	.010	.023	.000	.000	.000	
		N	332	332	332	332	332	332	332	316	332	332	332	331	
CSI Behave	CSI Behave	Correlation	-.081	1.000	.401**	.312**	-.260**	-.206**	-.110*	-.066	-.138**	-.156**	-.101*	-.156**	
		Coefficient													
		Sig. (2-tailed)	.142	.	.000	.000	.000	.000	.026	.193	.005	.001	.039	.001	
		N	332	413	413	413	413	413	413	391	411	413	413	412	

		Intent to Return	CSI behave	CSI emotional	CSI Appraisal	ICI mean	CSEI Course	CSEI Social	CSEI Roommate	CSEI Social Integration	Question 1	Question 2	Question 3
CSI Emotional	Correlation Coefficient	-.051	.401**	1.000	.481**	-.242**	-.159**	-.083	-.081	-.151**	-.085	-.051	-.058
	Sig. (2-tailed)	.355	.000	.	.000	.000	.001	.094	.108	.002	.083	.302	.238
	N	332	413	413	413	413	413	413	391	411	413	413	412
CSI Appraisal	Correlation Coefficient	-.033	.312**	.481**	1.000	-.050	-.002	.050	.029	-.034	-.018	-.011	.004
	Sig. (2-tailed)	.543	.000	.000	.	.312	.964	.306	.563	.498	.711	.829	.932
	N	332	413	413	413	413	413	413	391	411	413	413	412
ICI Mean	Correlation Coefficient	.080	-.260**	-.242**	-.050	1.000	.476**	.384**	.270**	.224**	.232**	.226**	.268**
	Sig. (2-tailed)	.144	.000	.000	.312	.	.000	.000	.000	.000	.000	.000	.000

		Intent to Return	CSI behave	CSI emotional	CSI Appraisal	ICI mean	CSEI Course	CSEI Social	CSEI Roommate	CSEI Social Integration	Question 1	Question 2	Question 3
N		332	413	413	413	413	413	413	391	411	413	413	412
CSEI Course	Correlation Coefficient	.073	-.206**	-.159**	-.002	.476**	1.000	.621**	.480**	.408**	.236**	.281**	.372**
	Sig. (2-tailed)	.186	.000	.001	.964	.000	.	.000	.000	.000	.000	.000	.000
	N	332	413	413	413	413	413	413	391	411	413	413	412
CSEI Social	Correlation Coefficient	.111*	-.110*	-.083	.050	.384**	.621**	1.000	.520**	.501**	.191**	.317**	.296**
	Sig. (2-tailed)	.043	.026	.094	.306	.000	.000	.	.000	.000	.000	.000	.000
	N	332	413	413	413	413	413	413	391	411	413	413	412
CSEI Roomm	Correlation Coefficient	.144*	-.066	-.081	.029	.270**	.480**	.520**	1.000	.441**	.147**	.167**	.230**
	N	332	413	413	413	413	413	413	391	411	413	413	412



		Intent to Return	CSI behave	CSI emotional	CSI Appraisal	ICI mean	CSEI Course	CSEI Social CSEI Roommate	CSEI Social Integration	Question 1	Question 2	Question 3	
	Sig. (2-tailed)	.010	.193	.108	.563	.000	.000	.000	.	.000	.004	.001	.000
	N	316	391	391	391	391	391	391	390	391	391	391	390
CSEI Social Integration	Correlation Coefficient	.125*	-.138**	-.151**	-.034	.224**	.408**	.501**	.441**	1.000	.183**	.152**	.195**
	Sig. (2-tailed)	.023	.005	.002	.498	.000	.000	.000	.000	.	.000	.002	.000
	N	332	411	411	411	411	411	411	390	411	411	411	410
Question 1	Correlation Coefficient	.242**	-.156**	-.085	-.018	.232**	.236**	.191**	.147**	.183**	1.000	.369**	.754**
	Sig. (2-tailed)	.000	.001	.083	.711	.000	.000	.000	.004	.000	.	.000	.000
	N	332	413	413	413	413	413	413	391	411	413	413	412

		Intent to Return	CSI behave	CSI emotional	CSI Appraisal	ICI mean	CSEI Course	CSEI Social	CSEI Roommate	CSEI Social Integration	Question 1	Question 2	Question 3
Question 2	Correlation Coefficient	.241**	-.101*	-.051	-.011	.226**	.281**	.317**	.167**	.152**	.369**	1.000	.416**
	Sig. (2-tailed)	.000	.039	.302	.829	.000	.000	.000	.001	.002	.000	.	.000
	N	332	413	413	413	413	413	413	391	411	413	413	412
Question 3	Correlation Coefficient	.297**	-.156**	-.058	.004	.268**	.372**	.296**	.230**	.195**	.754**	.416**	1.000
	Sig. (2-tailed)	.000	.001	.238	.932	.000	.000	.000	.000	.000	.000	.000	.
	N	331	412	412	412	412	412	412	390	410	412	412	412

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Vita

Charles Curtis Luke II (Chad) was born in Charlotte, North Carolina on May 22<sup>nd</sup> 1972. He attended Columbia International University, where he completed a Bachelor of Arts degree in Psychology in 1998, and returned to complete a Master of Arts in Counseling degree in 2001. In 2005 he began the PhD program in Counselor Education at The University of Tennessee. He completed his PhD in 2009.