

ABSTRACT

Evaluating the Effects of Counseling Services on Student Retention

Kerri P. Bond, M.S.Ed.

Mentor: Rishi R. Sriram, Ph.D.

Although some research exists regarding the connection between counseling and retention, few studies have been conducted in the past decade that examine the current student population. This study is an effort to bridge a gap in the literature by examining the effects of counseling on retention and academic achievement of students in a large, private, research university. ANCOVAs were used to examine if there was a significant difference between the retention status and cumulative grade point average of counseled students and non-counseled students. In addition, a logistic regression was utilized to examine if retention can be predicted by knowing the number of counseling sessions a student attended. Although some statistical differences were revealed, it was found that counseled students retain just as well as non-counseled students and have similar grade point averages when examining practical significance through effect sizes. Prediction of retention was not possible by knowing the number of sessions a student attended. Limitations and suggestions for future research are discussed.

Evaluating the Effects of Counseling Services on Student Retention

by

Kerri P. Bond, B.A.

A Thesis

Approved by the Department of Educational Administration

Robert C. Cloud, Ed.D, Chairperson

Submitted to the Graduate Faculty of
Baylor University in Partial Fulfillment of the
Requirements for the Degree
of
Master's of Science in Education

Approved by the Thesis Committee

Rishi R. Sriram, Ph.D, Chairperson

Sara L. Dolan, Ph.D.

T. Laine Scales, Ph.D.

Accepted by the Graduate School
May 2011

J. Larry Lyon, Ph.D., Dean

Copyright © 2011 by Kerri P. Bond

All rights reserved

TABLE OF CONTENTS

Title	Page
List of Tables	vi
Acknowledgments	vii
Dedication	viii
Chapter One: Introduction	1
Research Questions	7
Definition of Terms	7
Summary	8
Chapter Two: Literature Review	9
Impact of Counseling	9
Other Factors on Retention	12
Theoretical Connections Between Counseling and Retention	18
Tinto's Interactionalist Theory	19
Bean's Model of the College Dropout Syndrome	20
Cabrera et al.'s Convergence	21
Astin's Theory of Involvement	22
Pascarella and Terenzini's Model	22
Braxton's Reworking of the Model	23
Linking Counseling and Retention	25
Chapter Three: Design and Methodology	30
Dependent and Independent Variables	30

The Research Questions	31
The Research Context	31
Participants	31
Procedures	32
Statistical Analysis	32
Limitations	33
Ethical Safeguards	33
Summary	33
Chapter Four: Results	35
Variables	35
Pre-Analysis Data Screening	36
Demographics	37
Research Question One	38
Research Question Two	39
Research Question Three	40
Summary	40
Chapter Five: Discussion	44
Overview	44
Research Question One	44
Research Question Two	45
Research Question Three	46
Interpretation of Findings	46
Limitations of the Study	51

Implications for Practice	53
Suggestions for Future Research	54
Conclusions	55
References	58

LIST OF TABLES

Title	Page
Table 1: <i>Demographic Characteristics of Participants, Overall</i>	41
Table 2: <i>Demographic Characteristics of Participants, Counseling</i>	41
Table 3: <i>Mean Scores and Standard Deviations as a Function of Retention Status and Counseling Status</i>	42
Table 4: <i>Analysis of Covariance of Cumulative GPA as a Function of Counseling Status, with SAT Scores as Covariate</i>	42
Table 5: <i>Mean Scores and Standard Deviations as a Function of Cumulative GPA and Counseling Status</i>	42
Table 6: <i>Analysis of Covariance of Cumulative GPA as a Function of Counseling Status, with SAT Scores as Covariate</i>	43
Table 7: <i>Frequencies for Predictor Variables as a Function of Retention Status</i>	43
Table 8: <i>Logistic Regression Predicting Retention Among Counseled Students</i>	43

ACKNOWLEDGMENTS

First, thank you to my mentor, Dr. Rishi Sriram. What a fantastic adventure this has been! I am thankful to have had such a supportive and enthusiastic advocate by my side throughout this process. Among the many gifts he has given me, I especially treasure the gift of time (to write and to be a student), the gift of faith (in my abilities and in my ambition), and the gift of motivation (to live up to the high standard he sets for being a scholar-practitioner in our shared profession). Truly, I could not have done this without his support. In choosing two additional committee members, I could have not been more fortunate to have Dr. Laine Scales and Dr. Sara Dolan on my team. Our department chairman, Dr. Robert Cloud, has also been an invaluable ally.

A thanks also goes to the staff of the Counseling Center, and especially my supervisor, Dr. Jim Marsh. His support throughout this project has been unwavering and so very appreciated. My fellow cohort members were also so supportive in this journey and they helped me by maintaining their senses of humor and gave me grace as I navigated through this project.

I have been fortunate to be able to work on this endeavor in several different states while visiting friends across the country. Thank you to Sara Rechnitzer, Meghann Bowyer, Jen and John Sawyer, the Smith-Harrison family, Chloe McCoy, Jean Hazelwood, Margaret Johnson, Katie Radke, and Charlotte Whatley for allowing me the time to work on this paper while visiting. I am so grateful for the love and support my friends have given me and I am thankful to have such amazing people in my life. 143. *“Nothing worth anything ever goes down easy.”*

DEDICATION

To Halley Brooke Smith, who reminds me to take my life less seriously
(it's only life, after all)

CHAPTER ONE

Introduction

The mental health of college students is becoming an increasingly important issue. When compared to students of previous generations, current students are more likely to find themselves in a state of anxiety and helplessness during their college experience. Meanwhile, administrators are faced with the responsibility of responding to such difficult concerns. The current generation of students is more driven to succeed than any other generation in history, but is also more likely to suffer because of it (Kadison & Geronimo, 2004). Students today have a 50% chance of experiencing depression to the point of incapacitation, and 1 in 10 college students seriously contemplates suicide (Kadison & DiGeronimo, 2004).

Since the 1970's, college students have encountered more stress than their previous generation (Bishop, 1990). Students of this decade have a more difficult time adjusting to college academics, dealing with finances, and are also more likely to be depressed, overwhelmed, or worried about their employability than any other generation in history (Bishop, 1990; Howe & Strauss, 2004). In the year 2000, 28% of first-year students reported feeling frequently overwhelmed, and 8% reported feeling depressed (Sax, Astin, Korn & Mahoney, 2000). However, the same survey reported a dramatic increase in those numbers in 2009, as 40% of first-year students reported feeling frequently overwhelmed, and 11.8% reported feeling depressed (Ruiz, Sharkness, Kelly, DeAngelo, & Pryor, 2010). College seniors are not faring much

better. According to the 2008 administration of the College Senior Survey, 35% of seniors reported feeling frequently overwhelmed, and 56.2% reported feeling occasionally overwhelmed (Liu et al., 2009). Nearly half (48.5%) of seniors reported feeling occasionally depressed (Ruiz, Sharkness, Kelly, DeAngelo, & Pryor, 2010). Nationwide, there has been a marked increase in both the number of students with serious problems and the number of students seeking psychological services (Kitzrow, 2003).

Howe and Strauss (2004) identify the generation of students born since 1982 as Millennials. They contend that this cohort of students has specific qualities about them that create challenges for college administrators, including parents who might have a harder time letting go and students with an exceptionally long extracurricular resume during high school. Howe and Strauss (2004) suggest that Millennials exhibit seven core traits that make them different from any other generation. Specifically, Millennials are special, in the sense that they are “vital to the nation and to their parents’ sense of purpose” (p. 51); these students are also sheltered, confident, team-oriented, and conventional. Finally, Millennials exhibit signs of feeling pressured and are high achievers. In examining retention and counseling trends, it is necessary to examine the current college population in light of these seven traits.

Counseling centers on university campuses are seeing a shift away from students with minor developmental issues and informational needs to severe psychological problems (Kitzrow, 2003). Longitudinal studies suggest that students today are presenting themselves to university counseling centers more frequently and with a greater number of problems than ever before (Benton, Robertson, Tseng,

Newton, & Benton, 2003; Pledge, Lapan, Heppner, Kivlighan, & Roehlke, 1998). An increasing number of students are turning to professional help offered at counseling centers to deal with issues they may not be able to handle on their own. Most recently, the 2009 edition of the Survey of Counseling Center Directors reports that 10.4% of students enrolled at four-year colleges and universities sought help from counseling centers, which is up 9% from the year before; this represents a 16% increase in clients in the last two years (Jaschik, 2010). The survey, which gathers information from 302 college campus counseling centers that serve 2.6 million students, reports a significant increase over the last year in traffic to counseling centers across the nation's universities (Jaschik, 2010).

As compared to older generations, high school and college students today are five times more likely to face anxiety and other mental health issues as young adults of the same age during the Great Depression (Irvine, 2010). Although Americans born before 1915 lived through the Great Depression and two World Wars, only 1% to 2% of those people experienced depression (Twenge, 2006). Today, the rate of those who have experienced depression at some point in their lives is between 15-20% (Twenge, 2006). Current students who seek counseling are more likely to present with suicidal thoughts, substance abuse, a history of psychiatric treatment or hospitalization, depression, and anxiety than in any other decade (Pledge et al., 1998; Kitzrow, 2003). The epidemic is so severe that Twenge (2006) suggests knowing someone who has attempted or completed suicide is a "rite of passage" for high school and college students (p. 106).

Although past counseling was primarily directed at vocational choices rather than mental health issues, the creation of independent academic success centers has resulted in their own niche in student clientele. Academic centers help students address academic issues that might be detrimental to school success, and counseling centers help students address their personal, social, and emotional difficulties. Therefore, counseling services are critical to the success of first-year students.

Schuh (2005) states that there are three fundamental purposes of counseling: to address problems that already exist (remedial), to assist in preventing problems (preventative), and to help deal with developmental issues. Counseling centers give students the opportunity to address personal concerns with an unbiased, professional staff member. Students, especially in the first year, may be reluctant to seek help because of the stigma related to admitting their problems. The university counseling center is ideally prepared to address common concerns of students, such as homesickness, parental problems, academic difficulties, roommate relationships, sexual assault, and sexual identity. In addition, counseling centers should be prepared to stress confidentiality practices. Finally, counseling centers should make concerted attempts to increase awareness of services.

Additional studies show that students with emotional and social problems are at higher risk for dropping out of college than students without mental health problems. Turner and Berry (2000) found that 1 in 5 students attending counseling considered withdrawing from the university as a result of personal problems. In addition, 70% of students attending counseling reported personal problems so severe that they had an impact on their academic performance. The issue of college student mental health is so

prevalent that students leave for social or emotional adjustment problems as first-year students just as much as they do for academic problems (Gerdes & Mallinckrodt, 1994; Bray, Braxton & Sullivan, 1999).

Fortunately, the evidence indicates better results for students who attend counseling. Several studies have suggested that students who receive counseling have higher retention rates than those who do not, and students who stay in counseling enjoy an even higher rate of retention (for example: Sharkin, 2004; Turner & Berry, 2000; Wilson et al., 1997; Illovsky, 1997; Bishop & Walker, 1990; Frank & Kirk, 1975). One possible explanation is that counseling helps students work through personal problems that might otherwise interfere with their academics and encourages students to continue pursuing an education.

In an attempt to prove the necessity for counseling centers to contribute to a university's overall mission of supporting students, Wilson, Mason, and Ewing (1997) sought to examine the relationship between counseling and retention. Researchers found that counseled students were 14% more likely to be retained than the general student body (Wilson, et al., 1997). Further, results suggest that increases in counseling sessions also increase the likelihood that a student will be retained (Wilson, et al., 1997). Turner and Berry (2000) performed a longitudinal study that examined the effects of counseling and retention on college students, comparing students receiving counseling with the general student body. Results suggest that retention rates of counseled students are repeatedly better than the rates for the general student body, and no significant differences were found in precollege characteristics of participants (Turner & Berry, 2000).

Despite this research, not all studies provide a positive correlation between counseling and improved grades. In an examination of counseling components (which included personal, career, and study skills counseling), Illovsky (1997) found no correlation between counseling and improved grades. However, counseling was discovered to have a positive effect on retention. According to this study, juniors had the most to gain from counseling, as they not only experienced higher retention rates overall, but also the most improved grades. Illovsky (1997) notes that counseling seems to have more of an effect on attrition and promoting greater retention for counseled students than it does on increasing academic achievement.

Although college campuses face increasing student mental health issues, few studies have been conducted in the past decade examining the relationship between counseling and retaining students. This notable gap in the literature suggests a need for more research to be done on the current college student population. Mounting evidence of the importance of mental health issues indicates that higher education administrators value this information, and the mental health needs of students affect every area (and budget) on campus. Also, by focusing on improving the mental health of students on campus, administrators might be in a better position to serve all students. For instance, Ambler (2006) notes the lack of positive psychological research on students who are flourishing. Studies are traditionally focused on students with psychopathology, which does little to increase our understanding of mentally healthy students. Today, higher education institutions in the United States are charged with the promotion of student mental health, personal growth, and emotional well-being (Kadison & DiGeronimo, 2004). This study is an effort to bridge the literature and

examine the effects of counseling on retention of students in a large, private, research university.

Research Questions

The following three research questions are addressed in this study: (a) Is there a significant difference in retention between counseled and non-counseled students, after controlling for pre-college characteristics? (b) Is there a significant difference in academic achievement between counseled and non-counseled students, after controlling for pre-college characteristics? (c) Among counseled students, can retention be predicted by knowing the number of counseling sessions a student attended?

Definition of Terms

The three most significant constructs in this study are (a) counseling, (b) retention, and (c) academic achievement. The following definitions explain these constructs and describe how they were measured and interpreted in this study.

Counseling refers to psychological and psychiatric services offered at the counseling center of the institution where this study was conducted. Students who received counseling at any point in the fall 2009 semester will be referred to as the “counseled” group. The general student population will be referred to as the “control” group.

Retention is defined as completing the fall semester and returning for the spring semester. Students who utilized the counseling center during the fall 2009 semester are identified using the client survey prior to the first counseling session. All students who

enrolled in the spring 2010 semester will be classified as retained, and those who did not will be classified as not retained.

Academic achievement is defined as cumulative grade point average for both semesters of the 2009-2010 year.

Summary

An increasing number of students are turning to professional help offered at college and university counseling centers to deal with issues they are not able to deal with on their own. From a historical perspective, counseling centers on university campuses are seeing a shift away from minor developmental issues to severe psychological problems. Students with emotional and social problems are at higher risk for dropping out of college than students without mental health problems. Despite increasing mental health issues and awareness on college campuses, few studies have been conducted that discuss the relationship between counseling, retention, and academic achievement in students. This study attempts to examine the effects of counseling on retention and achievement with the Millennial generation of college students.

CHAPTER TWO

Literature Review

The purpose of this study is to examine the effects of counseling on college student retention. This study is based upon the conceptual framework that colleges can positively influence psychological processes in students, which thereby positively affect factors leading to persistence and academic achievement. Specifically, students in counseling are given tools to process stressors, and are therefore more likely to be retained. After highlighting the evidence that counseling improves GPA and helps to increase retention, a review of the literature suggesting other factors that contribute to retention will be examined. Theoretical connections will be made between counseling and retention, focusing on a summary of recent literature. Additionally, specific studies linking counseling and retention will be reviewed, thereby emphasizing the logic of exploring retention efforts through a counseling perspective and the justification for examining possible relationships between these two variables.

Impacts of Counseling

Varying evidence exists that mental health counseling improves GPA and increases retention. More than two decades ago, Bishop (1990) found that most students were leaving college primarily due to dissatisfaction with an academic program, uncertain career objectives, or unclear educational goals. However, as the student population changes, the needs of students change as well. While students from previous generations left college because of financial reasons, more students currently

leave college because of mental health reasons (Kitzrow, 2003). Nationwide, there has been a marked increase in both the number of students with serious mental health problems and the number of students seeking psychological services. Further, counseling centers on college campuses are seeing a shift away from minor developmental issues and informational needs to severe psychological problems (Kitzrow, 2003). Students who seek counseling in this decade are more likely to present suicidal thoughts, previous substance abuse, a history of psychiatric treatment or hospitalization, depression, and anxiety compared to students in any previous decade (Pledge, Lapan, Heppner, Kivlighan, & Roehlke, 1998; Kitzrow, 2003). However, when students receive help for psychological problems, counseling can have a positive impact on their academic success, retention, and personal well-being (Kitzrow, 2003).

High levels of psychological distress among college students are significantly related to academic performance (Kitzrow, 2003). Students with high levels of stress are characterized by higher test anxiety, lower academic self-efficacy, and less effective time management skills. These students are also less likely to persist when faced with academic difficulties and are less likely to seek help from campus resources.

Although counseling services have significantly increased on college campuses in the last two decades (Bishop, 1990; Stone, Vespia, & Kanz, 2000; Sharkin, 2004), there is a surprising paucity of research on the impact of psychological counseling on retention and achievement. In a review of pertinent research, Reason (2009) noted that most persistence studies “fail to consider the wide variety of influence that shape student persistence, focusing instead on discrete conditions, interventions, and reforms” (p. 659). Given the dramatic increase in students seeking psychological help,

he argues, counseling should not be considered a discrete condition, intervention, or reform. Likewise, Sharkin (2004) cites that one of the biggest challenges for college or university counseling centers is demonstrating that their services meaningfully contribute to student retention. However, retention data should not be used as the only means of evaluating counseling center success (Sharkin, 2004). The ability of counselors and centers to help students better cope with stressful situations, conquer previous traumas, and find balance in their educational and personal lives are equal priorities.

While university counseling centers are just one of many support programs offered at institutions to increase retention, the evidence that psychological support effects adjustment and commitment is growing. In a study designed to examine the effects of self-esteem, social support, and utilization of campus support services on students' adjustment to college, researchers investigated survey responses from students who were currently being served in one of three on-campus academic support programs (Grant-Vallone, Reid, Umali, & Pohlert, 2004). Participants in these programs were all juniors or seniors and were either financially disadvantaged or first-generation college students. Researchers examined students' self-esteem, adjustment, and social support, and also determined the level of participation in the various support programs to which the students belonged. Results indicated that students with higher self-esteem and levels of peer support enjoyed better academic and social adjustment (Grant-Vallone et al., 2004). In addition, students who reported higher levels of social adjustment also reported more frequent use of university support programs. Students who felt more involved in the social life of the university reported better adjustment to

the academic demands and were more likely to be committed to the university.

Finally, researchers found that students who were more academically adjusted were also more committed to the goal of a college degree. This research suggests that students who utilize campus support programs (counseling services as well as adjustment programs) are more likely to be socially and academically adjusted and are more likely to be retained by the university.

Other Factors on Retention

Retention is a complicated problem. Accordingly, recent studies suggest that issues such as personality, coping skills, and social, emotional, and academic adjustment can affect retention (Tross et al., 2000; Bray, Braxton, & Sullivan, 1999; Gerdes & Mallinckrodt, 1994; Pritchard & Wilson, 2003). While college counseling centers are able to address many of these issues, research suggests that a majority of college students do not use the services provided. Academic achievement prior to entering college also influences retention. One study suggests that high school GPA accounts for 19% of the variance and that standardized college entrance exams account for 18% in college GPA (Tross, Harper, Osher, & Kneidinger, 2000). However, college students can be affected by many different components that can influence the decision to stay in school, transfer to another school, or drop out.

Results of other studies suggest how additional influences on retention relate to counseling in higher education. The college experience is often characterized by a more demanding workload, limited supervision, and increased responsibilities compared to students' experiences during high school. Accordingly, a study that examined more than 800 students found that those who were more diligent and

disciplined, as well as careful, organized, and conscientious, earned higher GPAs than students who were unreliable, imprecise, disorganized, and impetuous (Tross et al., 2000). Furthermore, it was suggested that levels of conscientiousness could be a better predictor of college GPA than high school performance (Tross et al., 2000). In this sample, conscientiousness accounted for 3% of the variance in college retention (Tross et al., 2000). Unexpectedly, high school GPA, SAT score, achievement and resiliency had no additional predictive value on retention. This study gives insight into which personality characteristics are important to cultivate in college students in order to encourage retention. These authors urge caution, however, stating that it is most beneficial to develop conscientiousness in current students rather than using this personality trait as a screening mechanism for potential students.

In another study, researchers addressed the effects of motivation, skill, social, and self-management measures on academic performance and retention (Robbins, Allen, Casillas, Peterson, & Le, 2006). The study examined 14,464 students from 48 institutions to determine the validity of a measure of psychosocial factors in predicting retention. It was found that motivational, social, and self-management psychosocial factors successfully predict retention and college student persistence. This study provides evidence that prior academic achievement is the first predictor of college student success, while conscientiousness, also referred to as academic discipline or academic effort, is the second leading predictor.

Because the college environment requires students to rapidly adapt to stressful situations, coping strategies are important to retention as well. Bray and associates (1999) studied the influence of four coping strategies on college student departure

decisions: Active Coping, Acceptance, Positive Reinterpretation, and Growth. Active Coping is characterized by a proactive approach to reducing or eliminating the source of a stress (Bray et al., 1999). The other approaches (acceptance, positive reinterpretation, and growth) are reactive in nature rather than positive. Researchers hypothesized that the greater a student's use of coping strategies, the greater their social integration into the campus community would be. Further, students who employ coping strategies are less likely to leave the college and are more committed to the institution (Bray et al., 1999). In fact, the use of effective coping strategies significantly impacts social integration, institutional commitment, and intent to reenroll. Interestingly, Active Coping negatively impacts social integration, which was not a predicted outcome in Bray et al.'s research. Positive Reinterpretation and Growth, however, positively impacted social integration. Students who employ these coping strategies are more likely to be fully included in the college community, and are thus more likely to be retained.

Stress coping strategies also impact institutional commitment (Bray et al., 1999). Active Coping was found to have a positive direct relationship, while Positive Reinterpretation and Growth did not have a significant impact on subsequent institutional commitment (Bray et al., 1999). Researchers also examined coping strategies on intent to reenroll. It was found that Active Coping had neither a direct nor indirect effect on this measure. This study indicates that the strategies that college students use to cope with stress have an effect on retention. Researchers suggest that coping strategies should be addressed during orientation programs for first-year students and transfer students who are new to the institution. Bray and associates

(1999) also suggest actively promoting workshops that illustrate stress management and coping strategies. University counseling center staff can provide these workshops to students during orientation or during the first weeks of the semester to introduce counseling services and to encourage proactive coping strategies during the transition to college life.

Depression and stress are also important to the discussion of retention, as mental health problems stemming from these issues can become very serious. Studies have found that as many as 77% of college students experience moderate levels of stress and 10% experience serious levels (Dixon & Robinson Kurpius, 2008). Students who report feeling depressed most often attribute their depression to academic issues, loneliness, financial difficulties, and relationship problems (Dixon & Robinson Kurpius, 2008). Moreover, a consistent relationship between depression and stress has been established, and retention can be affected by both factors. Dixon and Robinson Kurpius (2008) demonstrated that stress, depression, and self-esteem are interrelated, and examined the relationship between those three factors and *mattering*. The concept of mattering is “the feeling that others depend upon us, are interested in us, are concerned with our fate, or experience us as an ego-extension” (Dixon & Robinson Kurpius, 2008, p. 414). College students believe that they matter to others, as one study showed undergraduates scored an average of 3.7 on the 4-point scale of the General Mattering Scale (Dixon & Robinson Kurpius, 2008). Further, researchers found that self-esteem and mattering were interrelated, suggesting that students who feel more valued by others are more likely to feel worthwhile as a person.

Significant gender differences were found in all four variables tested, including self-esteem, mattering, depression, and stress. Specifically, women were more likely to report feeling depressed and reported higher levels of stress than men (Dixon & Robinson Kurpius, 2008). Researchers found that gender, mattering, and self-esteem were significant predictors of depression. Similarly, gender, self-esteem, and mattering were predictive of stress among students. Almost half of the variance in depression was accounted for by students' perception of their mattering, self-esteem, and stress levels. These findings support previous research that connects depression, self-esteem, and stress to retention efforts. Students who experience depression and high levels of stress should be seen by a mental health professional to examine underlying issues so that they can deal with these factors more effectively. Researchers suggest the use of cognitive behavioral therapy for students suffering from depression, which can alleviate some of the stressors causing depression, low self-esteem, and low levels of mattering.

Although severe depression and stress are two important factors negatively related to college student success, there are other factors that can influence a student's decision to stay at an institution. Rice and Mirzadeh (2000) examined the relationship between perfectionism, attachment, and adjustment in college students. Specifically, the research aimed at exploring whether perfectionism was related to attachment, academic integration, and depression. Two types of perfectionism were identified: adaptive and maladaptive (Rice & Mirzadeh, 2000). Researchers defined adaptive perfectionists as having high personal standards and preferences for organization. Maladaptive perfectionists also had high concern for organizational and personal

standards, but were more likely to report stress, excessive concern for mistakes, and self-doubt. Interestingly, adaptive perfectionists reported secure attachment and relationships with their parents, while maladaptive perfectionists reported insecure relationships with family and friends.

Relating to academics, maladaptive perfectionists were more likely to be less academically integrated and more depressed than adaptive perfectionists (Rice & Mirzadeh, 2000). Maladaptive perfectionists were more likely to perform poorly on academic and emotional indicators. Students who are depressed and feel badly about their academic performance are at considerably higher risk for dropping out of college than their peers who are confident about their abilities. Therefore, researchers suggest administrators and counselors pay special attention to this group of students to facilitate development and self-esteem.

Because retention research currently focuses heavily on previous academic success as a covariate, Pritchard and Wilson (2003) examined emotional and social factors as a predictor of student success. The researchers hypothesized that student emotional and social health would have a direct impact on student GPA and retention. Using various measures, students were asked to report their stress and depression levels, mood, fatigue, self-esteem, perfectionist tendencies, and optimism (Pritchard & Wilson, 2003). Researchers found that high levels of psychological distress among college students are significantly related to academic performance (Pritchard & Wilson, 2003; Kitzrow, 2003). Students with high levels of psychological stress are characterized by higher test anxiety, lower academic self-efficacy, and less effective time management skills. These students are also less likely to persist when faced with

academic difficulties and less likely to seek help from campus resources. Results indicate a relationship between emotional and social health and student performance and retention (Pritchard & Wilson, 2003). Emotional health was significantly related to GPA, even when controlled for gender. Students who had perfectionist tendencies were more likely to have a higher GPA, while students who reported higher stress levels were more likely to have a lower GPA. In addition, a student's emotional health related to his or her intention to drop out of college. Students who reported the intent to drop out also reported more fatigue and had lower self-esteem. These results suggest that students with emotional health problems are less likely to be retained by the university, highlighting the need for counseling opportunities to be in place for these students. Students under severe psychological distress should be of highest concern to campus administrators, as their ability to complete the academic year (and to eventually receive a degree) is compromised.

Theoretical Connections Between Counseling and Retention

The connection between counseling and retention can be examined through the framework of several retention and persistence theories. Tinto's Theory of Student Departure (1993), Bean's Model of the College Dropout Syndrome (1980), and the work of Cabrera and associates (1992) to combine the theories of Tinto and Bean are fundamental frameworks for the discussion of attrition. Astin's Theory of Student Involvement (1999) and Pascarella and Terenzini's Theory of Persistence (1980) are useful in providing the underpinnings for the argument that counseling allows students to develop in a more productive manner, find meaning in their lives, and persist through emotional and mental hardships. In addition, an examination of Braxton's

(2000) attempt to rework Tinto's departure theory is useful in understanding different perspectives on this touchstone theoretical model.

Tinto's Interactionalist Theory and Model of Student Departure

Tinto (1993) applied the suicide theories of Durkheim and Van Gennep to create a model of student departure decisions. In doing this, Tinto relates the departure decision to "educational suicide" (Tinto, 1993, p. 104). Like suicide theories, the student departure decision is complex and should take into consideration several different environmental and mental factors. While suicide theory suggests that improper integration into the community causes suicidal action, Tinto (1993) posits that improper integration into intellectual and social communities in college lead to voluntary departure. Likewise, as improper academic progress almost certainly leads to departure, improper social integration does not necessarily lead to voluntary departure. Thus, Tinto (1993) highlights the important link between the academic and social life in college, and reiterates that social isolation can have a negative effect and impact on academic performance. The theory, simply stated, is that "persistence is a function of the match between an individual's motivation and academic ability and the institution's academic and social characteristics" (Cabrera, Castaneda, Nora, & Hengstler, 1992, p. 144).

Tinto's (1993) model is a conceptual framework that seeks to explain why students withdraw from an institution by examining pre-entry characteristics and interactions between the academic and social systems of an institution. The model has five components that affect the departure decision: pre-entry attributes, goals/commitments, institutional experiences, integration, and outcome. Prior to

entering college, family background, skills and abilities, and prior schooling are important to consider for the departure decision. Once students are enrolled, their intentions, goals and institutional commitments, and external commitments will affect their institutional experience. This broad college experience is affected by the academic system, comprised of academic performance and interactions with faculty and staff, and the social system, comprised of extracurricular activities and peer group interactions. Students that find themselves fully integrated into these two systems will find that their intentions and institutional commitment are in line with that of the institution; those who are not fully integrated will most likely decide to depart the institution.

The model of institutional departure is significant to the study of counseling and retention because it addresses several important aspects of social integration that are commonly addressed in counseling. For example, “the actions of one’s family” are specifically mentioned in the discussion of external forces that might affect the departure decision. Students dealing with an unexpected divorce, sudden death of a family member, or with previous abuse would be considered to be at risk for dropping out. With counseling intervention, however, these students may have a higher chance of staying in college and receiving a degree.

Bean’s Model of the College Dropout Syndrome

Bean (1985) used the term “college dropout syndrome” to describe the “conscious, openly discussed intention to leave an institution coupled with actual attrition” (p. 36). In his model, Bean (1985) posits that academic, psychosocial, and environmental factors each influence three areas of the socialization process: academic,

social, and personal. Failure of a student to properly socialize in these three areas will most likely result in dropout. In addition, this model is based on a study conducted across all classification levels, thus giving it a broader base for which to be compared. It was found through this study that proper socialization has the greatest effect on the college dropout syndrome, regardless of class. Further, students were more influenced by their peers than by faculty members, suggesting that age-mates have a greater impact on socialization on the college campus.

Bean's (1985) model is relevant to the discussion of counseling and retention because it gives a framework for socialization on the college campus. Students who have a difficult time finding social and peer groups in which to belong will most likely either dropout or transfer; counseling can provide learning opportunities to help students socialize more effectively. Bean's model provides counselors and student affairs professionals with the theoretical underpinnings for effective programming that encourages students to find those with which they share common interests.

Cabrera et al.'s Convergence of Two Theories

Cabrera, Castaneda, Nora, and Hengstler (1992) attempted to illustrate the similarities and differences between both Tinto's (1993) and Bean's (1985) theories of student persistence and attrition. Cabrera et al. (1992) posit that, while both are fundamentally important to the literature, Tinto's theory fails to consider the function of external factors in the student departure decision, while Bean's model places too much emphasis to non-intellective factors in attrition. However, both models regard the departure decision as the result of many factors over a set period of time. Cabrera

et al. (1992) sought to compare the two theories by conducting a simultaneous study of both frameworks.

Results indicate that both theories are correct in predicting student persistence, depending upon the specific criteria that are being considered. In addition, both theories are presumed correct in their assumption that the persistence problem is complex and depends upon personal and institutional factors.

Astin's Theory of Involvement

Astin's (1999) theory of involvement supposes that involvement in college occurs along a continuum and that the act of dropping out could be seen as the "ultimate act of noninvolvement" (p. 524). He mentions living on campus, participating in honors programs, being highly involved in academics, and interacting with faculty as positive attributes of students that persist in college. Astin (1999) also cites evidence that students who are involved in athletics and student government are more likely to have a positive experience in college and thus persist until graduation.

Students who find themselves at an institution of poor fit are especially at risk for dropping out. Astin (1999) specifically mentions students at religious colleges of a different background than they identify with, Black students in mostly White colleges, and students from small towns attending college in large cities as less likely to persist. Counseling centers can offer students in these circumstances an opportunity to explore other areas of involvement, which might help them find a closer social network in which to thrive.

Pascarella and Terenzini's Use of Tinto's Model

With the idea that many students who decide to leave college do so because of a lack of institutional interventions, Pascarella and Terenzini (1980) conducted a study aimed at exploring voluntary withdrawal from college. Researchers proposed that institutional interventions could prevent student attrition (Pascarella & Terenzini, 1980). Using data from 1,457 incoming freshmen students, researchers provided questionnaires designed to evaluate perceptions of the college experience. A second survey was administered in the spring, meant to assess the reality (as compared to the incoming perceptions) of actual college experiences. The results of these surveys were supportive of the validity of Tinto's model, and were integral in designing a model that accurately predicts attrition.

By examining such factors as peer-group interactions, interactions with faculty, faculty concern for student development, and institutional commitment, researchers were able to correctly predict retention among the sample. According to results, this scale identified 75.8% of the students who later dropped out of the institution (Pascarella & Terenzini, 1980). Having an instrument that can predict student attrition is helpful to administrators so that retention interventions can be implemented before the decision to withdraw is made. Both administrators and counselors should benefit from having such a scale.

Braxton's Reworking of the Model

Because of a lack of empirical evidence to support Tinto's (1993) theory regarding academic and social integration factors affecting college student departure,

Braxton (2000) set forth to redesign the departure theory. The attrition problem is complicated, and many scholars have pointed to fundamental weaknesses in Tinto's original theory. Tinto himself has revised his original theory at least three times (Braxton, 2000). Of the thirteen testable propositions in Tinto's original theory, Braxton, Hirschy, and McClendon (2004) suggest that only five receive strong empirical support: student entry characteristics, initial institutional commitment, subsequent institutional commitment, initial goal commitment, and social integration. The remaining seven propositions were not supported empirically and, therefore, provide for an opportunity to revise the original theory.

Braxton and Lien (2000) suggest that academic integration, which along with social integration is posited by Tinto to be a pivotal construct in departure decisions, might have less weight than previously thought. Instead, the authors suggest that more empirical evidence is needed to prove that academic integration does have the effects that Tinto suggested in his original theory (Braxton & Lien, 2000). To examine the effects of academic integration on persistence, Braxton and Lien (2000) conducted several assessments involving single institution and multi institutional studies. They found that multi-institutional studies provided empirical evidence that academic integration effected institutional commitment, while single institutional studies provided no significant evidence of the same (Braxton & Lien, 2000). This suggests that more research is needed on the impact of academic integration as it effects institutional commitment.

Bean and Eaton (2000) also suggest that a model of student departure should take into consideration psychological influences. The authors note that pioneer

retention theorists were sociologists, and that the departure decision could benefit from a psychological framework. Bean and Eaton (2000) suggest four psychological theories that can benefit retention research: attitude-behavior, coping behavioral, self-efficacy, and attribution. Bean and Eaton (2000) propose a psychological model of retention that, like Tinto's (1997) model, includes entry characteristics and environmental interactions, but also includes psychological processes, outcomes, attitudes, and behavior.

Linking Counseling with Retention

The connection between counseling and retention has been examined through several studies that provide evidence of the usefulness of counseling. Illovsky (1997) examined 580 students who sought counseling from a university counseling center and compared their retention rates with the 10,633 students in the general body. The study was conducted during two time periods: at the beginning of the semester that students received counseling, and again at the end of the next semester following counseling. Data was collected that determined ethnicity, gender, major, classification, marital status, academic status, grade point average, and active or inactive semester status. For students who sought counseling, a primary diagnosis was collected.

The results indicated that 68% of students from the general student population returned for the next semester, while 75% of students who sought counseling returned for the same time period (Illovsky, 1997). Of seniors, 60% from the general student body returned, while 74% of counseled seniors returned. Caucasians, students aged 19 or younger, and first-year students enjoyed the highest rates of return. However, students who received counseling saw a grade gain of 0.557 in their grade point

average while non-counseled students saw an average gain of .1381 in their grade point average. Students who used counseling had a lower college grade point average (2.86 versus 3.06 general), lower ACT scores (20.14 versus 20.60 general), and lower high school rank (53.73 versus 60.16 general). In addition, students who sought counseling were more likely to also be on academic probation. While counseling did not improve grades, it did have a differential and positive effect on retention. In the first study of its kind, Illovsky (1997) illustrates that counseling should be examined as an important factor in providing students with a supportive academic environment.

In a similar study, Turner and Berry (2000) examined the impact of counseling on academic progress and retention. Comparing both objective and self-reported measures from counseled students and those from the general student body over a six-year period, researchers discovered that students who sought counseling had a higher retention rate than those who did not. Using data from August 1991 through May 1996, researchers examined the records of 2,365 counseled students and compared academic records to the general student body, which ranged from 12,321 to 14,232 per year.

Counseled students completed the “Initial Contact Form” during their first visit to the counseling center and the “Client Satisfaction Survey” upon completion of treatment. Students reported the level of impact their personal problems had on their academic lives and the eventual effect of counseling interventions. Results of this study indicate that an average of 70% of counseled students reported personal problems that affected academic progress (Turner & Berry, 2000). Additionally, 20% of counseled students reported in the “Initial Contact Form” that they were currently

considering withdrawing from the university because of personal problems. During counseling, 60.7% of students reported that counseling was helpful in maintaining enrollment by improving their academics. Of the counseled students, 43.8% reported that counseling encouraged them to remain enrolled in school.

Researchers also compared counseled students with the general student body to examine retention differences. In the six years of this study, the general student body re-enrollment rate was 58.6%, while 70.9% of counseled students were re-enrolled. While there were no differences in graduation rates over the six years, counseled students had greater rates of return enrollment (77.2%) compared to the general student body (67.9%). Finally, total retention rates were greater for counseled students (87.9%) compared to the general student body (81.1%). Researchers suggest that because many students reported academic difficulties because of personal problems, counseling allows students to work through personal problems at the benefit of academics. Additionally, researchers suggest that counseling should play a bigger role in the transition from high school to college for first-year students, as it appears that counseling has a positive effect on transitioning through personal and academic difficulties, even after controlling for prior academic achievement.

Wilson and associates (1997) observed the effects of counseling on academic performance. Researchers sought to specifically understand if counseling helps students make decisions and solve problems more effectively, which was measured by retention rates. The study had several research questions, and two are relevant to the current study. Researchers examined if receiving counseling for personal concerns led

to an advantage in retention over non-counseled students and if there is a relationship between the amount of counseling sessions received and student persistence.

Comparing the data of 562 students who received counseling to the general student body, researchers found that counseled students were 14% more likely to be retained than students who had never received counseling. Non-counseled students had a retention rate of 65% while counseling students had a retention rate of 79%. Researchers also examined the high school records of 312 students, but found no pretreatment differences among the groups. However, researchers did find significant results that indicated that increases in the number of sessions resulted in the increased likelihood of a student being retained. According to the data, 79% of students who received between one and seven sessions were retained two years later, while 65% of students who requested counseling but did not receive sessions were retained in the same time period (Wilson et al., 1997). Students who received as many as seven sessions saw the largest incremental gains in retention; researchers found no additional significant retention benefit after seven sessions. Accordingly, researchers found an apparent linear association between the number of sessions attended and the probability of retention.

These three studies (Illovsky, 1997; Turner & Berry, 2000; Wilson et al., 1997) provide evidence that counseling positively affects retention. However, they have not been replicated in published journals or with larger student populations in the past decade. Meanwhile, the current literature suggests that student mental health is an increasingly important topic on the college campus.

While advances have been made in understanding college student departure, few researchers can agree on interventions that work to alleviate attrition. The college student population is more diverse than ten years ago, and the Millennial generation is comprised of a different kind of student (Howe & Strauss, 2004). Although mental health issues are becoming more prominent on college campuses, there has not been a study that examines the effects of counseling on retention in over a decade. The current study is a replication of Wilson et al. (1997). According to Pascarella (2006), studies should be replicated to avoid misinterpreting the effect of programs or interventions. In this case, replicating the original study of Wilson, et al. (1997) positively contributes to the current literature on counseling and retention, providing much needed on college students in the current generation.

CHAPTER THREE

Design and Methodology

The purpose of this chapter is to explain how the research questions proposed in this study were answered. This study was designed to examine the relationship between receiving counseling, academic achievement, and retention rates of college students. In order to address the research questions, data was collected from institutional records to examine counseling, academic achievement, and retention status. The sections of this chapter will define the variables to be examined, readdress the research questions, describe the research context, outline the procedures that were used, describe data collection and analysis, explain limitations, and describe the ethical safeguards that were taken to protect identities.

Dependent and Independent Variables

There are two dependent variables in this study: academic achievement and retention. Academic achievement is defined as grade point average for the 2009-2010 year. Grade point average was measured on a 4-point scale and was obtained for the semester during and proceeding counseling. Students were classified as “retained” if they enrolled in the spring 2010 semester. Retention was measured on two levels: (1) retained and (2) not retained. The independent variable is the number of counseling sessions. Amount of counseling was measured in four levels according to number of sessions: (1) never received (non-counseled); (2) received 1-7 sessions; (3) received 8-12 sessions; and (4) received 13 or more sessions.

The Research Questions

The following three research questions were addressed in this study: (a) Is there a significant difference in retention between counseled and non-counseled students, after controlling for pre-college characteristics? (b) Is there a significant difference in academic achievement between counseled and non-counseled students, after controlling for pre-college characteristics? (c) Among counseled students, can retention be predicted by knowing the number of counseling sessions a student attended?

The Research Context

This study examined the effects of counseling on traditional aged undergraduate students (18-23) at a large, private university in the Southern region of the United States. The institution is classified as a “Doctoral/Research University-High Activity” institution according to its Carnegie Classification (The Carnegie Foundation for the Advancement of Teaching, 2000). It is a residential campus with an undergraduate population of approximately 12,000 students.

Participants

There were two groups of participants for this study: students who received counseling and those who did not. Counseling center records were examined to determine students who received services between the dates of August 25, 2009 and December 31, 2009. University records of students who never requested and never received counseling were also examined. It was expected that at least 300 students

would be included in the counseled group, and approximately 800 would be included in the non-counseled group.

Procedures

Student information was obtained through university records. Students who received counseling were identified through the counseling center, using only their student identification numbers. To ensure absolute confidentiality, student identification numbers were changed before the researcher obtained data. Students who were enrolled in the university during the fall 2009 academic semester and who either reenrolled during the spring 2010 semester or graduated in the fall of 2009 were defined as retained. Students who received counseling from the campus counseling center were placed in the counseled group. Pre-college characteristics were controlled prior to running statistical analysis.

Statistical Analysis

An analysis of covariance (ANCOVA) was used to examine the first two research questions. According to Mertler and Vannatta (2004), the process of an ANCOVA improves research design efficiency by adjusting the effect of variables. To determine if there was a significant difference between the retention of counseled students and non-counseled students, prior academic achievement was defined as a covariate in the analysis. Prior academic achievement was determined using high school achievement test scores.

A logistic regression was used to examine the third research question. Logistic regression is used to predict membership in a particular group, as measured by the

dependent variable (Mertler & Vannatta, 2004). The categorical dependent variable of retention (retained or not retained) was predicted by number of counseling sessions a student attended. Post hoc comparisons were performed to explore further differences in the groups.

Limitations

Because of the quasi-experimental nature of this study, self-selection is a large limitation to the generalizability of the results. Further, the sample used from this single campus may not be representative of the entire U.S. college population. In addition, there may be extraneous variables not considered that could impact results. However, controlling for pre-college characteristics will help reduce extraneous variables that might confound results.

Ethical Safeguards

Maintaining the privacy of subjects was important to this study. Before collecting data, the proposed project was approved by the institutional review board. To ensure privacy and confidentiality, names of students were not associated with their data at any time. All records were stored in a locked office throughout the duration of the study.

Summary

The purpose of this study was to explore the relationship between counseling and retention among college students. Using a sample of the university population compared to the clients at the university counseling center, the researcher was able to examine the primary questions asked at the beginning of this chapter. This chapter has

stated the research questions and hypothesis, as well as outlined the research context, anticipated procedures, data collection and analysis, examined possible limitations, and provided framework for ethical safeguards.

CHAPTER FOUR

Results

The purpose of this study was to examine the effects of counseling services on retention. This study addressed the following three research questions: (a) Is there a significant difference in retention between counseled and non-counseled students, after controlling for pre-college characteristics? (b) Is there a significant difference in academic achievement between counseled and non-counseled students, after controlling for pre-college characteristics? (c) Among counseled students, can retention be predicted by knowing the number of counseling sessions a student attended?

This chapter provides a description of the sample, findings pertaining to the three research questions, and a summary. For the purpose of this study, statistical significance was set at the .05 level.

Variables

There were two dependent variables in this study: academic achievement and retention. Academic achievement was defined as cumulative grade point average for the fall 2009 semester and is measured on a 4-point scale. Retention was defined as enrolling in the spring 2010 semester after being enrolled in the fall 2009 semester. Retention was measured on two levels: (1) retained and (2) not retained.

The independent variable in this study was number of counseling sessions a student attended. The amount of counseling was measured in four levels according to

the number of sessions attended: (1) never received (non-counseled group); (2) received 1-7 sessions; (3) received 8-12 sessions; and (4) received 13 or more sessions. There were 8,370 students in the non-counseled group and 333 students in the counseled group. Of the students who received counseling, 278 (83%) received 1-7 sessions, 45 (13%) received 8-12 sessions, and 10 students (3%) received 13 or more sessions during the fall semester. According to university policy, all students who pay student fees are eligible to receive seven free sessions per year, but may receive up to 12 sessions per year for an additional fee. Students who receive more than 12 sessions per year are an exception to policy and may have an extenuating circumstance to warrant additional sessions per year.

The covariate in this study was pre-college characteristics. In order to control for pre-college characteristics, high school achievement test scores were examined. Because the institution accepts both SAT and ACT scores for admissions, all ACT scores were converted to the equivalent SAT score using a concordance chart provided by the ACT (ACT, 2011). High school achievement tests were not available for 539 students; the resulting conversion between ACT and SAT scores yielded a total of 8,164 achievement test scores that were used as the basis to control for high school characteristics. The mean SAT score was 1195 (median = 1190, mode = 1110, $SD = 132.75$). Cumulative grade point average (GPA) was also examined for all students. The mean GPA was 3.05 (median = 3.15, mode = 4.0, $SD = .72$).

Pre-Analysis Data Screening

To ensure the accuracy of data, an analysis of frequencies was conducted. Any missing data were analyzed and corrected if possible, and the effects of outliers were

assessed. In addition, the adequacy of fit between the data and the assumptions of each statistical procedure was assessed, including normality, linearity, and homoscedasticity. Raw data were visually inspected by examining the frequency distribution and by creating several histograms. Univariate outliers were identified using a box plot. It was determined that this data set was representative of the population sampled, and that outliers were legitimate and should remain in the sample to be analyzed. Finally, univariate normality was examined by analyzing the skewness and kurtosis coefficients. It was determined that the data represented normal distribution for the values to be analyzed. A *Q-Q* plot was conducted and distribution was found to be normal.

Prior to examining data using statistical methods, some cases were eliminated. The original data set that was obtained by the institution contained two sections: student identification numbers for students enrolled in the fall semester and student identification numbers for students enrolled in the spring semester. Because graduation information was not included in this data set, it was impossible to determine which seniors graduated at the culmination of the fall semester and which seniors were not retained through the spring semester. In order to avoid mislabeling these students as not retained, all seniors were eliminated from the data set. This resulted in a smaller sample, but one that was able to represent the true retention status of more students.

Demographics

There were 8,703 students in the sample of this study. Over half of the general student body identified as female ($N = 5,076$, 58%), while 3,627 (42%) identified as male. In terms of ethnicity, 68% of the general student body identified as white ($N =$

5,901), 12% identified as Hispanic (N = 1,072), 9% identified as Black or African-American (N = 768), 8% identified as Asian (N = 687), and about 3% identified as Alaskan, American Indian, Pacific Islander, or another ethnicity (N = 275). In this sample, 3,492 (40%) were classified as first-year students, 2,732 (31%) were classified as sophomores, and 2,479 (29%) were classified as juniors.

The counseled students formed a representative sample from the general student body. Of the 333 counseled students, 92 (28%) identified as male while 241 (72%) identified as female. The sample consisted of 242 (73%) students who identified themselves as white, 43 (13%) students who identified as Hispanic, 28 (8%) students identified as Black or African-American, 12 (4%) students identified as Asian, 3 (less than 1%) students identified as Alaskan or American Indian, and 5 (2%) students identified as some other ethnicity. There were 130 (39%) first-year students, 93 (29%) sophomores, and 105 (32%) juniors in the counseled group. Table 1 includes demographic characteristics of the general student body, and Table 2 includes demographic characteristics of the counseled group. Both of these tables can be found on page 41.

Research Question One

Is there a significant difference in retention between counseled and non-counseled students, after controlling for pre-college characteristics?

Prior to running this statistical analysis, an ANOVA was conducted to determine if there was a significant interaction between the independent variable (counseling) and the covariate (SAT score). Results indicated that this interaction was not significant ($p = .879$), and thus the analysis of covariance was applied. For this question, an ANCOVA [between-subjects factor: counseling (counseled or non-

counseled); covariate: SAT score] revealed significant effects on retention status, $F(1, 8160) = 11.72, p = .001, \eta_p^2 = .001$, and SAT score, $F(1, 8160) = 21.42, p < .001, \eta_p^2 = .003$. The small effect size indicates that although there was a significant difference in these two groups, the proportion of variance in the dependent variable that is attributable to the independent variable is small (Mertler & Vennatta, 2005). In addition, no significant interaction was found between counseling and SAT score, $F(1, 8160) = .023, p < .897, \eta_p^2 < .001$. If there had been a significant interaction between these two variables, the main effect for the dependent variable would not be a valid indicator of effect (Mertler & Vennatta, 2005). Table 3 shows the means and standard deviations for this question and Table 4 shows the ANCOVA summary. Both of these tables can be found on page 42.

Research Question Two

Is there a significant difference in academic achievement between counseled and non-counseled students, after controlling for pre-college characteristics?

Prior to running this statistical analysis, an ANOVA was run to determine if there was a significant interaction between the independent variable (counseling) and the covariate (SAT score). Results indicated that this interaction was not significant ($p = .759$), and thus the analysis of covariance was applied. An ANCOVA [between-subjects factor: counseling (counseled or non-counseled); covariate: SAT score] revealed significant effects on cumulative grade point average, $F(1, 8160) = 16.72, p < .001, \eta_p^2 = .002$, and SAT score, $F(1, 8160) = 1496.47, p < .001, \eta_p^2 = .155$. As with question one, the small effect size in this analysis indicates that although there was a significant difference in these two groups, the proportion of variance in the dependent

variable that is attributable to the independent variable is small (Mertler & Vennatta, 2005). In addition, no significant interaction was found between counseling and SAT score, $F(1, 8160) = .040$, $p < .759$, $\eta_p^2 < .001$. Table 5 (page 42) shows the means and standard deviations for this question and Table 6 (page 43) shows the ANCOVA summary.

Research Question Three

Among counseled students, can retention be predicted by knowing the number of counseling sessions a student attended?

Logistic regression results indicated the overall model fit of two predictors was not statistically reliable in predicting grade point average, $X^2(2) = 2.64$, $p = .267$. In addition, the number of sessions was not significant to retention status for any of the variable groups. Table 7 shows the frequencies for predictor variables and Table 8 shows the logistic regression summary. Both of these tables can be found on page 43.

Summary

To address the three research questions, statistical methods included performing two ANCOVA's (questions one and two) and a logistic regression (question three). Statistically significant differences were found between counseled and non-counseled students relating to their retention status and academic achievement, after controlling for pre-college characteristics. However, no significant predictions were possible by examining the number of counseling sessions a student attended with regards to their counseling status. In addition, the small effect sizes for results in questions one and two indicate that despite a significant difference between the variables, the association that is attributable to the dependent variable is very small. Chapter five will provide an

overview of the analysis, and include an interpretation of the results, limitations of the study, implications for practice, suggestions for future research, and a conclusion.

Table 1
Demographic Characteristics of Participants, Overall (N = 8,703)

Characteristic	<i>n</i>	%
Gender		
Male	3,627	42
Female	5,076	58
Ethnicity		
White	5,901	68
Hispanic	1,072	12
Black/African-American	768	9
Asian	687	8
Alaskan/American Indian	63	1
Pacific Islander	5	<1
Other / Not specified	207	2
Classification		
Freshman	3,492	40
Sophomore	2,732	31
Junior	2,479	29

Table 2
Demographic Characteristics of Participants, Counseled (N = 333)

Characteristic	<i>n</i>	%
Gender		
Male	92	28
Female	241	72
Ethnicity		
White	242	73
Hispanic	43	13
Black/African-American	28	8
Asian	12	4
Alaskan/American Indian	3	<1
Pacific Islander	0	0
Other	5	2
Classification		
Freshman	130	39
Sophomore	93	29
Junior	105	32

Table 3
Mean Scores and Standard Deviations as a Function of Retention Status and Counseling Status

Source	<i>N</i>	<i>M</i>	<i>SD</i>
Non-Counseled	7864	.95	.222
Counseled	300	.90	.296
Total	8164	.95	.22

Table 4
Analysis of Covariance of Retention Status as a Function of Counseling Status, with SAT Scores as Covariate

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
Covariate	1	1.08	1.08	21.42	<.001	.003
Counseling Status	1	.593	.593	11.72	<.001	.001
Counseling X SAT	1	.001	.001	.023	<.001	<.001
Error	8161	412.84	.051			
Total	8164	7726.00				

Table 5
Mean Scores and Standard Deviations as a Function of Cumulative GPA and Counseling Status

Source	<i>N</i>	<i>M</i>	<i>SD</i>
Non-Counseled	7864	3.08	.71
Counseled	300	2.94	.82
Total	8164	3.08	.71

Table 6
Analysis of Covariance of Cumulative GPA as a Function of Counseling Status, with SAT Scores as Covariate

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
Covariate	1	642.09	642.09	1496.44	<.001	.155
Counseling Status	1	7.17	7.17	16.72	<.001	.002
Counseling X SAT	1	.040	.040	.094	<.759	<.001
Error	8161	3501.72	.429			
Total	8164	81532.77				

Table 7
Frequencies for Predictor Variables as a Function of Retention Status

Variable	N	χ^2	<i>p</i>
1-7 Sessions	278	1.45	.484
8-12 Sessions	45	.076	.783
13 or More Sessions	10	.086	.769

Table 8
Logistic Regression Predicting Retention Among Counseled Students

Variable	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>95% CI</i>	<i>Wald</i>	<i>p</i>
Counseling	.26	.71	1.30	[.58, 2.89]	.42	.51

CHAPTER FIVE

Discussion

While several studies have been conducted regarding the relationship between counseling and retention, there is a surprising lack of recent literature that examines this connection with the current generation of college students. This study was designed to bridge the gap in the literature and provide evidence that counseling services offer students the necessary aid to remain enrolled in an institution of higher learning, despite possible personal issues that might otherwise cause a student to leave. This chapter will provide an interpretation of the findings from this study, limitations of the study, implications for practice, and suggestions for future research.

Overview

This study addressed the following research questions: (a) Is there a significant difference in retention between counseled and non-counseled students, after controlling for pre-college characteristics? (b) Is there a significant difference in academic achievement between counseled and non-counseled students, after controlling for pre-college characteristics? (c) Among counseled students, can retention be predicted by knowing the number of counseling sessions a student attended?

Research Question One

For the purpose of this study, retention was defined as enrolling in both the fall and spring semesters. The general student body (which included counseled students) retained at a rate of 94% while the counseled group retained at a rate of 88%. There

was a statistically significant difference ($p = .001$) between the retention of counseled students ($M = .90$) and non-counseled students ($M = .95$); however, the effect size was small (partial $\eta^2 = .001$). According to Mertler and Vannatta (2005), effect size is the measure of how much association exists between the independent and dependent variables; an effect size of .001 indicates a minuscule association between grade point average and counseling status. Therefore, the data shows no practical significance, indicating that counseled students retain just as well as students who do not receive counseling. The covariate of SAT scores was used to control for pre-college characteristics to ensure that previous academic achievement would have a limited effect on the dependent variable (Mertler & Vannatta, 2005). Although SAT scores were statistically controlled, it is interesting to note that the two groups, counseled and non-counseled, had virtually identical scores on high school achievement tests. The general student body had a mean SAT score of 1195 ($SD = 132.75$) while the counseled group had a mean SAT score of 1192 ($SD = 145.8$).

Research Question Two

The general student body had an average cumulative grade point average of 3.05 ($SD = .72$) while the counseled group had an average of 2.89 ($SD = .84$). There was a statistically significant difference ($p < .001$) between the grade point average of the general student body and the counseled group; however, the effect size was so small (partial $\eta^2 = .002$) that it can be presumed that counseled students have statistically similar grade point averages as the general student body. Similar to the discussion for research question number one, a small effect size for this analysis

indicates a small association between the average grade point average and counseling status.

Research Question Three

A logistic regression was run for the third research question to determine if knowing the number of counseling sessions a student attended could predict the group to which a student would belong (retained or not retained). This question only pertained to students in the counseling group. After controlling for high school achievement using SAT scores as a covariate, it was found that the number of counseling sessions was not a significant predictor for retention. The results of the Lagrange multiplier test within the logistic regression show that students who attend 1-7 sessions have a score of 1.482, which indicates the change of the model of fit. However, the statistical significance for this variable is $p = .484$, indicating no significance. Additionally, students who attended 8-12 sessions had a score of .076 ($p = .783$), and students who attended 13 or more sessions had a score of .086 ($p = .769$). These results indicate that it is not possible to predict retention by knowing the number of counseling sessions a student attended.

Interpretation of Findings

Based on prior research, it was expected that counseled students would have lower grade point averages but would be retained at higher levels than the general student body. Results of this study indicate that students who are counseled have statistically similar grade point averages and retention rates than students who do not attend counseling. While these results were not expected, they seem to indicate the

reality of the changing trend in the mental health of college students. This study provides evidence that although college students are encountering more mental health issues than any generation before them, those who seek counseling are still retaining at a rate that is comparable to the general student body. This study provides evidence that the counseling center is effective in its mission to help students maneuver college life and balance personal problems with academics, despite the obstacles that this generation of college students face.

The mental health of college students has gained national attention over recent years. *The New York Times* recently reported the results of the Higher Education Research Institute's *The American Freshman: Norms for Fall 2010* report (Lewin, 2011; Pryor, Hurtado, DeAngelo, Palucki Blake, & Tran, 2010). In this study of more than 200,000 first-year students at 279 institutions, the number of students who rated their own mental health as "below average" rose significantly compared to previous years (Pryor et al., 2010). In addition, only 52% of incoming students in 2010 rated their emotional health as "above average;" in 1985, 64% of students felt the same way. According to the authors, self-rated emotional health is at its lowest point since the survey began, 25 years ago (Pryor et al., 2010). Interestingly, although student mental and emotional health has been trending downward and students are more likely to feel overwhelmed, self-ratings on the perceived academic ability and the drive to achieve have been trending upward (Pryor et al., 2010). Indeed, nearly three-quarters of first-year students, a record high, believe their academic ability is "above average" (Lewin, 2011).

Unrealistic expectations seem to be a problem for the current generation of college students. According to a study conducted in 2002, 80% of high school sophomores in 2002 claimed to expect to earn a baccalaureate degree from a four-year college (Twenge, 2006). The national average for college degree completion in five years is 55% (Southern Regional Education Board, 2011); only 37% of students finish their degrees in four years (Twenge, 2006). In addition, a 2003 survey found that 75% of first-year students predicted they would earn an advanced degree; 39% said they would earn a master's degree, 19% a Ph.D., and 12% said they would earn an M.D. In reality, the number of Ph.D.'s granted is equal to only 4% of bachelor degrees awarded, and M.D.'s only account for 1% of all bachelor degrees (Twenge, 2006). Students in this generation have been told that they can do and be anything; disappointment in not reaching these goals can begin in college. Thus, the college counseling center is an avenue where students can address these disappointments and receive help in realigning goals.

In her discussion of this generation of college students, Twenge (2006) makes an explicit point to discuss the mental health crisis of young adults born since the late 1970's. She concludes through her own research that the average (so called "normal") college student in the 1990's was more anxious than 85% of college students from the 1950's and 71% of the students who attended college in the 1970's. This normalizing trend of psychiatric illness is prevalent in American culture; Twenge (2006) found that elementary children who were identified as "normal" in the 1980's reported higher levels of anxiety than children undergoing psychiatric treatment in the 1950's. The

current pressure on college students contributes to anxiety, depression, and mental illness.

While Twenge (2006) takes a cynical (albeit methodical and researched) approach to studying this college generation, Howe and Strauss (2004) embrace the qualities unique to students born in the 1980's who are now in college. However, even Howe and Strauss (2004) stress the importance of recognizing the immense pressure and stress this generation is under to perform and achieve. Among the seven characteristics used to define this generation, these authors declare that current college students are special, sheltered, confident, pressured, and achieving (Howe & Strauss, 2004). Millennials, as Howe and Strauss (2004) call this generation, feel extraordinary pressure to achieve—most high school juniors feel that weekly behavior will determine where he or she will be in five to ten years. Older generations, specifically the Baby Boomer generation, perceived their future to be less likely to be influenced by work or credentials and felt that institutional rules had little impact on their career path. This generational change is worth noting while interpreting the results of this research.

Although this study found statistically significant differences between the counseled and non-counseled groups regarding cumulative grade point average and retention status, the effect sizes were so small that the association between the two variables is considered practically insignificant. It is therefore reasonable to state that students in this study who were counseled retained just as well as students who did not express the need for counseling by attending sessions. Similarly, students who were counseled had similar cumulative grade point averages, despite seeking counseling for any number of issues.

Prior research suggests that mental health issues contribute to poor academic performance or attrition. Turner and Berry (2004) found that 70% of counseled students reported personal problems so severe that they had an impact on academic performance. In addition, several other studies have indicated that counseled students have lower grade point averages and higher levels of psychological distress (Illovisky, 1997; Turner & Berry, 2000; Kitzrow, 2004). However, the findings of this study demonstrate the efficacy of the college counseling center in helping students with psychological issues address problems well enough to not only persist at the same rate as students who do not seek counseling, but also to do as well academically.

In addition, students with previously diagnosed mental health issues or “hidden disabilities” are more likely to attend college. According to Pryor and associates (2010), more students who identified as having Attention Deficit Hyperactivity Disorder (ADHD), learning disabilities, and psychological disorders reported that they expected to seek extra tutoring and psychological counseling during college. More students with disabilities (both learning and psychologically based) are able to navigate through high school and matriculate to college; the extra help they might have received in high school is expected to be available during college, also.

The benefits of psychological counseling should not be overlooked. In previous studies, researchers have found a strong connection between receiving counseling and higher retention rates (Wilson et al., 1997; Illovisky, 1997; Turner & Berry, 2000). However, the lack of recent studies connecting counseling and retention should be noted. The current generation of college students was in elementary school when those studies were conducted; as Howe and Strauss (2004) and Twenge (2006)

make clear, the uniqueness and pressures of this generation of college students should be considered when examining connections between counseling and retention.

Limitations of the Study

There are several limitations of this study. Like the research this study aimed to replicate, a major limitation is based on methodological grounds. Because of the quasi-experimental design, selection bias is the biggest threat to internal validity. It is not realistically feasible to control for self-selection in this type of study, and students who choose to attend counseling might possess different characteristics not controlled for in this study. In order to control for pre-college characteristics, however, high school achievement test scores were used as a covariate. It was determined that the counseled group and the non-counseled group did not differ in SAT scores. Doing this analysis provided some accountability for possible pre-college characteristics that might have influenced the results of this study.

An additional limitation based on the methods of this study is the analysis of retention from fall to spring semesters, which might differ from fall to fall retention. The study was conducted in this way to provide a short-term analysis of retention rates and a convenience sample was used. Future studies would benefit from exploring the retention rates of counseled students from a longitudinal perspective.

Like Turner and Berry (2000) suggested in their own study, creating a control group for the current project would be challenging on practical and ethical grounds. Because of this, a comparison group was used instead of a control group, which also included the entire subpopulation of counseling center clients. This could also provide a challenge to this study on methodological grounds. However, it is reasonable to

assume that the groups differed from each other; performing an ANCOVA and controlling for pre-college characteristics allowed for adjustment based on the mean of the dependent variable (Huck, 2008).

The institution from which data was collected has a large traditionally aged-student population, which might not represent the average age of college students nationally. However, data was not collected on the age of subjects, so this connection is suggestive but not conclusive. In addition, retention efforts outside of counseling at this particular institution could have an effect on the variance found in this study. For example, incoming students attend a comprehensive orientation program and have the option to attend an extended orientation program that has been shown to increase retention among attendees. Students at this institution also have a wide variety of free tutoring options available, which could account for higher grade point averages. Further, these findings are limited to a single-campus. While the general student body was relatively diverse (58% of the sample represented females and 67% of the population classified themselves as white), the counseled group was decidedly less diverse. With 72% of the counseled group representing females and 72% classified as white, there are some limitations to the generalizability of the results to other campuses. However, both the general student body and the counseled group were representative in their classification distribution.

Retention is a complicated problem. Students decide to leave college for a number of reasons, including mental health issues. Therefore, the decision for students to go elsewhere is difficult to assess with limited information. However, the fact that counseled students (who selected to go to counseling on their own accord) persisted

and achieved at levels comparable to students who did not seek counseling is noteworthy.

Implications for Practice

This study provides several implications for practice. Findings demonstrate the need for counseling centers to continue providing services to students with psychological issues that might otherwise keep the student from retaining at the university. Because counseling center clients enjoyed practically the same retention rates as the non-counseled group, it can be assumed that the counseling center provided clients with the necessary skills to remain in college at the same rate as the general student body, despite psychological problems that might have otherwise prohibited returning for the spring semester.

Another implication for this research lies in how counseled students are perceived by the university. In this study, unlike others like it, counseled students did not practically differ with regards to mean SAT score and mean cumulative grade point average. Other studies similar to the current project suggest that students with psychological problems also present to counseling centers with academic and personal problems (Illovsy, 1997; Pledge et al., 1998; Turner & Berry, 2000). Once identified, these problems can often be so severe that they impact grades and limit the chances that a student will return for the next semester. Results of this study indicate that students who are experiencing psychological problems that could impact their academic and personal lives could benefit from counseling in ways that increase the likelihood of their persistence at the institution.

A final implication of this study involves the third research question. It was determined that it was not statistically possible to predict retention status based on knowing the number of sessions a student attended. More sessions do not translate into higher retention rates. Because of financial limitations and strain on personnel, many college and university counseling centers are limiting the number of sessions an individual student can attend throughout a year (Pryor et al., 2010; Lewin, 2011). The results of this study indicate that students who receive 1-7 sessions are just as likely to return for the spring semester as students who receive 13 or more sessions per year. This is positive news for counseling centers who limit the number of sessions a student can attend per year, as it indicates that even 1-7 sessions can have a positive impact on students with psychological issues.

Suggestions for Future Research

Future studies would benefit from a closer look at the interaction between counseling and retention in order to make more determinations regarding this relationship and its impact on the broader retention literature. A similar study as the current project with a larger sample of counseled students could also provide greater insight into the retention patterns of these students.

In addition, future studies could focus on controlling for more pre-college characteristics. By doing this, both the counseled and non-counseled groups would be statistically analyzed with a broader definition of pre-college characteristics as the covariate. This study used SAT scores as the covariate and relied on a concordance chart to convert ACT scores to their equivalent SAT scores. Past studies have considered high school rank and grade point average as covariates, which future studies

could employ along with high school achievement tests to gain a more complete picture of high school and pre-college achievement.

Furthermore, the current study did not examine possible conditional effects such as gender or race. It is possible that these subgroups are affected by counseling differently, and this concept should be examined. In addition, because the counseled students were mostly female and white compared to the general student population, future research should examine possible negative stereotypes that might be hindering students of color and males from seeking counseling.

Academic and social integration should also be included in future studies on counseling; both components are proposed to affect the departure decision by Tinto's (1993) retention theory and by Astin's (1999) involvement theory. Because retention is such a complicated problem, understanding how these variables interact with counseled students would benefit this literature. Further, a qualitative study can contribute richer data on how counseling impacts the academic experience of students. By asking students how counseling has affected their decision to either stay or leave the university, new directions in retention research could be addressed. In addition, a qualitative study of psychologists could also help determine what issues retained students are addressing in counseling and provide insight into how to best help these students who might be at risk for leaving the university.

Conclusion

Results of this study support the value of university counseling services as a part of an institution's overall retention efforts. Because counseled students enjoyed a similar retention rate and grade point average when compared to the general student

body, attention should be given to the effort of counselors as they help students navigate through psychological issues that might affect their ability to remain enrolled in the university. The current college generation provides a unique challenge to researchers as they are more likely to experience depression, high levels of anxiety, and psychological distress that could affect their decision to stay enrolled in college (Kadison & DiGeronimno, 2004).

College and university administrators have the responsibility of responding to difficult student concerns, including psychological crises. As national media attention to severe mental health problems has increased, attention to college students has also increased. This attention sheds light on the psychological problems that college students face on a daily basis. The focus on solving these problems allows for a spirited discussion to take place regarding possible solutions and creative interventions.

A generation ago, college counseling centers treated students who presented with minor developmental issues and those who needed information about specific mental health topics (Kitzrow, 2003). Now, college students present to counseling centers with previous mental health disorders, severe psychological crises, and sometimes acute problems. Accordingly, counseling centers must be prepared to address these issues and to be a part of the retention solution rather than risk losing these students. The results of this study suggest that although counseled students might be traditionally less likely to remain enrolled because of possible psychological issues, these students can achieve similar retention rates and grades as the general student body. In this sample, it can be inferred that students who received counseling gained

the tools necessary to cope with mental health issues and thus were just as likely to remain enrolled as their non-counseled peers.

REFERENCES

- ACT (2011). ACT-SAT concordance. Retrieved from <http://www.act.org/aap/concordance/>
- Ambler, V. M. (2006). *Who flourishes in college? Using positive psychology and student involvement theory to explore mental health among traditionally aged undergraduates*. Unpublished doctoral dissertation, College of William and Mary.
- Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 40(5), 518-529.
- Bean, J. P. (1985). Interaction effects based on class level in an explanatory model of college student dropout syndrome. *American Educational Research Journal*, 22(1), 35-64.
- Bean, J. P. & Eaton, S. B. (2000). A psychological model of college student retention. In Braxton, J. M. (Ed.). *Reworking the student departure puzzle*. Nashville, TN: Vanderbilt University Press.
- Benton, S. A., Robertson, J. M., Tseng, W. C., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice*, 34, 66-72.
- Bishop, J. B. (1990). The university counseling center: An agenda for the 1990's. *Journal of Counseling & Development*, 68, 408-413.
- Bray, N. J., Braxton, J. M., & Sullivan, A. S. (1999). The influence of stress-related coping strategies on college student departure decisions. *Journal of College Student Development*, 40(6), 645-657.
- Braxton, J. M. (2000). Reworking the student departure puzzle. In Braxton, J. M. (Ed.). *Reworking the student departure puzzle*. Nashville, TN: Vanderbilt University Press.
- Braxton, J. M. & Lien, L. A. (2000). The viability of academic integration as a central construct in Tinto's internationalist theory of college student departure. In Braxton, J. M. (Ed.). *Reworking the student departure puzzle*. Nashville, TN: Vanderbilt University Press.

- Cabrera, A. F., Castaneda, M. B., Nora, A., & Hengstler, D. (1992). The convergence between two theories of college persistence. *Journal of Higher Education*, 63(2), 143-164.
- Dixon, S. K. & Robinson Kurpius, S. E. (2008). Depression and college stress among university undergraduates: Do mattering and self-esteem make a difference? *Journal of College Student Development*, 49(5), 412-424.
- Gerdes, H. & Mallinckrodt, B. (1994). Emotional, social, and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling & Development*, 72, 281-288.
- Grant-Vallone, E., Reid, K., Umali, C., & Pohlert, E. (2004). An analysis of the effects of self-esteem, social support, and participation in student support services on students' adjustment and commitment to college. *Journal of College Student Retention*, 5(3), 255-274.
- Howe, N. & Strauss, W. (2007). *Millennials go to college: Strategies for a new generation on campus* (2nd ed). Great Falls, VA: Lifecourse Associates.
- Huck, S. W. (2008). *Reading statistics and research*. (5th ed.) Boston, MA: Pearson Education, Inc.
- Illovsy, M. E. (1997). Effects of counseling on grades and retention. *Journal of College Student Psychotherapy*, 12(1), 29-45.
- Irvine, M. (2010, January 11). Study: Youth now have more mental health issues. *The Washington Post*.
- Jaschik, S. (2010, January 25). Looking for help. *Inside Higher Ed*. Retrieved from www.insidehighered.com/layout/set/print/news/2010/01/25/counseling
- Kadison, R. & DiGeronimo, T.J. (2004). *College of the overwhelmed: The campus mental health crisis and what to do about it*. San Francisco, CA: Jossey-Bass Publishers.
- Kitzrow, M. A. (2003). The mental health needs of today's college students: Challenges and recommendations. *NASPA Journal*, 41(1), 167-181.
- Lewin, T. (2010, January 26). Record level of stress found in college freshmen. *The New York Times*. Retrieved from www.nytimes.com
- Liu, A., Ruiz, S., DeAngelo, L., & Pryor, J. (2009). *Findings from the 2008 administration of the College Senior Survey (CSS): National aggregates*. Los Angeles, CA: Higher Education Research Institute, University of California.

- Mertler, C. A. & Vannatta, R. A. (2004). *Advanced and multivariate statistical methods*. (3rd ed.). Glendale, CA: Pyrczak Publishing.
- Pascarella, E. T. (2006). How college affects students: Ten directions for future research. *Journal of College Student Development*, 47(5), 508-520.
- Pascarella, E. T. & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *Journal of Higher Education*, 51(1), 60-75.
- Pledge, D. S., Lapan, R. T., Heppner, P. P., Kivlighan, D., & Roehlke, H. J. (1998). Stability and severity of presenting problems at a university counseling center: A 6-year analysis. *Professional Psychology: Research and Practice*, 29(4), 386-389.
- Pritchard, M. E. & Wilson, G. S. (2003). Using emotional and social factors to predict student success. *Journal of College Student Development*, 44(1), 18-28.
- Pryor, J. H., Hurtado, S., DeAngelo, L., Palucki Blake, L., & Tran, S. (2010). *The American freshman: National norms fall 2010*. Los Angeles, CA: Higher Education Research Institute, University of California.
- Reason, R. D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development*, 50(6), 659-682.
- Rice, K. G., & Mirzadeh, S. A. (2000). Perfectionism, attachment, and adjustment. *Journal of Counseling Psychology*, 47(2), 238-250.
- Robbins, S. B., Allen, J., Casillas, A., Peterson, C. H., & Le, H. (2006). Unraveling the differential effects of motivational and skills, social, and self-management measures from traditional predictors of college outcomes. *Journal of Educational Psychology*, 98(3), 598-616.
- Ruiz, S., Sharkness, J., Kelly, K., DeAngelo, L., & Pryor, J. (2010). *Findings from the 2009 administration of the Your First College Year (YFCY): National aggregates*. Los Angeles, CA: Higher Education Research Institute, University of California.
- Sax, L. J., Astin, A. W., Korn, W. S., & Mahoney, K. M. (2000). *The American freshman: National norms for fall 2000*. Los Angeles, CA: Higher Education Research Institute, University of California.
- Sharkin, B. S. (2004). College counseling and student retention: Research findings and implications for counseling centers. *Journal of College Counseling*, 7, 99-108.

- Schuh, J. H. (2005). Student support services. pp 428-444. In *Challenging and supporting the first-year student*. Upcraft, M. L., Gardner, J. N., & Barefoot, B. O. (Eds). San Francisco, CA: Jossey-Bass Publishers.
- Southern Regional Education Board (2011). *Degree completion*. Retrieved from http://www.sreb.org/page/1456/degree_completion.html
- Stone, G. L., Vespia, K. M., & Kanz, J. E. (2000). How good is mental health care on college campuses? *Journal of Counseling Psychology*, 47(4), 498-510.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. (2nd ed.). Chicago, IL: The University of Chicago Press.
- Tross, S. A., Harper, J. P., Osher, L. W., & Kneidinger, L. M. (2000). Not just the usual cast of characteristics: Using personality to predict college performance and retention. *Journal of College Student Development*, 41(3), 323-334.
- Turner, A. L. & Berry, T. R. (2000). Counseling center contributions to student retention and graduation: A longitudinal assessment. *Journal of College Student Development*, 41(6), 627-636.
- Twenge, J. M. (2006). *Generation me: Why today's young Americans are more confident, assertive, entitled- and more miserable than ever before*. New York, NY: Free Press.
- Wilson, S. B., Mason, T. W., & Ewing, M. J. M. (1997). Evaluating the impact of receiving university-based counseling services on student retention. *Journal of Counseling Psychology*, 44(3), 316-320.