

Overwhelmed and Under Pressure: The Influence of Extracurricular Over-Involvement on Academic Success and Student-Faculty Relationships

by

Jessica Hartzog Koehler

A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
August 2, 2014

Keywords: involvement, over-involvement, retention, persistence, academic success, student-faculty relationships

Approved by

Maria Witte, Chair, Associate Professor, Educational Foundation, Leadership, & Technology
James Witte, Professor, Educational Foundation, Leadership, & Technology
David DiRamio, Associate Professor, Educational Foundation, Leadership, & Technology
Kathryn Jarvis, Director, Student Academic Support

Abstract

Involvement in extracurricular activities is an oft-studied element of the college experience, especially as it has been linked to positive academic and non-academic measures. Yet, the possible limits of involvement's benefit suggest by Astin (1999) have not been scrutinized heavily. The purpose of this study was to examine the relationship between undergraduate involvement, particularly at high levels, and student success measures (GPA, retention, persistence, duration of study, graduation rates, academic challenge, and faculty interactions). The participants were freshmen and seniors selected from those who took the National Survey of Student Engagement (NSSE) in the spring of 2008 at a large southeaster university. Based on their response to the question, "About how many hours do you spend in a typical 7-day week participating in co-curricular activities (organization, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)," three involvement groups were created. Over-involved students (n=246) were those who reported 11 or more hours a week on extracurriculars, involved students (n=267) were those who reported between 1 and 10 hours a week, and uninvolved students (n=308) were those reported spending zero hours a week on extracurriculars.

These participants were assessed on their responses to the NSSE benchmark of Level of Academic Challenge (LAC) and the composite measure Faculty-Student Interactions (FACRX). Institutional data concerning GPA, matriculation and graduation dates, and retention, and persistence were also gathered. One-way ANOVAs were conducted to determine if there were differences on success measures as a function of involvement level. For all measures, a significant difference was discovered between the groups. Two-way ANOVAs were also utilized to examine the influence of gender and class

rank on the found relationships. The results uncovered several varying relationships when comparing genders and class ranks. Although few concrete patterns did not arise, potential limits of over-involvement, especially for seniors, was revealed.

Acknowledgments

Although education is based on individual performance, the completion of my education was surely not an individual accomplishment. My aspirations for higher education were planted early by my wonderful teachers in high school and undergraduate, and without their support and encouragement, I would likely have taken a different path. I also owe a great debt of gratitude to my committee members who were so incredibly helpful and supportive during this process, kindly donating their time, energy, and often their humor. Special acknowledgment to Dr. Maria Witte, who so graciously took me under her wing. Everyone graduating from our program is touched by her kindness and generosity.

I must thank my soul mate and confidante, my biggest cheerleader, my sounding board, my impromptu audience, my laugh, my joy, and my spirit—my amazing husband John. Of all the things that happened while pursuing my degree at Auburn, marrying him was the highlight, as it is for my life.

Finally, any of my accomplishments are due to my parents above all else. I have stood on their shoulders, the shoulders of giants, for my entire life. Without their support and enduring love, I would not be the person I am. Their love, support, encouragement, and advice are truly the greatest gifts of my life. They are the voices in my head driving me to do better and I live my life to try to make them proud. Every good thing in me and every good deed I have ever done, I owe to them.

Table of Contents

Abstract.....	ii
Acknowledgments.....	iv
Chapter 1.....	1
Introduction.....	1
Statement of the Problem.....	2
Conceptual/Theoretical Framework.....	3
Astin’s Theory of Involvement.....	3
Threshold Model.....	4
Purpose of the Study.....	5
Objectives.....	5
Research Questions.....	6
Significance of the Study.....	6
Limitations.....	7
Assumptions.....	7
Definitions.....	8
Organization of the Study.....	8
Chapter 2.....	10
Introduction.....	10
Research Questions.....	10

Student Extracurricular Involvement.....	11
Involvement in High School.....	11
Positive Influence of Extracurricular Involvement.....	15
Negative Influence of Extracurricular Involvement	18
Theories.....	18
Introduction.....	19
Academic Performance.....	21
Non-academic Performance.....	24
Stress.....	25
Over-Involvement in Extracurricular Activities.....	26
Academic Success.....	30
Measures of Academic Success.....	30
GPA.....	30
Retention and Persistence.....	32
Time to Completion and Graduation.....	35
Level of Academic Challenge.....	38
Faculty-Student Interactions.....	42
Summary.....	46
Chapter 3.....	48
Introduction.....	48
Research Questions.....	48
Methods.....	49
Sample.....	49

Instrumentation.....	49
Data Collection.....	51
Variables.....	51
Data Analysis Strategies.....	54
Summary.....	56
Chapter 4.....	57
Research Questions.....	57
Demographic Results.....	58
Data Analysis Results.....	58
Research Question 1.....	58
Research Question 2.....	59
Spring GPAs.....	59
Final GPAs.....	64
Research Question 3.....	68
Research Question 4.....	70
Research Question 5.....	72
Research Question 6.....	75
Research Question 7.....	79
Research Question 8.....	82
Summary.....	86
Chapter 5.....	88
Introduction.....	88
Research Questions.....	89

Summary.....	89
Conclusions.....	93
Implications.....	96
Recommendations.....	101
References.....	104
Appendix A: IRB Approval.....	127
Appendix 2: Survey Instrument.....	128

List of Tables

Table 1 Age and Involvement Descriptive Results of Involvement Groups.....	59
Table 2 Demographic Results of Involvement Groups.....	60
Table 3 ANOVA Post-Hoc Results for Spring 2008 and Cumulative GPA as a Function of Involvement.....	61
Table 4 Summary of Spring GPA Two-Way ANOVA for Involvement and Gender and Class Rank.....	61
Table 5 Two-Way ANOVA Post-Hoc Results for Spring GPA for Gender and Class Rank as a Function of Involvement.....	63
Table 6 Summary of Final GPA Two-Way ANOVA for Involvement as a Function of Gender and Class Rank.....	65
Table 7 Two-Way ANOVA Post-Hoc Results for Final GPA for Gender and Class Rank as a Function of Involvement.....	66
Table 8 ANOVA Post-Hoc Results for Retention Rates as a Function of Involvement.....	68
Table 9 Summary of Retention Rates Two-Way ANOVA for Involvement and Gender.....	69
Table 10 Two-Way ANOVA Post-Hoc Results for Retention Rates for Gender as a Function of Involvement.....	69
Table 11 ANOVA Post-Hoc Results for Persistence Rates as a Function of Involvement Group.....	71
Table 12 Summary of Persistence Rates Two-Way ANOVA for Involvement and Gender.....	71

Table 13 Two-Way ANOVA Post-Hoc Results for Persistence for Gender as a Function of Involvement.....	73
Table 14 ANOVA Post-Hoc Results for Time to Completion as a Function of Involvement Group.....	73
Table 15 Summary of Time to Completion Two-Way ANOVA for Involvement and Gender and Class Rank.....	74
Table 16 Two-Way ANOVA Post-Hoc Results for Time to Completion for Gender and Class Rank as a Function of Involvement	74
Table 17 ANOVA Post-Hoc Results for Time to Completion as a Function of Involvement Group.....	76
Table 18 Summary of Graduation Rates Two-Way ANOVA for Involvement and Gender and Class Rank.....	77
Table 19 Two-Way ANOVA Post-Hoc Results for Graduation Rates for Gender and Class Rank as a Function of Involvement.....	77
Table 20 ANOVA Post-Hoc Results for Level of Academic Challenge as a Function of Involvement Group.....	79
Table 21 Summary of LAC Two-Way ANOVA for Involvement as a function of Gender and Class Rank.....	80
Table 22 Two-Way ANOVA Post-Hoc Results for LAC for Gender and Class Rank as a Function of Involvement.....	81
Table 23 ANOVA Post-Hoc Results for Faculty-Student Interactions as a Function of Involvement Group.....	83
Table 24 Summary of FACRX Two-Way ANOVA for Involvement and Gender and Class Rank.....	83
Table 25 Two-Way ANOVA Post-Hoc Results for FACRX for Gender and Class Rank as a Function of Involvement.....	84

Table 26 Summary of Post-Hoc Results for All Measures.....87

List of Figures

Figure 1 Main Effect for Gender and Overall Spring GPA.....	62
Figure 2 Main Effect for Class Rank and Overall Spring GPA.....	64
Figure 3 Main Effect for Gender and Overall Final GPA.....	66
Figure 4 Main Effect for Class Rank and Overall Final GPA.....	67
Figure 5 Retention Rates Overall and Interaction Results for Involvement and Gender.....	70
Figure 6 Persistence Rates Overall and Post-Hoc Results for Involvement and Gender.....	73
Figure 7 Time to Completion Rates Overall and Interaction Results for Involvement and Gender.....	75
Figure 8 Graduation Rates Overall and Interaction Results for Involvement and Class Rank.....	78
Figure 9 Level of Academic Challenge Overall and Interaction Results for Involvement and Class Rank.....	82
Figure 10 Post-Hoc Results for Gender and Overall Faculty-Student Interaction.....	85
Figure 11 Main Effect for Class Rank and Overall Faculty-Student Interaction Quality.....	86

Chapter 1

Introduction

Research on college students' extracurricular involvement has been expansive, including the works of seminal researchers like Alexander Astin (1984) and Vincent Tinto (1975). Results of this wide range of research conclude that student involvement is a critical factor used to measure student success. Though student involvement is clearly linked to student success, both personal and academic alike, it is still unknown if there is there a point when this association dwindles. It is possible that students can become over-committed and hyper-involved, leading them to become unsuccessful and overwhelmed.

In his Theory of Involvement, Alexander Astin defines involvement as "the amount of physical and psychological energy that a student invests in the academic experience" (1999, p. 528). His theory relies on the assumption that the more involved a student is, the more benefits he or she will gain. However, Astin also recognized that "there are probably limits beyond which increasing involvement ceases to produce desirable results and can even become counter-productive" (1999, p. 528). When students become too involved, it can be detrimental. Although there is a multitude of research on the benefits of student involvement (Astin, 1984, 1999; Gilman, 2001; Kuh, Cruce, Shoup, & Kinzie, 2008; Mahoney, 2001; McNeal, 1995), there is a gap concerning the limits referred to by Astin, leaving his question of "what are the ideal upper limits for various forms of involvement (1999, p. 528)" still unanswered.

These unanswered questions point to new areas of research to examine if institutions are

damaging overall student success by allowing students to be hyper-involved. As students become over-involved, their academic success needs to be examined in order to see if it falters while struggling to balance the academic demands of college life with their increasingly hectic extracurricular schedule. Researchers explored data retrieved by the National Survey of Student Engagement (NSSE) in order to address these new areas. The NSSE queries first year students and seniors about the amount of time and effort allotted to academics and out-of-the-classroom activities. One question asks students to specify the hours spent on extracurricular activities. Based on the number of hours spent per week in 2011, half reported spending one to five hours, with the other half spending six or more hours a week on campus club or activities. Importantly, some of these students disclosed spending as many as 30 or more hours per week on extracurricular activities (NSSE, 2011a). Thirty or more hours a week constitutes the equivalent of a full-time job, yet students already take on coursework hours that exceed those of a full-time job. This type of hyper-involvement adds 20-40 more hours a week to their academic workload, heavily reducing the amount of time available for other priorities. Students have specified that their over-involvement resulted in not only poor grades, but also poor health, increased stress, a decline in their relationships, and less time overall to devote to other things they enjoyed doing (Gardner, Koepfel, & Moran, 2010). As universities and administrators continue to focus on involvement, perhaps unintentionally encouraging over-involvement, these negative implications might be an all too common occurrence.

Statement of the Problem

Students, parents, and administrators consider that more involvement always equates to better outcomes for students (Astin, 1984). However, there have been questions concerning if more is not better, and over-involvement is destructive to students. Students may have to

prioritize their workload and associated commitment in order to avoid over-involvement. For example, if students are highly engaged in extracurricular activities, they might not have time or energy remaining to devote to academics. Time with faculty can be cut short—instead of staying late after class to talk or visit during office hours, they must rush to their next campus commitment. With less time to prepare and devote, students can begin arriving late or skipping classes, doing poorly on assignment or final grades, or withdrawing from classes due to academic hardship (Hatcher, Prus, Englehard, & Farmer, 1991; McGrath, 2001). This pattern can result in students electing to withdrawal from the university, being asked to leave due to failure to maintain academic standards, or staying at the university well past the number of years it takes to complete their degree (Marsh, 1992; Miller, 1991; Turner, 2005). Such issues with retention, persistence, and duration of study result in strains on financial resources for students, parents, and the institutions themselves (Turner, 2005). Students are staying in school longer than expected because they were unable to manage a full-time course load (Kuh et al., 2008), perhaps due to their over-involvement. As a result, the university is funding professors and providing resources for one to two years longer than expected (Turner, 2005). Due to the increased cutbacks and state funding cuts, there is a renewed focus on findings options to ensure that students attend the university, stay throughout the allotted four years, and graduate on time. The examination of student over-involvement and ways the university can alleviate this pattern are needed to address this issue.

Conceptual/Theoretical Framework

Astin's Theory of Involvement. Alexander Astin (1984) is one of the premier researchers on student involvement and engagement. In his Theory of Involvement, he outlines one of his most basic tenets: students learn more when they are more involved in the academic,

as well as social, aspects of the college experience (Astin, 1984). According to his theory, students are not passive learners, but rather active in determining how involved they will be in courses, extracurricular activities, and faculty interactions. Being involved on campus assists students in connecting to their campus community and encourages attachments to fellow peers (Astin, 1984). It also increases time spent with faculty and staff (Tinto, 1975), who often serve as advisors and chairs of campus organizations. Astin argued that both the quantity and the quality of involvement influences the amount of learning and development experienced by the student. Yet, Astin did speak on the dilemma of over-engagement in his involvement theory. Extracurricular involvement requires psychological energy and time spent in that activity (Astin, 1984). He further explained that this “psychic and physical time and energy of students are finite” (p. 523). Thus, all the factors in a student's life are competing for a small and unsustainable resource: time. Astin explained that successful students are those who balance all of their many commitments, focusing proportional time on academic, work, social, and personal time demands that arise. However, allotting time in a balanced way may be especially problematic for those who are over-committed and over-involved (Astin, 1984). Because student resources are finite, those who are over-involved will eventually have to give less of their energy to certain areas of their lives. This could result in less time given to academics—resulting in lower GPAs, leaving the university, or staying in school longer than planned—along with less time interacting with professors.

Threshold Model. Marsh and Kleitman (2002) were the first researchers to examine the Threshold Model in a higher education setting. According to the model, participation in extracurricular activities has benefits when done at an optimal level, but exceeding this threshold results in diminishing returns (Marsh & Kleitman, 2002). This approach can be seen as a

concession between the zero-sum model (Coleman, 1961), which posits only negative results of involvement, and the positively-minded developmental and identification/commitment models (Finn, 1989; Holland & Andre, 1987). This compromise is achieved by researchers examining not only the linear, but also the nonlinear, effects of extracurricular involvement. Marsh (1999) was one of the first to test the nonlinear or quadratic effects of extracurricular involvement for high school seniors and their post-secondary outcomes. The results revealed an inverted U-shape, suggesting that the benefits of extracurricular involvement reach a threshold and thereafter begin to have diminishing returns. It can be expected that a similar inverted U-shape outcome will be present for extracurricular activities at the collegiate level, though only a few researchers have examined this relationship using a quadratic or nonlinear approach.

Purpose of the Study

The purpose of this study was to highlight the relationship between undergraduate over involvement in extracurricular activities and academic success measures (GPA, retention, persistence, duration of study, graduation rates, and level of academic challenge) and faculty-student interactions.

Objectives

This study is designed to achieve the following objectives:

To determine the demographic makeup of undergraduate students who are over-involved in extracurricular activities.

To evaluate the influence of involvement levels on academic success indicators.

To evaluate the influence of extracurricular involvement levels on student interactions with faculty members.

Research Questions

This study aims to seek answers to the following questions:

1. What are the demographic characteristics of undergraduate students who are over-involved in extracurricular activities?
2. What relationship exists between extracurricular involvement level and undergraduate GPA? Does this relationship change based on gender or class rank?
3. What relationship exists between extracurricular involvement level and undergraduate retention? Does this relationship change based on gender?
4. What relationship exists between extracurricular involvement level and undergraduate persistence? Does this relationship change based on gender?
5. What relationship exists between extracurricular involvement level and undergraduate duration of study? Does this relationship change based on gender or class rank?
6. What relationship exists between extracurricular involvement level and undergraduate graduation rates? Does this relationship change based on gender or class rank?
7. What relationship exists between extracurricular involvement level and undergraduate academic challenge? Does this relationship change based on gender or class rank?
8. What relationship exists between extracurricular involvement level and undergraduate relationships with faculty members? Does this relationship change based on gender or class rank?

Significance of the Study

This study hopes to fill the gap concerning over-involvement of student activities. With students feeling both internal and external pressure to be involved in campus, it is essential to ensure that students and administrators alike are aware of the potential drawbacks of over-

involvement. Results can influence student affairs professionals as they attempt to draft and implement policies to best benefit students. Analyzing the influence of involvement based on key demographics can also aid universities to focus their efforts and funds on those most influenced.

Limitations

The limitations of this study are based primarily on the sample, as it includes a traditional-aged, ethnically and racially homogenous group from a regional university. This sample does not reflect the broader ranges of students found at other urban universities. Although results could be generalized to other regional or similar-sized universities, especially in the South, there is limited generalizability otherwise. Concerning methodology, although objective measures of GPA, retention, persistence, duration of study, and graduation rates are used, this study also relies on self-reported data from the NSSE. Such self-reports might not reflect accurate representations of time spent in extracurricular activities, nor is there evidence of a universal understanding surrounding the term “extracurricular involvement.” The survey also assumes that a stark divide exists between curricular and co-curricular activities, when the boundary may be hazier in reality. Unfortunately, there were not opportunities for students to provide qualitative responses about their involvement through the NSSE, relying exclusively on potentially restrictive quantitative questions.

Assumptions

The following assumptions were made in this study:

- A) The students involved in this study were representative of the larger population (normal distribution and equal variances).
- B) The students involved in this study answered the survey honestly and consistently.

- C) The students involved in this study were able to accurately report their extracurricular involvement and agree on a commonly-held definition of the term.
- D) The students involved in this study were able to accurately recall various information about their last semester, i.e. number of books read, interactions with faculty, time spent preparing for classes or involved in extracurriculars.
- E) The results of this study can be generalized to other regional, state universities.

Definitions

- Attrition – students leaving the university at any point without attaining a degree
- Breadth – amount/quantity of clubs or organizations in which the student is involved
- Duration of study – the length spent at the university in pursuit of one’s first undergraduate bachelor’s degree
- Extracurricular involvement – engagement in campus activities or clubs (organizations, campus publications, student government, fraternity/sorority, and intercollegiate or intramural sports)
- Extracurricular over-involvement – involvement in campus activities or clubs at least one standard deviation above the mean
- GPA - undergraduate grade point average, which is based on 4.0 scale
- Intensity of involvement – amount of hours dedicated to clubs or organizations per week
- Persistence – students remaining at the same university for consecutive years
- Retention – freshmen students returning to the university for a second year

Organization of the Study

This study is divided into five chapters. The first chapter is an introduction of the study. Chapter 2 is a review of the literature related to both the positive and negative influence of

involvement on different elements of college student success (GPAs, retention, persistence, duration of study, graduation rates, level of academic challenge, and faculty-student interactions). Chapter 3 includes a discussion of quantitative methods utilized to analyze the potential relationships between involvement and student success. Chapter 4 describes the results of the study. Finally, Chapter 5 presents a discussion of the results in relation to implications for higher education, conclusions, policy implications, and recommendations for future research.

Chapter 2

Literature Review

Introduction

The purpose of this study is to highlight the relationship between undergraduate over-involvement in extracurricular activities and academic success measures (GPA, retention, persistence, duration of study, graduation rates, and hours spent preparing for class) and faculty-student interactions. A wide range of literature serves as the framework for this study, focusing extracurricular involvement as well as academic success. As previously mentioned, almost all research on student involvement in extracurricular activities has been examined through a positive and beneficial lens. However, although scarce, there is literature on both over-involvement as well as significant pieces that explore the potential drawbacks to involvement in extracurricular activity as a whole. The following review explores this literature, as well as emphasizes the gap in current research concerning the under-studied phenomenon of extracurricular over-involvement.

Research Questions

This study aims to seek answers to the following questions:

1. What are the demographic characteristics of undergraduate students who are over-involved in extracurricular activities?
2. What relationship exists between extracurricular involvement level and undergraduate GPA? Does this relationship change based on gender or class rank?

3. What relationship exists between extracurricular involvement level and undergraduate retention? Does this relationship change based on gender?
4. What relationship exists between extracurricular involvement level and undergraduate persistence? Does this relationship change based on gender?
5. What relationship exists between extracurricular involvement level and undergraduate duration of study? Does this relationship change based on gender or class rank?
6. What relationship exists between extracurricular involvement level and undergraduate graduation rates? Does this relationship change based on gender or class rank?
7. What relationship exists between extracurricular involvement level and undergraduate academic challenge? Does this relationship change based on gender or class rank?
8. What relationship exists between extracurricular involvement level and undergraduate relationships with faculty members? Does this relationship change based on gender or class rank?

Student Extracurricular Involvement

Involvement in High School

Based on the popular and oft-publicized over-scheduling hypothesis (Mahoney et al., 2006), attention has been given to involvement for youth in high school. The hypothesis posited that students were becoming too committed and over-scheduled with academics, studying, socializing, clubs, sports, and other after-school activities. Accordingly, questions arose concerning the available time remaining to attend to other tasks (Mahoney et al., 2006). Especially because it had been shown that adolescents are at an increased risk for depressive symptoms, peer victimization, and loneliness, (Garber, Keiley, & Martin, 2002; Horowitz & Garber, 2006; Mahon, Yarcheski, Yarcheski, Cannella, & Hanks, 2006; Storch & Ledley, 2005),

researchers began to look at organized activities and their relationship to adolescent adjustment. One such study examined a sample of 152 ninth and tenth grade students who reported the intensity (hours per week) and duration (how many years participated) of their involvement (Randall & Bohnert, 2009). Although duration was found to have a negative relationship with loneliness, high and low intensity levels were linked to higher depressive levels. This U-shape effect was particularly pronounced for over-involved students—those reporting more than 10 hours a week had increasing levels of depression (Randall & Bohnert, 2009). More so, those who were extremely over-involved with 20 hours or more a week had more depressive symptoms than students who reported no involvement (Randall & Bohnert, 2009). This suggested that students received the optimal benefits when they were involved in their activities in a moderate intensity amount, agreeing with previous researchers (Lerner, Freund, DeStefanis, & Habermas, 2001) who first voiced such advice.

A curvilinear result has also been found between participation in different domains (sports, leadership, clubs, and arts) and a sense of belonging and academic engagement (Knifsend & Graham, 2012). Those students who participated in only two domains had higher reported sense of belonging and engagement than those who participated in either four or none (Knifsend & Graham, 2012). These results again stressed the positive influence of moderation. Supporting these claims, Melman, Little, and Akin-Little (2007) reported a significant and positive relationship between both breadth and intensity of high school extracurricular involvement and anxiety levels. Specifically, of the 90 upperclassmen who participated in the study, those who devoted more hours to extracurriculars and were involved in more extracurriculars had higher levels of self-reported anxiety (Melman et al., 2007).

Intensity in activities has been revisited in recent studies. In 2012, Fredricks examined

the influence of intensity on high school students' academic achievement using a composite term of four different variables: (a) math achievement scores, (b) GPA, (c) educational expectations, or the highest level of school students expected to reach, and (d) achieved education status two years after high school. Fredricks (2012) revealed that intensity was predictive of higher academic adjustment for high school students, but only at lower and moderate levels of activity. At higher levels, above 14 hours a week, academic adjustment declined. Relatedly, breadth, or the amount of activities in which the student was involved, also had scattered influences. Like intensity, breadth was positively related to academic adjustment at the lower levels, but declined at higher levels (Fredricks, 2012). Concerning math achievement, scores declined after reaching the threshold of five activities, with those participating in over nine activities reporting lower achievement scores than even those who were not involved at all. Finally, educational status and educational expectations started to decline after reaching seven activities (Fredricks, 2012).

Other reports, too, discovered mixed results concerning involvement and adolescent adjustment. A longitudinal study of over 1,200 students in tenth grade, twelfth grade, and two years after high school categorized activities into five broad groupings: prosocial, academic clubs, sports teams, school involvement, and performing arts (Eccles & Barber, 1999). It was concluded that prosocial activity involvement was a protective factor to risky behaviors (drinking, getting drunk, using drugs, and skipping school), and a predictor of better academic performance and college enrollment. The same held true for involvement in the performing arts, and was an especially strong protective factor against alcohol-related behaviors (Eccles & Barber, 1999). School-related activities were not found to relate to risky behaviors, but were positively linked to academic outcomes, as were academic clubs. However, involvement in sports teams significantly contributed to alcohol use and getting drunk while in high school, even

after controlling for several demographic features (Eccles & Barber, 1999). This association to alcohol use was echoed in a recent study demonstrating that youth who spent over 20 hours a week in extracurricular activities had a significant correlation with alcohol use, especially compared to those students who reported no extracurricular participation (Mahoney & Vest, 2012).

With scattered negative implications of involvement at the high school level, it can be asserted that such results will continue, if not become stronger, in college. As Côté, Baker, and Abernethy (2003) contended, activities become more competitive as one progresses through high school, and even more so in college, and thus begin requiring more investment and commitment than in earlier years. More so, there are more opportunities to be involved as students enter college, while also having more opportunities for work, time with peers, dating, and academic (Fredricks, 2012). For many, the transition to college can be accompanied by loneliness and distress, but also academic disengagement (Adlaf, Gliksman, Demers, & Newton-Taylor, 2001; Gall, Evans, & Bellorose, 2000; Wintre & Bowers, 2007). Thus, students who were overly involved in high school might struggle maintaining the same intensity of involvement given the greater investment and time commitment of collegiate activities. Incoming freshmen might also seek out many organizations upon arriving to college based on their experience of trying to out-qualify their peers in order to get into college (Weldy Boyd, 2011). This tendency has gained attention recently, prompting CollegeBoard (2011), the makers of the SATs, to include a section about the importance of extracurriculars on its website. New students might also seek out involvement opportunities more heavily as an attempt to reestablish previous levels of functioning from habits in high school during the major life transition associate with coming to college (Baltes, Staudinger, & Lindenberger, 1999; Bray & Born, 2004; Busseri & Rose-Krasnor,

2009).

Positive Influence of Extracurricular Involvement

Experiences both inside and outside of the classroom have been shown to enrich students' learning and overall college experience (Astin, 1999; Tieu et al., 2009). Involvement in extracurricular activities has been found to positively influence several parts of student life. For example, extracurricular participation has been found to associate with cognitive growth, specifically critical-thinking ability (Gellin, 2003; Terenzini, Springer, Pascarella, & Nora, 1994; Tieu et al., 2010). This relationship was still significant after controlling for pre-college characteristics (Tieu et al., 2010). This positive association was also found for in-class instruction, and the benefits of out-of-class experiences were heightened when they corresponded to such instruction (Terenzini et al., 1994). Activities of high quality and structure were associated with not only critical-thinking skills, but also leadership (Kuh, 1995), social skills (Rubin, Bommer, & Baldwin, 2002), and overall adjustment (Tieu et al., 2010). Using a non-linear model, which can show relationships that are often subverted by purely linear models (Marsh, 1992), a positive relationship was found between involvement and general self-esteem, after controlling for academic and social self-concept (Marsh, 1992).

Research has underscored the importance and proportionality of the quality and quantity of involvement and the relationship to student development (Astin, 1999; Tieu & Pancer, 2009). These findings supported those of Astin (1993), who found that those who had meaningful out-of-classroom experiences (internships or study abroad programs) reported higher grades and levels of knowledge attainment. These positive academic and intellectual outputs of extracurricular activities could result from their increasing overlap to curricular experiences (Clegg, Stevenson, & Willott, 2010). However, these benefits have been shown as temporary, as

significant relationships at three months into the school year between structured extracurricular activities and adjustment were no longer significant when examined at seven months (Tieu et al., 2010).

Extracurricular activities have also been classified as components to life-wide learning (Jackson, 2008), or the act of learning in both informal and formal spaces. Accordingly, extracurricular activities are just different spaces for learning, seen as equally influential to learning as in-class experiences (Barnett, 2010). Perhaps due to this associated learning, out-of-class activities, including extracurriculars, have been found to have wide-reaching influences for students. Because it can increase connections and integration into the campus and community, out-of-class activities were found to have a positive relationship to persistence (Astin, 1975, 1977; Pascarella, Terenzini, & Wolfe, 1986). Due to this increased persistence, extracurricular involvement increased attainment of bachelor's degrees (Pascarella & Terenzini, 1991). Using a nine year longitudinal study involving multiple institutions, researchers also discovered that students who participated in extracurriculars were more likely to attend graduate school after completing their undergraduate studies (Stoecker, Pascarella, & Wolfe, 1988). Over 650 college freshmen were surveyed upon entering college and eight months into their college careers about their involvement in extracurricular activities (Busseri et al., 2010). It was discovered that involvement in a wider range of activities, or increased breadth, predicted both higher college adjustment scores and lower depression ratings. Increased levels of involvement, or intensity, predicted higher grades (Busseri et al., 2010). Over time, increasing the amount of breadth in extracurricular involvement predicted higher levels of social support, college adjustment, and optimism. Likewise, increases over time in intensity predicted higher grades, adjustment scores, social support, and lower stress (Busseri et al., 2010).

Involvement in the campus community is linked to community involvement, as those involved in campus activities were more positively attuned to the idea of community involvement and anticipated community activity involvement (Eklund-Leen & Young, 1997). Flanagan and Bundick (2011) noted other long-term benefits of involvement, as those involved in extracurricular activities had a greater commitment to democracy, which increased individual psychosocial satisfaction. This connection to the university can increase persistence and retention (Tinto, 1993), which could explain the association between structured extracurricular activities and increased intentions of continuing their education (Milem & Berger, 1997). This increase with intended persistence was stronger for those in structured activities compared to those in informal and social organizations (Milem & Berger, 1997).

Type of involvement has also been examined, finding positive results based on participation. Involvement in sports has been shown to increase school engagement, while also increasing academic self-confidence for minority students especially (Jordan, 1999). This positive result might be based on athletes being exposed to a supportive environment, which can be especially vital at larger schools where the climate can feel impersonal (Jordan, 1999). Another specific form of involvement often looked upon is sorority and fraternity engagement. Greek letter organizations carry many benefits including strengthening social connections, much like a sports team, while also granting leadership development opportunities (Kimbrough, 1995; Kimbrough & Hutcheson, 1998). More so, Greek members have been found to have higher levels of cognitive development than non-Greek members, a result that was linked directly to their Greek involvement (Pike, 2000). Finally, political group involvement positively correlated to GPA, specifically for minority males and females. Likewise, a positive correlation was found between GPA and both art and music groups for black males and females, but not Latino males

or females (Baker, 2008).

Although there are clearly positive implications to participating in extracurriculars, some researchers have failed to find this association. For example, Hood (1984) contradicted previous work by failing to find a relationship between extracurricular activity and cognitive growth when comparing freshmen to senior students. Further research continued along this trend, as extracurricular activities and critical-thinking failed to have a significant relationship when examining freshmen students (Pascarella, 1989). Call (1974) found no association between hours spent on tasks unrelated to academics, like extracurriculars, and GPA. Other research has revealed mixed outcomes: in a study of over 100 recent college graduates, involvement in extracurricular activities associated with better occupational status post-graduation, but also increased unemployment risk (Tchibozo, 2007). Specifically, those students who were involved in activities for the majority of their college careers or had leadership positions were less likely to receive jobs with open-ended contracts, but rather temporary or dated contracts. Though extracurricular involvement as a whole positively associated with managerial placement, student-leaders and those in activities for longer time periods were less likely to get managerial jobs (Tchibozo, 2007). However, student-leaders were at a lower risk of unemployment, while those who had longer lengths of involvement were at a heightened risk (Tchibozo, 2007). Although scattered and varied, these studies help to show the potential downfalls to involvement, challenging strongly held beliefs surrounding their inherent and guaranteed benefits.

Negative Influence of Extracurricular Involvement

Theories. Although there are countless data to support the linear relationship between involvement and positive outcomes, several counter theories and concerns have still been argued. First, some contend that balancing voluntary extracurricular activities with required obligations

creates stress, which can disrupt family functioning, and thus adjustment (Fredricks, 2012). Second, some caution that extracurricular activities focus on values that counter academic pursuits and detract from time that should be dedicated to academics (Black, 2002; Brint & Cantwell, 2010; Coleman 1961; Marsh 1992; Marsh & Kleitman 2002). Specifically, some researchers attest that limiting the time spent studying reduces the capacity to learn and truly master a subject (Brint & Cantwell, 2010). Third, not only can extracurriculars detract from academics, they also can reduce the time available for adolescents to spend on leisure and relaxation (Melman et al., 2008; Shaw, Caldwell, Kleiber, & Douglas, 1996). Finally, the motivation behind involvement has been questioned, asserting that pressure from parents or resume building are the primary motivators (Luthar & Sexton, 2004; Mahoney et al., 2006), rather than genuine personal interest. Although these theories have been well stated in literature, there has been little empirical data to support these claims. Yet, taken together, the complete literature on involvement does reveal a pattern of potential negative influence.

Introduction. To help shed light on the potential stresses and problems associated with involvement, Kadison and DiGeronimo (2004) looked at the implications of being overwhelmed in college. They summed up the balancing act in which many students find themselves: "In one hand, they juggle the balls representing the demands for high academic performance; in the other, they twirl the hoops of social relationships; and in the air, they spin the pins of their extracurricular activities" (p. 40). This juggling can result in problems for students: researchers have demonstrated a negative relationship between involvement and academic performance and learning (Pascarella & Terenzini, 1998). Specifically, collegiates involved in student clubs, sororities/fraternities, and other organizations did more poorly on objective measures of learning, like grades and overall GPA, than those who were not involved. This research supported earlier

claims that also concluded that the type of activity mattered (Marsh, 1992). Specifically, dance clubs, hobby clubs, and fraternities/sororities had only negative effects on outcomes like absenteeism, academic achievement, and college attendance (Marsh, 1992).

Continued research has scrutinized the type of activity further. Involvement in sports teams, either intramural or collegiate, has varied results, especially depending on the athlete. For instance, Eitzen (2003) found that some athletes exceeded non-athletes in terms of academic success, while others performed far below average. Those who tended to succeed academically and graduate at higher rates than non-athletes were those who were in non-revenue generating sports, women, or white. Conversely, revenue generating, black, and male student athletes had lower graduation rates than non-athletes (Eitzen, 2003). It has also been found that revenue-generating sports were especially challenging to academic success due to their visibility and pressure (Edwards 1984; Eitzen 2003). Sorority and fraternity involvement was also found to have negative implications, despite positive results in leadership and cognitive development (Kimbrough, 1995; Kimbrough & Hutcheson, 1998; Pike, 2000). For example, Greek members scored lower on an academic proficiency exam than did non-Greeks (Pascarella et al., 1996). This is supported by recent data showing a negative correlation between Greek letter organizational involvement and GPA for black males and females as well as Latino males (Baker, 2008). Also, membership in a fraternity or sorority has been linked to increases in academic dishonesty (Heidenreich, 2006; McCabe & Treviño, 1997; Schwartz & DeKeseredy, 1997; Storch & Storch, 2002). However, other reports have failed to find an association between academic success and Greek affiliation (Braddock, 1981; Hanks & Eckland, 1976; Hayek, Carini, O'Day, & Kuh, 2002; Pascarella, Flowers, & Whitt, 2001; Pike, 2000).

Continuing to look at type, Svanum and Bigatti (2006) found that only increased job

activities, not academic clubs or campus organizations, decreased effort dedicated to course work. This added credence to earlier works revealing a negative association to academics with part-time or full-time work (Fuligni & Stevenson, 1995; Stern, McMillon, Hopkins, & Stone, 1990), as well as interaction with friends (Fuligni & Stevenson, 1995). Neuman (1988) proposed that this association was the result of displacement of study time, as well as being surrounded by environments that were not conducive to learning. If students are working, spending time with friends, or involved in activities, they have less time and opportunities to develop their intellect (Kohn et al., 1983). This theory was supported by findings stating that studying negatively related to a tendency to participate in extracurricular activities (Cheung & Kwok, 1998), implying that the two are mutually exclusive, as time spent at one detracts from time available for the other. Some universities have clarified the importance of extracurricular activities for their students, emphasizing that they serve only as evidence of dedication and a time commitment to particular activities, especially those with leadership opportunities (UCLA, 2011). Statements such as these highlight a university's desire for depth, rather than a wide variety of activities. Unfortunately, Weldy Boyd (2011) commented that this type of clarification is often missing from university policy. Thus, students continue to schedule activities without consideration to their time and space limitations, sometimes scheduling meetings at concurrent times all across campus (Weldy Boyd, 2011), which has negative implications for their attendance and opportunities for significant contributions to both activities and academics.

Academic performance. Potentially owing to the distraction theory, researchers have found negative associations between involvement and academic performance. Specifically, although extracurricular involvement has been found to link positively to persistence, a negative relationship between involvement and both predicted and actual GPAs was discovered (Shucker,

1987). Further, undergraduate students who participated heavily in campus activities reported lower GPAs (Yin & Lei, 2007). Students with higher GPAs were also less likely to recommend clubs and activities to their friends, as they were also less satisfied with campus activities as a whole (Yin & Lei, 2007). These results imply that students who are involved on campus are unable to maintain higher grade point averages, and those who continue to focus on academics are not as satisfied or participatory in campus events. However, Yin and Lei (2007) examined only students in a particular major, pointing to the need for a more representative and generalizable study.

As an answer to such concerns of generalizability, Kuh and colleagues (2008) used a compilation of 18 universities that implemented the NSSE to discover a negative relationship between first year GPA and the hours dedicated to extracurricular activities. This negative relationship was stronger for those spending more than 20 hours per week than those dedicating between 6 and 20 hours. Looking specifically at those spending 6 to 20 hours on a particular task, the relationship to GPA was stronger and negative for extracurricular involvement than for socializing/relaxing or working off-campus (Kuh et al., 2008). Although these tasks also detract from study time, this finding highlights the unique negative influence associated with extracurricular involvement.

Further negative correlations have been also found between student clubs/activities and GPAs (Brint & Cantwell, 2010), and a specific negative relationship has been found between GPA and sorority and fraternity involvement (DeBard, Lake, & Binder, 2006); however, the timing of joining influenced academic outcomes. Specifically, those freshmen who joined during their first semester underperformed in their classes based on self-reported expectations, while those who joined in the second semester outperformed their predictions (DeBard et al., 2006).

These delayed members also had significantly higher first-semester GPAs than their counterparts who joined earlier. This suggested that freshmen might struggle with time commitments more heavily earlier on in their first year, causing academic deficits. Greek involvement also contributed to the number of courses completed: male and female non-members earned more hours their freshman year than members did, which for males was a significant difference (DeBard et al., 2006). As a whole, these results suggest that those joining Greek-letter organizations early in their college careers often take fewer classes and do more poorly than they anticipated, again emphasizing the importance of time management and balance.

With focus mounting concerning academic struggles, Hatcher et al. (1991) successfully created a measure of academic situational barriers, including dating activities, health problems, and community problems. Of note, campus organization activities ("I have stayed busy doing work related to my campus organization activities"), fraternity/sorority activities ("Much of my spare time has been taken up with fraternity/sorority activities"), and athletic activities ("I have devoted a great deal of my time to sports") were also included as constraints to academic success (Hatcher et al., 1991, p. 955). There were significant correlations between perceived workload and both campus organization activities and fraternity/sorority activities. There was also a significant negative correlation between athletic activities and GPA (Hatcher et al., 1991).

Bergen-Cico and Viscomi (2013) also found that those students who attended a moderate amount of university-sponsored events (4-15) over four years had higher GPAs than those who attended more events. Although sparse, this data underscore the potential of extracurriculars to hinder, rather than help, students in their pursuits of academic success.

Non-academic performance. Involvement is often touted for its positive influence on non-academic features, like reasoning, presentation, and critical-thinking skills (Baxter Magolda,

1992; Cooper, Healy, & Simpson, 1994; Pascarella & Terenzini, 1991; Terenzini, Pascarella, & Blimling, 1996). However, students with high involvement in cocurricular activities, but low involvement in academics, had low cognitive, interpersonal, and communication skills, as well as self-confidence (Huang & Change, 2004). These scores were lower than students who presented with a balance between the two and those who had more academic involvement than cocurricular involvement. However, those with high involvement levels on both academics and extracurriculars had the highest scores on all measures (Huang & Change, 2004). Thus, perhaps extracurricular involvement is only beneficial when matched with cocurricular involvement and not when the former overshadows the latter. This relationship has been mirrored in other research that found students who were at-risk academically did not improve their academic standing or success by being involved in extracurricular activities (Recruitment & Retention in Higher Education, 2005). In fact, it was suggested that even highly engaging experiences outside of the classroom were not enough to offset other challenges, including academic struggles. Despite this, it was reported that these at-risk students were more engaged than their academically stable peers (Recruitment & Retention in Higher Education, 2005).

Thacher (2008) suggested that pressures on students, including sport team commitments and extracurricular activities, could influence the use of all-nighters, or a single night of total sleep deprivation. All-nighters were shown to associate negatively with GPA (Thacher, 2008). Those students who are over-committed during the day-time hours might be forced to use all-nighters, and bear the negative consequences. All-nighters can also create a vicious cycle of playing catch-up the next day and falling behind, requiring additional all-nighters (Thacher, 2008)—those students who continuously fill all of their day-time and many of their night-time hours with obligations are at an increased risk of this pattern.

Stress. According to qualitative data, trying to get everything accomplished as an over-involved student can create high levels of stress and anxiety (Gardner et al., 2010). One such over-involved student recounted that she had never been as stressed as she had been in college, trying to maintain her memberships in countless activities, her course load, and her social life (Gardner et al., 2010). Not unsurprisingly then, a recent study found that extracurricular activity hours, along with academic major and courses, psychological hardiness, and gender, were found to significantly predict perceived stress (May & Casazza, 2012). Notably, extracurricular activity hours positively predicted stress, while neither credit hours nor employment hours successfully predicted stress. Thus, even though previous research found employment as the only predictor of decreased academic effort (Svanum & Bigatti, 2006), stress levels appear to be most sensitive to extracurricular activities.

For involved students, juggling academics, involvement, and social interactions can increase subjective workload (Jacobs & Dobb, 2003). Subjective workload differs from objective workload: subjective workload involves a feeling that one's load is too heavy, where objective workload examines the actual amount of employment, extracurriculars, and academics (Jacobs & Dobb, 2003). Both forms of workload can lead to burnout and exhaustion. Burnout, or the tendency “to fail, to wear out, or become exhausted by making excessive demands on energy, strength, or resources” (Freudenberger, 1974, p. 159), was originally applied to workers, but it has recently expanded its umbrella to include college students (Jacobs & Dobb, 2003).

As it concerns students, burnout encompasses three components: emotional exhaustion, reduced personal accomplishment, and depersonalization (Maslach & Jackson, 1981). Emotional exhaustion deals with the stressors causing students to become overwhelmed, and thus unable to give themselves to activities and people who require them. When students

become dissatisfied with their own efforts and performance, they experience a reduced sense of accomplishment (Maslach & Jackson, 1981). This can be especially high if students in fact are unable to perform at optimal levels due to stress and exhaustion. Finally, depersonalization occurs when students develop a negative attitude of themselves and others, often seeing themselves as deserving of their problems (Maslach & Jackson, 1981). Jacobs and Dodd (2003) indicated that subjective workload, but not objective workload, significantly related to burnout for students. In fact, higher subjective workload positively correlated with all three burnout components, while objective workload only weakly correlated to emotional exhaustion. Jacobs and Dodd (2003) also examined the influence of extracurricular involvement on the different components of burnout, finding that it had a negative correlation with emotional exhaustion, but a positive and strong correlation with reduced sense of personal accomplishment. This association was particularly strong among men (Jacobs & Dodd, 2003). Students who are involved in many extracurriculars, then, are at heightened risk of reduced personal accomplishments, which can color their self-image and influence their ability to perform both inside and outside the classroom.

Over-Involvement in Extracurricular Activities

As seen, involvement in extracurricular activities can have both negative and positive influences on students. If negative implications result from involvement in extracurricular activities, it can be expected that other negative consequences or ones at graver levels would occur when students become over-involved. In order to investigate this potential growth in negative outcomes, researchers have examined how over-involvement influences students. However, the issue of over-involvement has received little attention from researchers (Hernandez, Hogan, Cynthia, & Lovell, 1999), although it has gained more attention in the last

decade. For example, although benefits of extracurricular activities are present and well-established, Whitla (1981) found that those who spent a majority of their time in activities unrelated to academics achieved lower levels of benefits than those who participated moderately.

Concerning GPA, Kuh and colleagues (2008) performed a regression analyses on over 6,000 reports for first-year college students from 18 universities participating in the NSSE. Using an OLS regression, they discovered that moderate involvement in extracurricular activities (between 6-20 hours a week) significantly and negatively accounted for first-year GPA, while over-involvement (over 20 hours a week) was found to be an even stronger, negative, predictor (Kuh et al., 2008). Qualitative data have supported these findings: one participant who reported spending over 40 hours a week at her peak involvement time recounted that her grades, along with her health and friendships, suffered as a result of her over-involvement (Gardner et al., 2010). Despite the need to cut back, this same participant explained the difficulty in doing so, as involvement had become a part of her identity (Gardner et al., 2010). Other qualitative research supported these statements, as a participant commented about the ease in getting overwhelmed with all of her activities (Thompson, 2013). She remarked on her awareness of personal over-involvement, reporting she could have achieved more academically if it was not for her heavy activity load (Thompson, 2013).

Brint and Cantwell (2010) shed more light on the subject by separating students into four different categories: (1) actives, who were primarily involved in extracurriculars and other activities, (2) scholar-actives, who had a blend between extracurriculars and academics, (3) scholars, who were primarily involved in academics, and (4) passives, who failed to be involved in either academics or extracurriculars. Students who fell into the actives category, rather than scholars or scholar-actives, had lower GPAs and matched those in the passive category (Brint &

Cantwell, 2010). This finding implied that those students who achieved a balance between curricular and extracurricular or focused more on academics had better academic results, as those who focused exclusively on activities often had the same results as those who were not engaged at all. Such results coincided with concurrent research done by Hlavac, Peterson, and Piscioneri (2010), who examined the relationship between hours spent fulfilling non-study commitments and hours spent per week studying for one course. It was discovered that those students who spent more than 15 hours a week on non-study obligations made up almost half of those who spent two or fewer hours studying per week per class (Hlavac et al., 2010). Conversely, those students who had moderate out-of-classroom commitments—between one and five hours a week—were found to constitute 77% of students who spent more than five hours a week preparing for a course.

Consequences of over-involvement can be long-lasting, as Marsh (1992) found post-secondary changes based on high school involvement. Marsh (1992) sought to explore the relationship between total extracurricular activity participation on senior year achievement and post-secondary outcomes for tenth graders. Although most measures had a positive outcome when exploring involvement's linear influence, many negative results were discovered when examining the data using a non-linear/quadratic model (Marsh, 1992). Specifically, 15 outcome measures that were previously positively predicted by involvement in a linear model were found to have a negative, inverted U-shape relationship when examined quadratically. Of note, high levels of involvement became a negative predictor of senior year academic ability, grades, honors, and educational aspirations (Marsh, 1992). These inverse relationships carried into post-secondary outcomes, as employment, university attendance, and continued educational aspirations were all negatively associated with higher levels of involvement (Marsh, 1992).

This quadratic model was revisited by Marsh and Kleitman (2002), using data from the National Education Longitudinal Survey of 1998 (NELS:88), a longitudinal study sponsored by the National Center for Education Statistics (NCES). Several positive and significant relationships from the linear model disappeared when examining the effects of extracurricular involvement on various outcome measures in a nonlinear fashion. Marsh and Kleitman (2002) suggested that the linear model camouflaged the quadratic relationships, which were often stronger than the linear relationships. Specifically, the positive link between the number of extracurriculars and grades and attendance became non-significant (Marsh & Kleitman, 2002). More so, a previously positive relationship became significantly negative in the quadratic model for completing homework, educational and occupational aspirations, and staying out of trouble. The same held true for hours spent in extracurriculars, as the positive relationship with homework, attendance, and both educational and occupational aspirations became negative in the quadratic model (Marsh & Kleitman, 2002). These findings contributed to earlier research conducted with high school students which signified a negative relationship between the highest levels of extracurricular involvement and achievement scores using a quadratic model (Cooper, Valentine, Nye, & Lindsay, 1999).

Leaders of student organizations tend to be the busiest of those involved in student activities (Wall, 2004), and as such are at an increased risk of being over-involved. Not only are they called upon repeatedly to fill the role of leader in several groups, they are also often members of other organizations (Wall, 2004). Thus, they run the risk of expending all of their energy in such extracurricular activities, leaving them unable or strained to complete academic requirements. Wall (2004) attested that this was especially true for those students who were already struggling academically—students who became disconnected from their classes strove to

spend their energy elsewhere, often finding solace in student activities. Although this provided an outlet, it could also create a cycle of avoidance from academics (Wall, 2004).

Although the previous literature reported suggest a negative influence of over-involvement, some studies showcase a positive relationship. For example, students who were highly involved in campus life, including extracurricular activities, were the most likely to view community involvement positively and report the highest amount of anticipated engagement in their community (Eklund-Leen & Young, 1997). More so, several studies continued to find a purely linear relationship between involvement and academic success, implying that greater levels result in higher levels of success. For example, Moore, Lovell, McGann, & Wyrick (1998) attested that the more involved students were in campus life and activities, the greater the growth in both their academic and personal lives. This supported the developmental model coined by Holland and Andre (1987), which stated that extracurricular activities do not detract or stand in competition to academic success, but rather enhance and develop additional areas. Supporters of the developmental model would posit that over-involvement would continue to benefit students in both academic and non-academic areas of their lives. However, there are supporters of the zero-sum model and other compromising theories, creating a debate surrounding the benefits of over-involvement (Yin & Lei, 2007). These mixed results point to a need for continued research, especially focusing on over-involvement specifically as the primary independent variable.

Academic Success

Measures of Academic Success

GPA. A student's grade point average is one of the most objective and often cited outcomes of student learning. As such, its correlates and predictors are examined frequently, with student engagement and extracurricular involvement among the variables scrutinized.

Although pre-college experiences like demographics and prior achievement can be clearly linked to college achievement (Braxton, Duster, & Pascarella, 1988; Pascarella & Chapman, 1983; Pascarella & Terenzini, 1980), student engagement also accounts for a significant variance in first year GPA (Kuh et al., 2008). In fact, when adding engagement to their model, the magnitude of pre-college experiences decreased (Kuh et al., 2008). This suggested that even though students vary largely in their experiences before arriving to universities, their actions after arrival still have a significant influence on their academic outcomes. In other words, students can still be changed and altered after arrival, as opposed to thinking they are stuck in their high school habits. Negative predictions of GPA for over 6,000 students from universities using the NSSE were aided by including high school extracurriculars, high school grades of B's or C's, taking a course load that was less than full time, and time devoted to extracurricular activities (Kuh et al., 2008). Maintaining a high GPA is essential, as research has confirmed an assumption that those students who have higher grades and higher predictions of their abilities are indeed more likely to graduate (Zlokovich et al., 2003).

Despite the strong correlation between GPA and success (Zlokovich et al., 2003), statistically significant changes in GPA have been questioned in a realistic light (Strange, 2007). In other words, researchers and consumers have questioned whether a .01 or .02 change in GPA has any applicable consequences. Although a slight change in GPA for those students above a 3.0 would incur only small consequences, a GPA change for other students can have drastic implications (Strange, 2007). For instance, scholarship or financial assistance is often contingent upon grades, and a drop might cause discontinuation of these financial resources. GPA changes can also influence internship acceptance, honors status, study abroad program admittance, and graduate school acceptance (Strange, 2007). Student athletes' ability to continue to play on a

team or compete in an upcoming game can also be precluded by GPA struggles (Strange, 2007). Thus, a statistical change in GPA does have real-world implications, with many students' academic and financial futures dependent upon grades.

Retention and persistence. Attracting students to attend is no longer a concern for most universities, as college enrollment rose by 37% between 2000 and 2010 (U.S. Department of Education, 2012). However, keeping students into their second year is a nation-wide problem. According to the ACT (2012), the national average for first-year to second-year retention for 4-year public universities is 65.2%. This results in 35% of students leaving college before their sophomore year. Although this attrition could be explained by transferring to other schools, according to Tinto (1987), upwards of 75% of students who fail to attain a college degree after matriculating are those who leave within their first two years. This results in a total as high as 40% of students who never receive a college degree, despite being successfully recruited and entering into a college (Porter, 1990). This high number of former students without a degree has been deemed “unacceptable” by the U.S. Department of Education (2006). Thus, retaining students in early years can be a large contributing factor to overall academic success and graduation.

Because of the value of retention, its predictors and those of attrition have been explored heavily over the past decades. A literature review discovered nine student experience themes that positively associated with retention: financial strain, degree commitment, scholastic conscientiousness, academic efficacy, motivation to learn, academic and social integration, effectiveness of advising, and collegiate stress (Davidson, Beck, & Milligan, 2009). Both individual (family demands, financial concerns) and institutional factors (major changes, psycho-social fit, faculty and staff) also contribute to the rationale to leave college (Braxton, Hirschy, &

McClendon, 2004; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; Peltier, Laden, & Matranga, 1999; Tinto, 1993). Other factors contributing to retention are being female, African American, and having mostly B's compared to mostly A's in high school (Kuh et al., 2008). Yet, among several factors, GPA had the largest negative relationship to attrition, while absenteeism had a moderate and positive relationship to attrition (Miller, 1991). Further research reported a negative correlation between GPA and attrition (Kern, Fagley, & Miller, 1998), suggesting that those with higher GPAs were associated with greater levels of persistence. Using a regression model, GPA was the only factor to negatively regress to attrition among other variables like attitude, anxiety, study aids, and testing strategies (Kern et al., 1998). Those students with lower GPAs were found to have an attrition rate of 13.5%, while those with higher GPAs had a rate of 4.3% (Nagda, Gregerman, Jonides, von Hippel, & Lerner, 1998). Relatedly, first-year students with higher-than-average GPAs had slightly higher probabilities of returning their second year than those with below average GPAs (Kuh et al., 2008). Finally, Lufi, Parish-Plass, and Cohen (2003) found that those who persist had higher GPAs than those who do not, concluding that success stemmed from an ability to persist—an ability that was hindered by poor grades. It is clear that there is a link between GPA and retention and persistence, as those with lower GPAs and credit hours have made up more than half of students who succumb to attrition (Harnish, 2005).

Other known factors that increase the chance of retention are academic and social integration (Tinto, 1993). These forms of integration occur when students positively regard their social relationships, in addition to their academic performance, at the university. According to Tinto (1975), lacking connections to these two pivotal aspects of university life can cause students to withdrawal from the university. Tinto (1993) also discussed the process of

involuntary withdrawal, where students must leave the university after failing to meet the academic standards of the institution. He asserted that this often occurs when too little focus is placed upon academics. Students who are heavily involved in extracurricular activities might not complete assignments, and thus could be forced to involuntarily withdrawal (Tinto, 1993). On the other hand, strong integration into the campus as a whole can lead to greater commitment to the university and its mission, which in turn leads to greater persistence levels and graduation rates (Braxton, Bray, & Berger, 2000). As such, in order to attain higher graduation levels, it is a priority of the university to encourage persistence. To do so, Tinto (1975) suggested looking at four components of attrition, which included external commitments and social experiences, which would encompass extracurricular activities. He attested that academic and social integration are not distinctive or mutually exclusive components, but rather influence each other fluidly (Tinto, 1975). Thus, changes in external commitments could influence academic features and persistence, both positively and negatively.

Kuh et al. (2008) also discovered a weak negative relationship between high school extracurricular activities and retention. However, the predicted probability of returning for the second year was slightly higher for those students who spent more than 21 hours a week in extracurricular activities than those who spent 6 to 20 hours a week (Kuh et al., 2008). Even still, the strongest predictor was that of earning less than full-time credit hours: not taking a full course load significantly and negatively predicted retention into the second year (Kuh et al., 2008). Notably, extracurricular involvement has been linked to taking a course load that is less than full-time (DeBard et al., 2006).

Relatedly, extracurricular involvement, seen as an external commitment (Tinto, 1975), has been shown to have a positive relationship to the number of absences reported by students,

which could contribute to attrition (Marsh, 1992). Spending a considerable amount of time on extracurricular activities may result in missing classes, in order to attend a club function or event. Having other commitments, including school activities, happen concurrently with class time was reported as one of the most frequent reasons to not attend class (Bati, Mandiracioglu, Orgun, & Govsa, 2013). Missing classes did significantly and negatively relate to grades: missing class even 10% of the time can lower ones final grade in a significant way (Dobkin, Gil, & Marion, 2007). It has also been discovered that students with less than 5% absences scored 5% higher than average on final grades and those with more than 15% absences, who scored 5% lower than average on final grades (Arulampalam, Naylor, & Smith, 2012).

Duration of study and graduation. In recent decades, the average duration of study has steadily risen while over a thirty year time period, completion rates have fallen by more than 25% for collegiates in their twenties (Turner, 2005). Recent data stated that the national rate of persistence to degree completion in four years was 20.9% (ACT, 2012b), while it only increased to 45.3% at a six year measure. This decrease in degree attainment and increase in duration of study stands in contraction to the increase of college enrollment (Bound, Lovenheim, & Turner, 2007). According to the U.S. Department of Education (2006), there has been focus on getting students to attend college, but less attention on helping them graduate and finish their degrees. Graduation rates when taking five years or less, 39.6% nationally, is at its lowest point in the last three decades (ACT, 2012a). In the past year, only slightly over 45% of students at public, four-year institutions graduated in six years or less (ACT, 2012b). After this point, even students who graduate do not count in university statistics, instead contributing to attrition statistics. Males might be particularly at risk for a lengthy duration of study (Crissman-Ishler, 2005), while also having lower average enrollments than women (Manzo, 2004).

Although there has been some criticism surrounding the necessity of a college education for all students (Arum & Roksa, 2011), there is still much inherent value in education. Graduating from a four-year college has been linked to larger lifetime earnings, lower unemployment rates, higher rates of marriage, great civic engagement, and better health (Rose, 2013). The potential of earning a million dollars more than someone with a high school diploma is very alluring (Carnevale & Rose, 2011). Despite the cost of education, 79% of students asked if they felt their education was worth the cost responded affirmatively, even those who left the university without a degree (Rose, 2013). Attending and graduating college continues to hold value for students and society alike.

As such, delaying graduation can cause many problems, both for students and society. For example, staying longer in college to attain degrees lowers the supply of available skilled workers (Turner, 2005). Although students might stay in school longer to delay entry into a competitive and difficult job market, the public cost of this decision can be detrimental due to the high state and federal subsidies and funds required to run universities for these additional years (Garibaldi, Giavazzi, Ichino, & Rettore, 2012; Turner, 2005). Academic scholarships also tend to run out after four years and student loans must be altered if staying longer than the expected time (Snay, 2011). As such, staying in college longer resulted in students and parents accruing increased amounts of debt, and prevented them from entering the workforce earlier to start paying off this debt (Barba, 1995). According to results in 2008, Allen and Robbins asserted that those aspiring to earn a bachelor's degree lost \$46,000 per additional year spent in college beyond the prescribed four. From a learning perspective, delaying graduation can also create congestion in classrooms, with classes of larger sizes than intended (Garibaldi et al., 2005). This overpopulation can spill into campus resources, like the library, computer labs, and student

facilities. This campus overcrowding, coupled with clogged classrooms, can negatively influence the learning process of the delayed students as well as their peers (Garibaldi et al., 2005), especially as students reported that overcrowded classes hindered their ability to understand the topics (Bati et al., 2013).

Due to the rising cost of attending college and the shown strain longer tenures can cause on the institution, researchers have begun to look at institutional factors that contribute to four-year graduation rates. Several institutional factors have been found to contribute to a growing duration of degree study. According to Bound, Lovenheim, and Turner (2012), the decline of public resources available to colleges and the increase of tuition extend the duration. Supporting the notion that the resources available to each student can reduce the amount of course offerings (Bound et al., 2012), Schroeder (2013) posited that an oft-understudied factor associated with duration of study is the availability of courses and resultant scheduling concerns. The landscape of college enrollment has also been called into question as a possible explanation, as increasing the amount of students who are less academically prepared for collegiate courses may require these students to remain longer before attaining a degree (Bound et al., 2012). This trend explains while others have found that selective colleges, with the most supportive environments and rigorous acceptance requirements, tend to have the highest 6-year graduation rate (Rose, 2013).

There have also been individual or student-level factors discovered that help explain the increase of duration of study. Byun, Irvin, and Meece (2012) explored the predictive factors for graduation rates for rural, suburban, and urban students. Of note, curriculum intensity and first year GPA's were positive predictors for all three student types. This affirmed concurrent research findings, where GPA of the incoming class was found to account for the highest percentage of

variation in four-year rates (Raikes, Berling, & Davis, 2012). After this factor, faculty-level variables (student-faculty ratio, full-time faculty, faculty with a terminal degree) further accounted for the variations (Raikes et al., 2012). Research also discovered that a congruence between major and interests had a significant relationship to timely degree completion (Allen & Robbins, 2010). More so, motivation to complete directly influenced academic performance, which in turn directly influenced duration of study (Allen & Robbins, 2010).

Although extracurricular involvement has rarely been explored for its relationship to completion time, participation in clubs or activities was found as a positive predictor for graduation rates, but only for rural students (Byun et al., 2012). Also, those who were involved in activities have been found more likely to attain their degrees (Derby, 2006). Yet, this research only compared involved students with those who were uninvolved, assuming a linear relationship and failing to explore the other dimensions of involvement at higher levels. Though extracurricular involvement has not gained recognition, employment has been explored: due to the increases in cost of education, students may seek part- or full-time employment, forcing them to reduce their course load each semester and increase their duration (Bound et al., 2012). Similarly, Tyson (2012) found that for particularly taxing degrees that already require more than four years to complete, students who worked or had other demands on their time reported adjusting their course load in order to balance their schedule with academics (Tyson, 2012).

Level of academic challenge. Researchers have posited that academic rigor lies at the very core of the academy (Graham & Essex, 2001). When asked to define academic rigor or challenge, faculty members described it as promoting critical thinking, high levels of student involvement in learning which focused more on the process than the outcome, and high expectations of both student and faculty performance (Graham & Essex, 2001). Generally,

academic challenge is comprised of the expected and actual degree of preparation from students, as well as the effectiveness of the teacher (Payne, Kleine, Purcell, & Carter, 2005).

One of the many components of academic challenge is the perceived or actual need to prepare for the course. Preparation was shown to be highly impactful on more than two thirds of Astin's (1993) student success outcomes measures, including retention, persisting to graduation school, and both cognitive and affective skills. While academic challenge is touted as a vital element to the academy, its presence and institutional commitment to it have been criticized. Trout (1997) claimed that colleges are lowering their standards and challenge in order to maintain enrollments and promote retention. This trend serves to demotivate the engaged students. Faculty have reported hesitation concerning the challenge of their courses, as it can result in poor student evaluations, which in turn can decrease tenure or promotion opportunities (Leef, 1999). Thus, this can encourage professors to "dumb down" courses in order to please students, sacrificing learning outcomes and curricular intensity (Ryan, Anderson, & Birchler, 1980).

Although there is natural variation depending on the intensity of the course and habits of students, a commonly held rule of thumb is that students should study for two to three hours per credit hour per week (Cerrito & Levi, 1999). Thus, full-time students with a 12 credit hour course load should be studying between 24 and 36 hours a week. However, it has been reported that undergraduate students spent between 25 and 30 hours a week either in class or studying outside of class. The out-of-class study time constituted less than half of this time, signifying that students were spending less than the conventional prescription of two hours per credit hour (Babcock & Marks, 2011).

Social and leisure activities were then filling the hours that studying previously occupied

(NSSE, 2007; Saenz & Barrera, 2007). Specifically, results from the University of California Undergraduate Student Experience Survey (UCUES, 2006) showed that students spent more than 40 hours a week on such activities, while only 11 hours were spent handling family responsibilities or paid employment. Other research discovered that only 13% of college freshmen reported studying over 25 hours per week (NSSE, 2003). This stood in contrast to the over 41% who reported spending less than 10 hours a week studying (NSSE, 2003). Shockingly, research discovered that average study time for college algebra and pre-calculus courses was 49 minutes and 80 minutes, respectively (Cerrito & Levi, 1999).

Although students are not following the rule of thumb for time devoted to studying, research has confirmed that doing so resulted in academic benefits: studying 40 hours a week was associated with a one letter grade increase (Lahmers & Zulauf, 2000). Both time and effort put into studying was found to influence the learning process, including knowledge and skills attained and ability to apply such knowledge (Young, Klemz, & Murphy, 2003). Several studies have confirmed that time devoted to course materials and mastery was linked positively to higher grades (Chickering & Gamson, 1991; Michaels & Miethe, 1989; Rau & Durand, 2000; Schuman, Walsh, Olson, & Ethridge, 1985). The NSSE benchmark of Level of Academic Challenge (LAC), has been modestly linked to retention (Gordon, Ludlum, & Hoey, 2007) and GPAs, especially for freshmen (Fuller, Wilson, & Tobin, 2011). Likewise, Nelson Laird, Chen, and Kuh (2008) found that academic challenge contributes to higher-than-average persistence rates. Associations between academic challenge and long-term outcomes, like life-long learning goals and critical thinking, have also been found (Pascarella, Seifert, & Blaich, 2010).

There is also a commonly held adage that good students in high school automatically remain good students in college, despite the amount of effort put forth (Rosenbaum, 2004).

However, research has found data that contradict this assumption. Kuh et al. (2008) found that students who had high grades in high school were more likely to retain this standard; however, this advantage diminished for those students who only spent 0-5 hours studying a week during their first year at college. Students who did well in college, despite their previous experience, were those who spent considerable time preparing for class and assignments, as there was a positive link between GPA and hours studying (Kuh et al., 2008), hours spent in class (Brint & Cantwell, 2010) effort, and academic ability (Noflte & Robbins, 2007). Effort expended in classes was found to increase not only GPA, but also adjustment to college and mastery orientation—a composite score of positive learning goals, perseverance, focused involvement, and seeing instructors as resources (Strange, 2007). Coming to class having completed readings and assignments beforehand was found to positively relate to critical-thinking and cognitive tests for freshmen students (Carini, Kuh, & Klein, 2006). Fuligni and Stevenson (1995) found that while there was a negative correlation between mathematics scores and working and watching television, there was a positive correlation for scores with studying in general and studying mathematics.

Looking beyond mastery orientation, researchers explored new areas of learning, including conscientiousness. Conscientiousness was a composite factor assessing the student's willingness to raise academic standards and revise assignments, interactions with instructors aimed at improving their success, their work on class projects, and attempts to assist other classmates in understanding the subject matter (Brint & Cantwell, 2010). An association between conscientiousness and study time was discovered: study time had a correlation to academic conscientiousness more than double that of any variable looking at student time-use (Brint & Cantwell, 2010). Time spent on academics also linked to retention and attrition, as

chief academic officers from over 250 public four-year universities ranked student study skills as the third most influential factor of attrition of a list of 42 institutional and individual characteristics (ACT, 2010).

While the outcomes of LAC are well-established, there is little research exploring the contributing factors of LAC. One of the few discovered that faculty-student interactions, especially concerning joint research ventures, contributed to academic rigor (Moor & Gayle, 2010). Even fewer researchers included involvement level when assessing academic challenge. Again, though extracurricular involvement was not scrutinized, employment was explored in relation to class preparation. Although previous literature has found that employment reduced grades and increased duration of study (Bound et al., 2012), Lang (2012) found that there was no statistical difference between students who worked and those who did not on their amount of time preparing for class.

Faculty-student interactions. The importance of interacting with faculty members with concern to educational outcomes is widely recognized (Pascarella, 1980, Chickering, 1969). Examination of this area has grown due to the potential of such interactions to create a more personal and inviting college environment (Feldman & Newcomb, 1969; Taylor, 1971). Interacting with faculty can increase satisfaction with ones program, and the greater university, and can therefore encourage retention and persistence (Centra & Rock, 1971; Kuh & Hu, 2001; Pascarella & Terenzini, 1977). Spending time with faculty in an advising role, either formal or informal, also provided an opportunity to form a personal relationship (Crockett, 1987), which strengthened students' connection to the university. This notion coincided with Tinto's (1975) theory that students who are more academically and socially integrated into college will be more likely to persist. It has been shown to help students feel less like a number at large institutions.

Institution and class size, however, can also deter students from attempting to make contact with professors out of the classroom (Vianden, 2009). There is also an emphasis on the quality of student-faculty interactions, rather than the quantity (Kuh, Douglas, Lund, & Ramin-Gyurnek, 1994). Despite the importance of quality interactions, Jaasma and Koper (1999) found that interactions were generally short, averaging 2.4 minutes and 1.4 minutes for formal and informal interactions, respectively. As such, students reported a negative difference between their expectations of student-faculty interactions and reality upon entering college (Gonyea, Kish, Kuh, Muthiah, & Thomas, 2003).

Faculty-student interactions also have been found to positively influence and predict GPAs (Ullah & Wilson, 2007). These interactions also positively correlated with both intellectual and personal development, especially for freshmen (Pascarella & Terenzini, 1978), as well as critical-thinking skills (Terenzini, 1993). Positive correlations for freshmen students were also found between critical-thinking skills and cognitive performance, as measured by RAND tests, and both faculty-student interactions and discussing courses outside of the classroom (Carini, Kuh, & Klein, 2006). Positive correlations between freshmen student GPAs and both general and coursework-specific faculty interactions were also discovered (Carini, Kuh, & Klein, 2006). Freshmen are not the only beneficiary of faculty-student interactions, as senior students also had a relationship between RAND scores and prompt feedback from their faculty (Carini et al., 2006). Especially for low-ability students, faculty-student interactions positively associated with GPA and RAND scores (Carini, Kuh, & Klein, 2006). Astin (1993) argued that helping faculty during classes or on research projects linked positively to satisfaction and other academic measures, emphasizing the importance of faculty-student interactions. This importance might be heightened for students once they have been retained, as sophomore

students with increased faculty interaction had lower attrition rates than those who did not, a result that was not present for freshmen students (Nagda et al., 1998).

Further research on the approach and manner of faculty-student interactions echoed these positive influences. Endo and Harpel (1982) found that the frequency of interactions with faculty members who approached them in informal and friendly ways significantly and positively related to four measures of student academic success: acquisition of general knowledge, acquisition of math skills, problem solving skills, and public speaking skills. Faculty-student interactions also encouraged academic achievement if faculty encouraged students to expend more effort in their courses and academic pursuits (Kuh & Hu, 2001). Such academic-related interactions tended to be the most common, and most beneficial, form of faculty-student interaction (Kuh et al., 1999). Males were also found to have differences in faculty-student interactions, as they interacted less frequently and less positively than female students (Sax, Bryant, & Harper, 2005). Thus, men might be particularly in need of opportunities to interact with faculty in positive ways. However, men are less likely to seek the services of academic or student affairs professionals (Kellom, 2004).

Looking further at the manner of interactions, Cox and Orehovec (2007) asserted that disengagement was one of the most common forms of faculty-student interaction, although it can be a misnomer. Disengagement happened when faculty and students did not engage, although they had the opportunity. Disengagement often was observed when either faculty or student were preoccupied with other tasks or simply did not notice the other's presence (Cox & Orehovec, 2007). In order for the interaction to be meaningful, it was suggested that the interaction needed to be either functional, personal, or a mentoring action. However, these forms of interaction were discovered less frequently in observations, as they required considerable time

from both the faculty member and the student (Cox & Orehovec, 2007). If students' schedules are becoming overwhelmed, they might not be able to spare the time necessary to devote to these more meaningful interactions.

Yet, involvement in extracurricular activities can increase the amount of time spent with faculty, as they often serve as faculty advisors (Nadler, 1997). However, when asking undergraduate students to signify their motivation for joining a campus club or activity, students commonly specified personal interest, meeting other students, and gaining career skills more often than interacting with faculty and staff members (Thompson, 2013; Yin & Lei, 2007). Despite not being motivated by opportunities to interact with faculty members, such interactions were found to contribute to self-reported predictions of involvement in clubs and groups for men, among other individual characteristics (Case, 2011). However, this same relationship for women was not discovered. However, for both men and women, interacting with faculty did increase the probability of joining a club or group (Case, 2011).

Meeting faculty for office hours is one environment for faculty-student interactions. However, students often have class or work commitments that keep them from attending office hours (Haworth, 1999). This could be especially true for students with multiple commitments. Those with many time commitments, coined "time-limited," reported infrequent interactions with faculty members, while also rating the quality of relationships with faculty and administrators as moderate (Lundberg, 2003). Despite these more negative views and limited time with faculty, these over-committed students still found relationships with faculty as a contributor to their overall learning (Lundberg, 2003). Thus, even students who interacted only sporadically with faculty see the importance of their influence, but were unable to spend more time with them due to other commitments. If over-involved students can be classified as time-limited due to their

many time commitments and campus obligations, they too could be at risk for these faculty-student drawbacks.

Summary

Although there are differing reports about the influence of over-involvement in high school, the phenomenon can be traced to this time period. Often, high school students can become over-scheduled (Mahoney et al., 2006), which can have detrimental influence on their academic performance (Fredricks, 2012) and psychological wellness (Garber et al., 2002; Mahon et al., 2006). However, research still highlights the many benefits of involvement, both academically (Knifsend & Graham, 2012) and developmentally (Eccles & Barber, 1999). These results have led some to encourage moderation in activity levels (Lerner et al., 2001) to ensure the benefits of involvement without the detriments possibly associated with hyper activity.

As activities become more competitive (Côté et al., 2003) and available (Fredericks, 2012) upon arriving to college, the influence of extracurriculars is often more pronounced. Researchers have found a multitude of evidence for the positive influence of involvement. Extracurricular involvement has been found to increase leadership skills (Kuh, 1995), self-esteem (Marsh, 1992), and graduation rates (Stoecker et al., 1988). Academically, it has been linked to higher grades (Busseri et al., 2010), persistence (Pascarella et al., 1968), and greater cognitive growth (Gellin, 2003).

However, much of this research had not examined over-involvement or did not considered a non-linear relationship between involvement and success. In order to test Astin's (1999) theory of potential limits to involvement's benefits, researchers examined the potential of negative outcomes due to over-involvement. At higher levels of involvement, academic performance in the form of GPAs has been found consistently to suffer (Hatcher et al., 1991; Kuh

et al., 2008; Shucker, 1987). Time available and dedicated to studying was found to decrease when over-involved (Hlavac et al., 2010) Outside of academics, over-involvement was found to influence stress (Gardner et al., 2010; May & Casazza, 2012), burnout (Jacobs & Dobb, 2003) and employment status (Marsh, 1992). Many key indicators for academic success (GPA, retention, persistence, duration of study, graduation rates, academic challenge, and faculty interactions) have also been linked to involvement, but have not received sufficient attention or consistent results concerning over-involvement.

Chapter 3

Methods

Introduction

The purpose of this study was to highlight the relationship between undergraduate over-involvement in extracurricular activities and academic success measures (GPA, retention, persistence, duration of study, graduation rates, and level of academic challenge) and faculty-student interactions. As illustrated by the previous literature, there is currently a gap in modern knowledge concerning the influence of extracurricular over-involvement on student academic success.

Research Questions

This study aims to seek answers to the following questions:

1. What are the demographic characteristics of undergraduate students who are over-involved in extracurricular activities?
2. What relationship exists between extracurricular involvement level and undergraduate GPA? Does this relationship change based on gender or class rank?
3. What relationship exists between extracurricular involvement level and undergraduate retention? Does this relationship change based on gender?
4. What relationship exists between extracurricular involvement level and undergraduate persistence? Does this relationship change based on gender?
5. What relationship exists between extracurricular involvement level and undergraduate

- duration of study? Does this relationship change based on gender or class rank?
6. What relationship exists between extracurricular involvement level and undergraduate graduation rates? Does this relationship change based on gender or class rank?
 7. What relationship exists between extracurricular involvement level and undergraduate academic challenge? Does this relationship change based on gender or class rank?
 8. What relationship exists between extracurricular involvement level and undergraduate relationships with faculty members? Does this relationship change based on gender or class rank?

Methods

Sample

The sample was gathered from a large regional university in the southeastern United States that serves approximately 25,000 students. The university annually participates in the National Survey of Student Engagement (NSSE). The university granted permission to access retrieved data from the NSSE, as well as institutional data (see Appendix A). In spring 2008, 1,462 students completed the NSSE survey, reporting on questions concerning academic courses, workload, involvement in extracurricular activities, and student-faculty interactions. These students were either first-year freshmen (47.5%) or seniors, and roughly matched the demographic breakdown of the greater university population. The NSSE responses were linked to university records of GPAs at the time of survey completion (spring 2008), final cumulative GPAs, retention and persistence for freshmen, duration of study lengths, and graduation rates using the university's Office of Institutional Research and Assessment.

Instrumentation

This study used data retrieved from the NSSE, which was developed at Indiana

University to evaluate undergraduate students' engagement with learning within the university setting (Kuh, 2001). The survey is made up of 29 questions which query students on their engagement with learning and the university as a whole, as well about on overall environment of the institution (see Appendix B for survey questions). Questions are related to activities, course work, advising, inside and outside classroom experiences, personal and academic development, relationships with faculty, staff, and students, and the quality of the collegiate experience. The survey also includes demographic information regarding ethnicity, gender, class rank, and age (Kuh, 2001). The NSSE is conducted annually with undergraduate students at four-year institutions and is traditionally administered via the web to first-year and senior students who are randomly selected.

The NSSE had made internal efforts to garner public support and use by reporting very consistent psychometric results, including both validity and reliability, since its initial release in 2001 (Kuh, 2003). Empirical analysis of the NSSE itself, as well as its use with diverse populations, shows its content validity (Kuh, 2009), construct validity (NSSE, 2010a), concurrent validity (NSSE, 2012), and predictive validity (NSSE, 2010b). Reliability, or the consistency of measurements, has also be well established for the NSSE. Specifically, it has been shown to have strong internal consistency with intercorrelations as high as .73 (NSSE 2013), temporal stability with correlations ranging from .75 to .92 (NSSE, 2011b), and equivalence (Nelson Laird, Korkmaz, & Chen, 2008). The existence of equivalence is particularly helpful when studying college students, showing that NSSE scores are comparable to other surveys attempting to capture the same phenomena. Specifically concerning its applicability and predictive value, Pascarella et al. (2010) found that NSSE benchmarks are in fact good proxy measures for student growth and educational outcomes. Given these strong

psychometric findings, the NSSE has become one of the most prominent and widespread college student surveys in the United States, with 621 institutions participating in 2013 alone.

Data Collection

In spring 2014, data from the spring 2008 NSSE were gathered via the Office of Institutional Research and Assessment. Using university identification numbers reported on the NSSE, responses were linked to the institutional measures of spring 2008 GPA, cumulative GPA, matriculation term, graduation term, enrollment data for fall 2008 and spring 2009, and institution-reported demographic information. After linking the NSSE results with these institutional measures, the Office of Institutional Research and Assessment removed any identifying information, keeping the final data confidential from the researcher.

Variables

The one independent variable in this study was involvement level, as reported on question 9d on the NSSE (see Appendix B). The question asked, “About how many hours do you spend in a typical 7-day week participating in co-curricular activities (organization, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)” The responses ranged from 0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-30, and more than 30. Following the precedent set forth by Marsh and Kleitman (2002), the over-involved category was constructed by adding the standard deviation of 1.57 to the sample mean of 2.56. The resultant response of 4.13, signifying 11-15 hours a week, was classified as over-involved. Thus, anyone reporting more than 11 hours per week was placed in the *over-involved* category. Those who reported 0 hours were placed in the *uninvolved* category and those between 1 and 10 hours were placed in the *involved* category.

Two of the dependent variables were also drawn directly from the NSSE. The first is the

NSSE measure of Level of Academic Challenge (LAC; NSSE, 2014). LAC is composed of the responses to the questions 1r, 2b-e, 3a, 3c-e, 9a, and 10a. LAC is an established indicator NSSE developed to benchmark universities, hoping to emphasize the many dimensions of student engagement. It was constructed using both theoretical and empirical data, and weighed averages based on academic level and status (NSSE, 2014). LAC was formulated using the following 11 questions:

Time spent preparing for class (studying, reading, writing, rehearsing, and other activities related to your academic program)

Worked harder than you thought you could to meet an instructor's standards or expectations

Number of assigned textbooks, books, or book-length packs of course readings

Number of written papers or reports of 20 pages or more

Number of written papers or reports between 5 and 19 pages

Number of written papers or reports fewer than 5 pages

Coursework emphasizes: Analyzing the basic elements of an idea, experience, or theory

Coursework emphasizes: Synthesizing and organizing ideas, information, or experiences

Coursework emphasizes: Making judgments about the value of information, arguments, or methods

Coursework emphasizes: Applying theories or concepts to practical problems or in new situations

Campus environment emphasizes spending significant amounts of time studying and on academic work

The questions were compiled and averaged to form the composite variable of LAC. This

benchmark is used readily by countless universities throughout the country (NSSE, 2012). For the 2010 data compiled and analyzed through NSSE, a Cronbach's alpha of .71 and .74 was found for freshmen and seniors, respectively (NSSE, 2010c). Comparatively, the measure of LAC shows good reliability with a strong Cronbach's alpha of .72 for the study sample.

The second dependent variable derived from the NSSE is comprised of six questions assessing faculty-student interactions. The benchmarking theme of Student-Faculty Interaction (SFI) examines how faculty engage with students inside and outside of the classroom. The SFI benchmark only assesses the frequency and not the quality of interactions, though quality has been determined to be valuable (Kuh et al., 1994). Thus, the five SFI questions, along with one from the Supportive Campus Environment benchmark assessing interaction quality, are utilized for this study. Together, the variable of faculty-student interaction (FACRX) for this study was comprised of the following six questions:

Discussed grades or assignments with an instructor

Talked about career plans with a faculty member or advisor

Discussed ideas from your readings or classes with faculty members outside of class

Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)

Worked with a faculty member on a research project

Quality of relationships with faculty members (from the SCE benchmark)

The questions were compiled and averaged to form the composite variable of FACRX. The student-faculty interaction (SFI) benchmarked is used readily by countless universities throughout the country (NSSE, 2012). For the 2010 data compiled and analyzed through NSSE, a SFI Cronbach's alpha of .73 and .77 was found for freshmen and seniors, respectively (NSSE,

2010c). Comparatively, the measure of FACRX shows good reliability with a strong Cronbach's alpha of .69 for the study sample.

The six remaining dependent variables were based on institutional data. Retention was operationalized as first-year students continuing enrollment to the following fall term (fall 2008). Persistence was operationalized as first-year students continuing enrollment to the following spring term (spring 2009). Duration of study was operationalized as the years spent at the university, from matriculating to either transferring, withdrawing, or graduation. The variable of graduation was normatively operationalized to signify whether or not a participant went on to graduate from the university, regardless of the duration spent. Finally, current GPA (spring 2008) and cumulative GPA were operationalized as the raw grade point average reported by the institution.

Data Analysis Strategies

In order to answer the research question posed by this study and test the above research hypotheses, the following strategies were used to analyze the data. The data were first broken into three groups: those determined to be over-involved, those involved students who did not meet the over-involvement classification, and those reporting zero involvement. To do so, descriptive data were achieved concerning the question "About how many hours do you spend in a typical 7-day week participating in co-curricular activities (organization, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)." The responses ranged from 0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-30, and more than 30. Although any response over 20 hours would appear to be over-involvement, the mean and standard deviation were attained in order to get a more accurate depiction of over-involvement for this particular sample. Following the precedence of Marsh and Kleitman (2002), over-involved students were

those who reported involvement one standard deviation or more above the mean. For this population, the mean was 2.56, signifying between 1 and 5 hours per week, with a standard deviation of 1.57. Thus, those who reported a 4.13 or higher would be one standard deviation above the mean, falling into the over-involved category. Using the NSSE scale, a 4.13 signified between 11-15 hours a week. For this sample, those who reported above 11 hours a week on extracurriculars were categorized as over-involved. This resulted in a sub-sample of 246 students in the over-involved category. Due to a wide range of matriculation dates, outliers were removed with respect to the duration of study. Using the demographic features of age, ethnicity, academic level, and gender, matched groups for involved students (between 1 hour and 10 hours a week on extracurriculars) and uninvolved students (0 hours a week on extracurriculars) were gathered. The final sample consisted of 821 freshman and senior students including those who were uninvolved (n=308), involved (n=267), and over-involved (n=246).

Using the independent variable of involvement, a one-way ANOVA was conducted for each of the dependent variables. Using a test of the homogeneity of variances showed that all but two variables (LAC and FACRX) failed to meet this assumption. As such, the other variables were analyzed using a Games Howell post-hoc test. The variables of LAC and FACRX, having met the assumption of homogeneity of variances, were analyzed using a Tukey's honestly significant difference post-hoc test. Additionally, two-way ANOVAs were conducted for each of the dependent variables to explore the interaction of involvement with the independent variables of gender and class rank. Although there are other demographic variables to possibly consider, research has found unique outcomes for both gender (Baker, 2008; Crissman-Ishler, 2005; DeBard et al., 2006; Sax et al., 1989) and class rank (Carini et al., 2006, Nagda et al., 1998; Pascarella 1989; Pascarella & Terenzini, 1978), underscoring the need to

explore these characteristics more thoroughly. Further post-hoc analyses were conducted on main or interaction effects discovered through the two-way ANOVAs. The measures of retention and persistence did not allow analysis on the senior students, so only gender will be included in the two-way ANOVAs for these measures.

Summary

This chapter reiterated the purpose of the study and the research questions. This chapter described the participants of the study. The sample was comprised of freshman and senior students who participated in the spring 2008 National Survey of Student Engagement (NSSE) at a large, southeastern university in the United States. The sample was split into three groups based on involvement level reported on the NSSE: over-involved, involved, and uninvolved. The reliability and validity of the NSSE were discussed, as well as the reliability and composition of the two benchmark themes used from the NSSE: Level of Academic Challenge (LAC) and Faculty-Student Interactions (FACRX). This chapter further described the collection of data, as well as several analytic strategies chosen. In order to test the difference between the involvement groups, one-way ANOVAs were used, along with two-way ANOVAs to explore any potential interaction effects. The results of these analyses are presented in Chapter 4.

Chapter 4

The purpose of this study was to highlight the relationship between undergraduate over involvement in extracurricular activities and academic success measures (GPA, retention, persistence, duration of study, graduation rates, and level of academic challenge) and faculty-student interactions. As illustrated by the previous literature, there is currently a gap in modern knowledge concerning the influence of extracurricular over-involvement on student academic success.

Research Questions

This study aimed to seek answers to the following questions:

1. What are the demographic characteristics of undergraduate students who are over-involved in extracurricular activities?
2. What relationship exists between extracurricular involvement level and undergraduate GPA? Does this relationship change based on gender or class rank?
3. What relationship exists between extracurricular involvement level and undergraduate retention? Does this relationship change based on gender?
4. What relationship exists between extracurricular involvement level and undergraduate persistence? Does this relationship change based on gender?
5. What relationship exists between extracurricular involvement level and undergraduate duration of study? Does this relationship change based on gender or class rank?
6. What relationship exists between extracurricular involvement level and undergraduate

- graduation rates? Does this relationship change based on gender or class rank?
7. What relationship exists between extracurricular involvement level and undergraduate academic challenge? Does this relationship change based on gender or class rank?
 8. What relationship exists between extracurricular involvement level and undergraduate relationships with faculty members? Does this relationship change based on gender or class rank?

Demographic Results

The original population data included 1,462 responses from freshman and senior students at the time of spring 2008. The population consisted of 53.7% females, 83.7% White, 52.5% seniors, and the average age of participants was 20.97 years old. Concerning involvement, 3.6% and 29.3% of the population identified themselves as a student-athlete or a member of either a fraternity or sorority, respectively. The reported average of involvement was 2.56, which signified 1-5 hours of involvement per week. The majority (79.6%) of the population reported spending 10 or less hours a week on extracurricular activities. Those who were identified as over-involved (reporting more than 11 hours a week on extracurriculars) included 246 freshmen and seniors.

Data Analysis Results

Research Question 1

What are the demographic characteristics of undergraduate students who are over-involved in extracurricular activities? As shown in Table 1, there were more over-involved men than women. Results from a t-test examining gender revealed this to be a significant difference, $t = 1.99$, $df = 819$, $p = .047$. There were also significantly more freshmen than seniors comprising the over-involved group, $t = 2.45$, $df = 819$, $p = .015$. Although there were considerably more

White students than any other racial class, $t = 2.11$, $df = 819$, $p = .035$, this is consistent with the population. There was also a significant difference concerning fraternity and sorority involvement, with statistically more students involved in fraternities and sororities in the over-involved group, $t = -14.01$, $df = 777$, $p = .000$. Additionally, over-involved students were likely to be in a residence off-campus within a drivable distance (42.0%) or in an on-campus residence hall (31.4%). A vast majority of over-involved students classified themselves as full-time students (96.7%). Involvement and age descriptives are presented in Table 1, and other demographic characteristics are shown in Table 2.

Table 1

Age and Involvement Descriptive Results of Involvement Groups

	Over-Involved		Involved		Uninvolved	
	<i>(N = 246)</i>		<i>(N = 267)</i>		<i>(N = 308)</i>	
	M	SD	M	SD	M	SD
Age	20.13	1.957	20.30	2.607	22.00	5.010
Involvement	5.08	1.358	2.35	.479	1.00	.000

Note: Involvement scores are based on a 7-point scale. Numbers in parentheses designate the hours corresponding to the score: 0 (0), 1 (1-5), 2 (6-10), 3 (11-15), 4 (16-20), 5 (21-25), 6 (26-30), 7 (more than 30).

Research Question 2

What relationship exists between extracurricular involvement level and undergraduate GPA? Additionally, does this relationship differ based on gender and class rank?

Spring GPAs. Results showed that GPAs at the time of testing in spring 2008 were significantly different across the groups, $F(2, 815) = 15.57$, $p = .000$. As seen in Table 3, Games-Howell post-hoc comparisons indicated that involved students ($M = 3.07$, 95% CI [2.99, 3.15]) had significantly higher spring GPAs than uninvolved students ($M = 2.79$, 95% CI [2.71,

Table 2

Demographic Results of Involvement Groups

		Over-Involved	Involved	Uninvolved
		(N = 246)	(N = 267)	(N = 308)
Gender	Male	127	127	133
	Female	119	140	175
Class	Freshman	126	126	126
	Senior	120	141	182
Race	African American	9	13	29
	American Indian/ Alaska Native	1	6	1
	Asian	5	0	8
	Caucasian/White	219	237	256
	Hispanic	5	6	8
	Foreign	5	3	2
	Unknown	2	2	4
	Fraternity/ Sorority	No	115	119
	Yes	131	120	10
Athlete	No	211	236	291
	Yes	34	1	2

2.87]). The relationship between over-involved students ($M = 3.03$, 95% CI [2.96, 3.10]) and involved students did not reach significance at $p < .05$. Yet, over-involved students did have significantly higher GPAs in spring than uninvolved students.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on spring GPAs. As shown in Table 4, the main effect of gender was significant, $F(1, 812) = 15.73$, $p = .000$.

Females reported higher spring GPAs ($M = 3.05$, 95% CI [2.99, 3.11]) than males ($M = 2.87$, 95% CI [2.81, 2.94]). This main effect and comparison to overall spring GPAs is depicted in Figure 1.

Table 3

ANOVA Post-Hoc Results for Spring 2008 and Cumulative GPA as a Function of Involvement

	Over-Involved (N= 246)		Involved (N=267)		Uninvolved (N=308)	
	M	SD	M	SD	M	SD
Spring 2008	3.03 _a	.55	3.07 _b	.68	2.79 _{a,b}	.69
Cumulative	3.05 _a	.52	3.06 _b	.67	2.79 _{a,b}	.72

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate higher GPAs.

Table 4

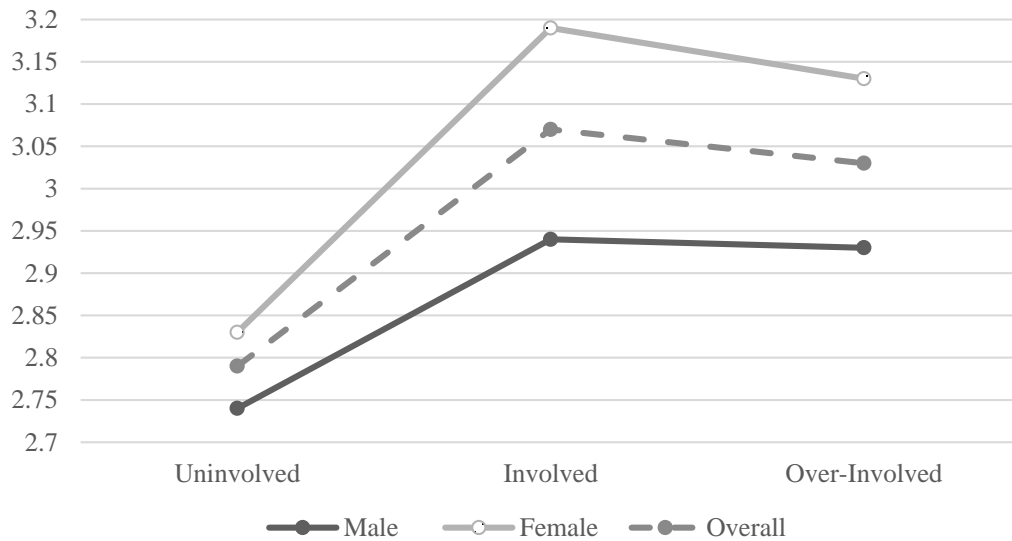
Summary of Spring GPA Two-Way ANOVA for Involvement and Gender and Class Rank

Source	df	SS	MS	F
Gender				
Gender	1	6.50	6.50	15.73**
Involvement	2	13.32	6.66	16.11**
Gender*Involvement	2	.87	.44	1.06
Class Rank				
Class Rank	1	6.90	6.90	16.78**
Involvement	2	14.03	7.02	17.06**
Class Rank*Involvement	2	1.66	.83	2.011

** $p < .01$

Figure 1

Main Effect for Gender and Overall Spring GPA



As reported in the one-way ANOVA results, a significant main effect of involvement on spring GPAs was found, $F(2, 812) = 16.11, p = .000$. As seen in Table 5, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did not change when considering gender: both male and female uninvolved students ($M = 2.74, 2.83$) had lower spring GPA's than involved ($M = 2.94, 3.19$) and over-involved students ($M = 2.93, 3.13$), who did not differ significantly from each other. There was not a statistically significant relationship between the interaction of gender and involvement on spring GPAs, $F(2, 812) = 1.06, p = .348$.

Also, a two-way ANOVA of class rank (freshman, senior) and involvement (over-involved, involved, uninvolved) on spring GPAs was conducted. As seen in Table 4, the main effect of class rank was significant, $F(1, 812) = 16.78, p = .000$. Seniors reported higher spring GPAs ($M = 3.05, 95\% \text{ CI } [2.99, 3.11]$) than freshmen ($M = 2.86, 95\% \text{ CI } [2.80, 2.92]$). This main effect and comparison to overall spring GPAs is depicted in Figure 2.

Table 5

Two-Way ANOVA Post-Hoc Results for Spring GPA for Gender and Class Rank as a Function of Involvement

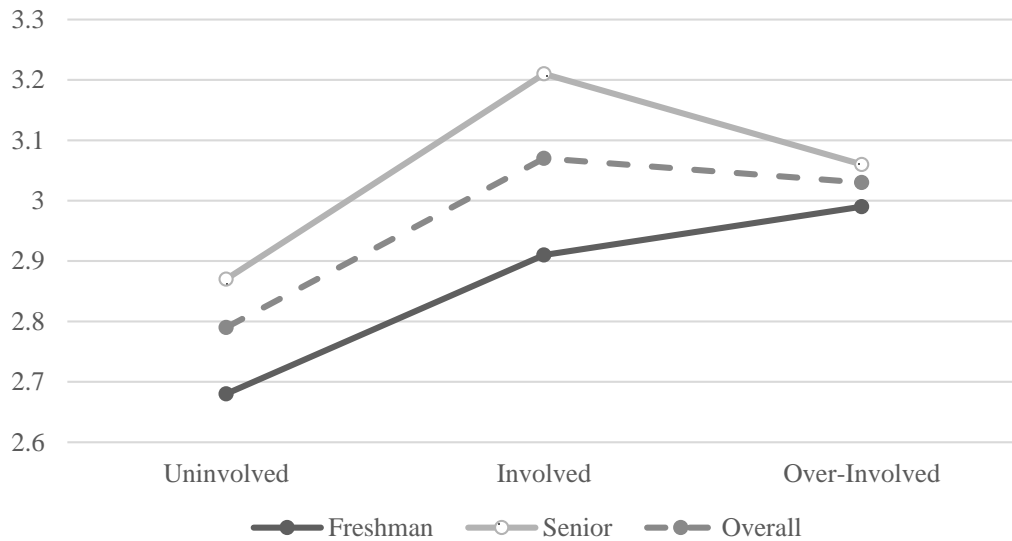
	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	2.93 _a	.57	2.94 _b	.77	2.74 _{a,b}	.74
Female	3.03 _a	.55	3.07 _b	.68	2.79 _{a,b}	.69
Freshman	2.99 _a	.63	2.91 _b	.82	2.68 _{a,b}	.83
Senior	3.06 _a	.45	3.21 _a	.48	2.88 _a	.57

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

As reported in one-way ANOVA results, a significant main effect of involvement on spring GPAs was found, $F(2, 812) = 17.06, p = .000$. As seen in Table 5, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in one-way ANOVA results did change when considering class rank, but only for seniors: freshman uninvolved students ($M = 2.68$) had lower spring GPA's than involved ($M = 2.91$) and over-involved students ($M = 2.99$), who did not differ significantly from each other. Alternatively, senior involved students ($M = 3.21$) had higher GPAs than both over-involved ($M = 3.06$) and uninvolved seniors ($M = 2.88$), with over-involved being significantly higher than uninvolved. There was not a statistically significant relationship between the interaction of class rank and involvement on spring GPAs, $F(2, 812) = 2.01, p = .134$.

Figure 2

Main Effect for Class Rank and Overall Spring GPA



Final GPAs. Likewise, results from a one-way ANOVA on final GPAs revealed differences across the involvement groups, $F(2, 818) = 16.100, p = .000$ (see Table 3). Games-Howell post-hoc comparisons of the three groups indicated that the involved group ($M = 3.058, 95\% \text{ CI } [2.98, 3.14]$) had significantly higher final GPAs than uninvolved students ($M = 2.787, 95\% \text{ CI } [2.71, 2.87]$). While comparisons between the involved group and over-involved group ($M = 3.047, 95\% \text{ CI } [2.98, 3.00]$) failed to reach significance at $p < .05$, the over-involved group was significantly higher than the uninvolved students.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on final GPAs. As seen in Table 6, the main effect of gender was significant, $F(1, 815) = 25.74, p = .000$. Females reported higher final GPAs ($M = 3.07, 95\% \text{ CI } [3.01, 3.14]$) than males ($M = 2.85, 95\% \text{ CI } [2.78, 2.91]$). This main effect and comparison to overall final GPAs is depicted in Figure 3. As reported in the one-way ANOVA results, a significant main effect of involvement on final GPAs

was found, $F(2, 815) = 17.38, p = .000$. As shown in Table 7, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did not change when considering gender: both male and female uninvolved students ($M = 2.70, 2.85$) had lower final GPA's than involved ($M = 2.91, 3.19$) and over-involved students ($M = 2.92, 3.18$), who did not differ significantly from each other. There was not a statistically significant relationship between the interaction of gender and involvement on final GPAs, $F(2, 815) = .94, P = .389$.

Table 6

Summary of Final GPA Two-Way ANOVA for Involvement as a Function of Gender and Class Rank

Source	df	SS	MS	F
Gender				
Gender	1	10.59	10.59	25.74**
Involvement	2	14.30	7.15	17.38**
Gender*Involvement	2	.78	.41	.94
Class Rank				
Class Rank	1	7.21	7.21	17.46**
Involvement	2	14.47	7.23	17.53**
Class Rank*Involvement	2	2.43	1.21	2.94

** $p < .01$

Figure 3

Main Effect for Gender and Overall Final GPA

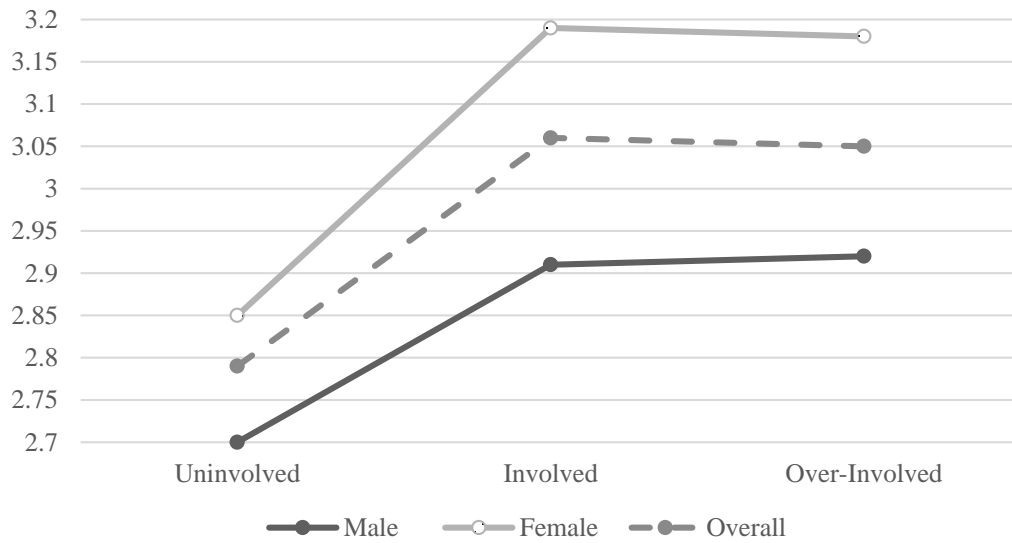


Table 7

Two-Way ANOVA Post-Hoc Results for Final GPA for Gender and Class Rank as a Function of Involvement

	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	2.92 _a	.53	2.91 _b	.74	2.70 _{a,b}	.76
Female	3.18 _a	.48	3.19 _b	.58	2.85 _{a,b}	.68
Freshman	3.02 _a	.59	2.88 _a	.81	2.68 _a	.85
Senior	3.08 _a	.44	3.21 _a	.47	2.86 _a	.61

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

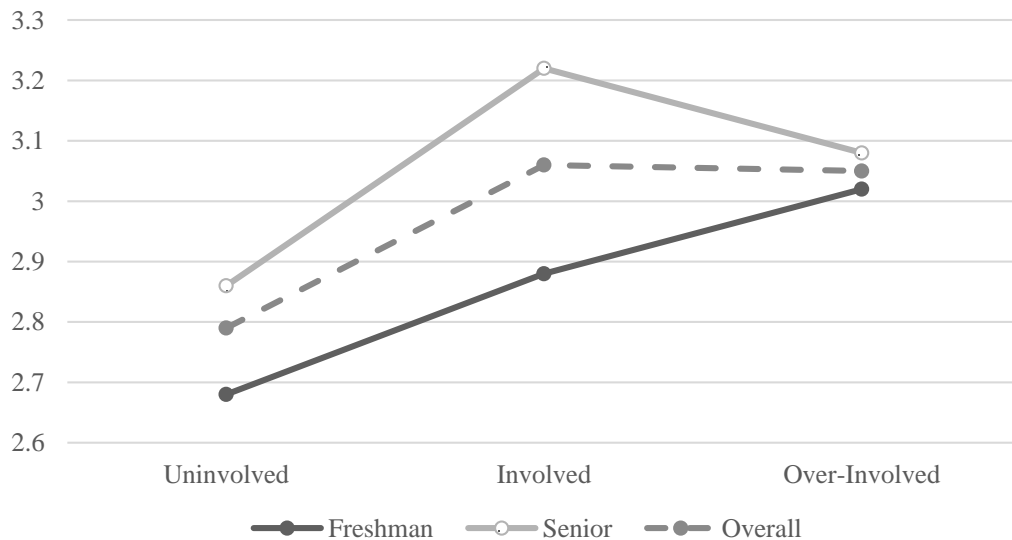
Also, a two-way ANOVA of class rank (freshman, senior) and involvement (over-involved, involved, uninvolved) on final GPAs was conducted. As shown in Table 6, the main effect of class rank was significant, $F(1, 815) = 17.46, p = .000$. Seniors reported higher final

GPA's ($M = 3.05$, 95% CI [2.99, 3.11]) than freshmen ($M = 2.86$, 95% CI [2.80, 2.92]). This main effect and comparison to overall final GPA's is depicted in Figure 4. As reported in the one-way ANOVA results, a significant main effect of involvement on final GPA's was found, $F(2, 815) = 15.57, p = .000$.

As seen in Table 7, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in one-way ANOVA results did change when considering class rank: freshman students reported positive and significant linear relationship between involvement and GPA's. Alternatively, senior involved students ($M = 3.21$) had higher GPA's than both over-involved ($M = 3.08$) and uninvolved seniors ($M = 2.86$), with over-involved being significantly higher than uninvolved. There was not a statistically significant relationship between the interaction of class rank and involvement on final GPA's, $F(2, 815) = 2.94, p = .053$.

Figure 4

Main Effect for Class Rank and Overall Final GPA



Research Question 3

What relationship exists between extracurricular involvement level and undergraduate retention? Additionally, does this relationship differ based on gender? A one-way ANOVA examining freshman students' retention from spring 2008 to fall 2008 revealed significant differences based on involvement group, $F(2, 375) = 5.885, p = .003$. As seen in Table 8, Games-Howell post-hoc results showed that over-involved students ($M = .96, 95\% \text{ CI } [.93, .99]$) had significantly higher retention rates than both involved students ($M = .83, 95\% \text{ CI } [.77, .90]$) and uninvolved students ($M = .85, 95\% \text{ CI } [.79, .91]$). The relationship between involved and uninvolved students was not statistically significant at $p < .05$.

Table 8

ANOVA Post-Hoc Results for Retention Rates as a Function of Involvement

	Over-Involved ($N=126$)		Involved ($N=126$)		Uninvolved ($N=308$)	
	M	SD	M	SD	M	SD
Retention Rates	.96 _{a,b}	.20	.83 _a	.37	.85 _b	.36

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate higher rates of retention to the next semester for freshmen.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on retention rates. As seen in Table 9, the main effect of gender was not significant, $F(1, 372) = .03, p = .855$. As reported in the one-way ANOVA results, a significant main effect of involvement on retention rates was found, $F(2, 372) = 6.19, p = .002$. However, this significant effect was qualified by an interaction between gender and involvement level, $F(2, 372) = .3.20, p = .046$.

Table 9

Summary of Retention Rates Two-Way ANOVA for Involvement and Gender

Source	df	SS	MS	F
Gender	1	.00	.00	.03
Involvement	2	1.26	.63	6.19**
Gender*Involvement	2	.63	.32	3.10*

* $p < .05$, ** $p < .01$

When men ($M = .97$) and women ($M = .95$) were over-involved, they each reported the significantly highest rate of retention, respectively (see Table 10). Males had higher retention rates than females across involvement groupings except when involved, where males had the lowest levels of retention ($M = .77$). Females who were uninvolved had the lowest retention rates ($M = .81$). The results of this interaction and comparison to overall retention rates are depicted in Figure 5.

Table 10

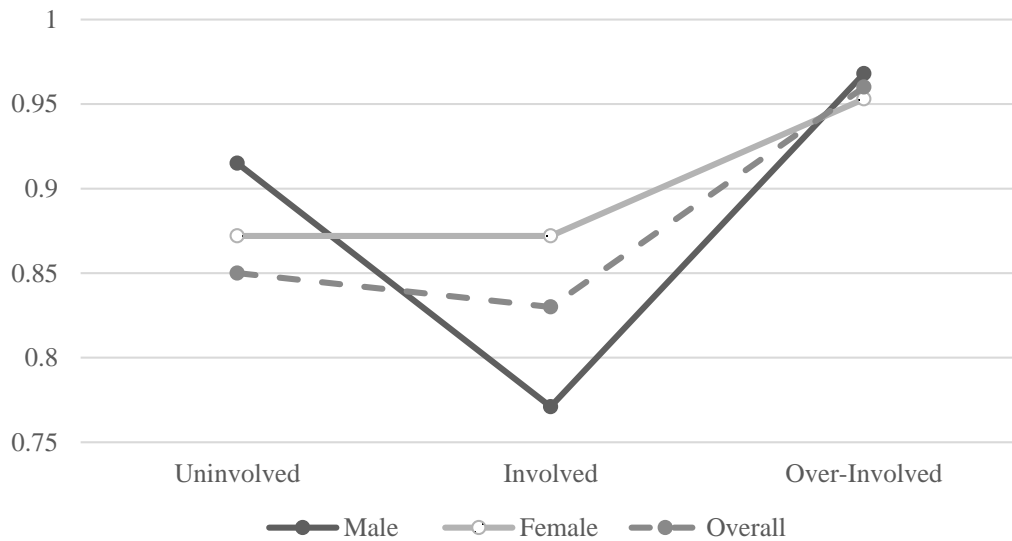
Two-Way ANOVA Post-Hoc Results for Retention Rates for Gender as a Function of Involvement

	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	.97 _a	.18	.77 _{a,b}	.43	.92 _b	.28
Female	.95 _a	.21	.87	.34	.81 _a	.40

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

Figure 5

Retention Rates Overall and Interaction Results for Involvement and Gender



Research Question 4

What relationship exists between extracurricular involvement level and undergraduate persistence? Additionally, does this relationship differ based on gender? A one-way ANOVA analyzing freshman students' persistence from spring 2008 through spring 2009 showed significant differences between the involvement groups, $F(2, 375) = 8.81, p = .000$. As seen in Table 11, Games-Howell post-hoc comparisons revealed that over-involved students ($M = .87$, 95% CI [.80, .93]) persisted at significantly higher rates than both involved ($M = .66$, 95% CI [.57, .74]) and uninvolved students ($M = .66$, 95% CI [.59, .76]). The relationship between involved and uninvolved students was not statistically significant at $p < .05$.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on persistence rates. As seen in Table 12, the main effect of gender was not significant, $F(1, 372) = .95, p = .331$. As reported in the one-way ANOVA results, a significant main effect of involvement on persistence

was found, $F(2, 372) = 8.68, p = .000$. As shown in Table 13, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA did change when considering gender, but only for males. Females reported the same pattern as overall persistence, with over-involved females ($M = .83$) persisting at higher rates than both involved ($M = .69$) and uninvolved females ($M = .62$), who did not differ from each other. Alternatively, over-involved males ($M = .90$) persisted at higher rates than uninvolved males ($M = .77$), who also persisted more than involved males ($M = .60$). The post-hoc results and comparison to overall persistence rates are depicted in Figure 6. There was not a statistically significant relationship between the interaction of gender and involvement on persistence rates, $F(2, 372) = 2.28, p = .104$.

Table 11

ANOVA Post-Hoc Results for Persistence Rates as a Function of Involvement Group

	Over-Involved (N= 126)		Involved (N=126)		Uninvolved (N=308)	
	M	SD	M	SD	M	SD
Persistence Rates	.87 _{a,b}	.34	.66 _a	.48	.67 _b	.47

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate higher rates of persistence for freshmen.

Table 12

Summary of Persistence Rates Two-Way ANOVA for Involvement and Gender

Source	df	SS	MS	F
Gender	1	.18	.18	.95
Involvement	2	3.25	1.62	8.68**
Gender*Involvement	2	.85	.43	2.28

** $p < .01$

Table 13

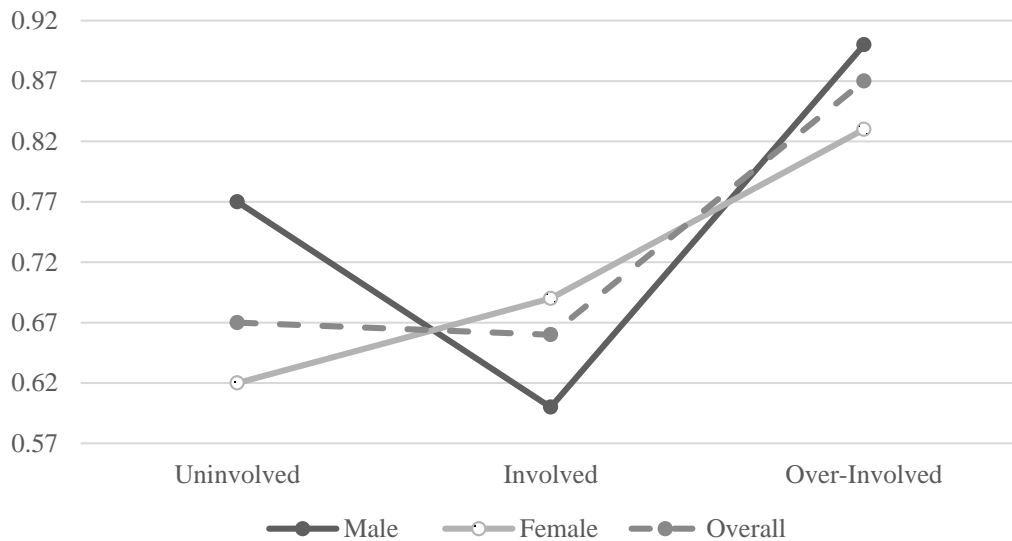
Two-Way ANOVA Post-Hoc Results for Persistence for Gender as a Function of Involvement

	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	.90 _a	.30	.60 _a	.49	.77 _a	.43
Female	.83 _{a,b}	.38	.69 _a	.47	.62 _b	.49

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

Figure 6

Persistence Rates Overall and Post-Hoc Results for Involvement and Gender



Research Question 5

What relationship exists between extracurricular involvement level and undergraduate duration of study? Additionally, does this relationship differ based on gender and class rank? A one-way ANOVA exploring the time in years spent at the university found significant differences across the three groups, $F(2, 614) = 10.56, p = .000$. As shown in Table 14, Games-Howell post-hoc results showed that over-involved students ($M = 4.418, 95\% \text{ CI } [4.33, 4.51]$) spent

significantly longer than involved students ($M = 4.123$, 95% CI [4.04, 4.21]). Uninvolved students ($M = 4.412$, 95% CI [4.29, 4.53]) also spent significantly longer than involved students. Comparisons between the over-involved and uninvolved students were not statistically significant at $p < .05$.

Table 14

ANOVA Post-Hoc Results for Duration of Study as a Function of Involvement Group

	Over-Involved (N= 215)		Involved (N=197)		Uninvolved (N=205)	
	M	SD	M	SD	M	SD
Duration of Study Lengths	4.42 _a	.68	4.12 _{a,b}	.63	4.41 _b	.87

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate a longer time length spent at the university.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on duration of study. As seen in Table 15, the main effect of gender was significant, $F(1, 611) = 11.58$, $p = .001$. Males reported lengthier tenures ($M = 4.42$, 95% CI [4.34, 4.50]) than females ($M = 4.22$, 95% CI [4.14, 4.30]). As reported in the one-way ANOVA results, a significant main effect of involvement on duration of study was found, $F(2, 611) = 9.95$, $p = .000$. However, these significant main effects were qualified by an interaction between gender and involvement, $F(2, 611) = 5.26$, $p = .005$. Seen in Table 16, when men ($M = 4.28$) and women ($M = 3.98$) were involved, they each reported the significantly lowest duration of study, respectively. Over-involved males spent the longest time ($M = 4.59$), while females who were uninvolved had the longest tenures ($M = 4.44$). The results of this interaction and comparison to overall duration of study are depicted in Figure 7.

Table 15

Summary of Duration of Study Two-Way ANOVA for Involvement and Gender and Class Rank

Source	df	SS	MS	F
Gender				
Gender	1	6.05	6.058	11.58**
Involvement	2	10.39	5.19	9.95**
Gender*Involvement	2	5.49	2.75	5.28**
Class Rank				
Class Rank	1	.102	.102	.190
Involvement	2	12.08	6.04	11.19**
Class Rank*Involvement	2	.797	.40	.74

** $p < .01$

Table 16

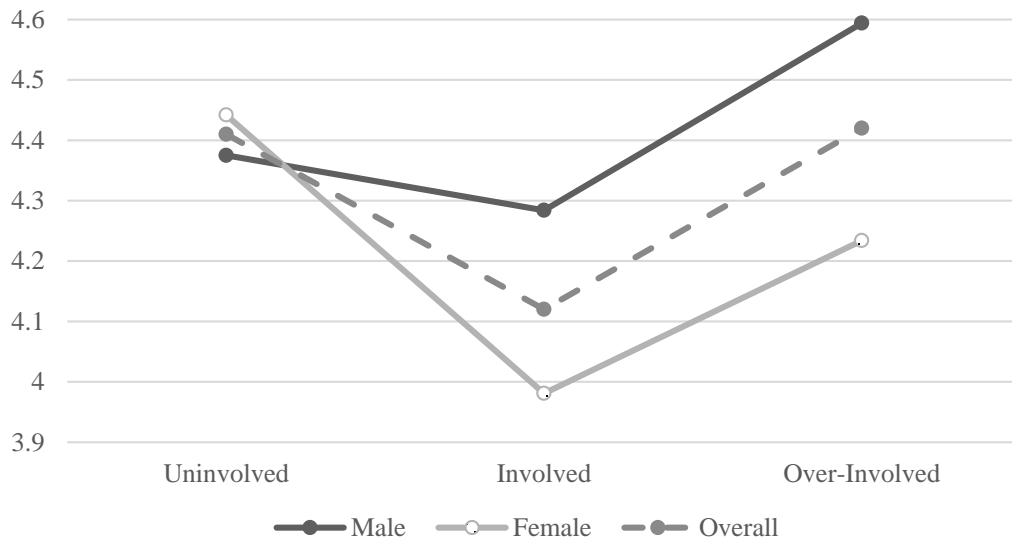
Two-Way ANOVA Post-Hoc Results for Duration of Study for Gender and Class Rank as a Function of Involvement

	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	4.59 _{a,b}	.70	4.28 _a	.75	4.38 _b	.86
Female	4.23 _a	.60	3.98 _a	.46	4.44 _a	.89
Freshman	4.40 _a	.63	4.04 _{a,b}	.63	4.46 _b	.63
Senior	4.43 _a	.71	4.16 _{a,b}	.63	4.39 _b	.97

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

Figure 7

Durations of Study Overall and Interaction Results for Involvement and Gender



Also, a two-way ANOVA of class rank (freshman, senior) and involvement (over-involved, involved, uninvolved) on duration of study was conducted. As seen in Table 15, the main effect of class rank was not significant, $F(1, 611) = .190, p = .663$. As reported in the one-way ANOVA results, a significant main effect of involvement on duration of study was found, $F(2, 611) = 11.19, p = .000$. Seen in Table 16, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did not change when considering class rank: both freshman and senior involved students ($M = 4.04, 4.16$) had lower lengths of duration of study than over-involved ($M = 4.40, 4.43$) and uninvolved students ($M = 4.46, 4.38$), who did not differ significantly from each other. There was not a statistically significant relationship between the interaction of class rank and involvement on duration of study, $F(2, 611) = .738, p = .479$.

Research Question 6

What relationship exists between extracurricular involvement level and undergraduate

graduation rates? Additionally, does this relationship differ based on gender and class rank? A one-way ANOVA investigating the rate of successful graduation found significant differences across the three groups, $F(2, 684) = 31.77, p = .000$. As shown in Table 17, Games-Howell post-hoc results revealed a linear relationship: over-involved students ($M = .87, 95\% \text{ CI } [.83, .92]$) had significantly higher graduation rates than both involved ($M = .74, 95\% \text{ CI } [.68, .79]$) and uninvolved students ($M = .55, 95\% \text{ CI } [.47, .62]$). Involved students also had significantly higher graduation rates than their uninvolved counterparts.

Table 17

ANOVA Post-Hoc Results for Graduation Rates as a Function of Involvement Group

	Over-Involved (N= 215)		Involved (N=197)		Uninvolved (N=205)	
	M	SD	M	SD	M	SD
Graduation Rate	.86 _a	.33	.74 _a	.44	.55 _a	.50

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate a higher rate of graduation.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on graduation rates. As seen in Table 18, a main effect of gender was not significant, $F(1, 681) = .103, p = .748$. As reported in one-way ANOVA results, a significant main effect of involvement on graduation rates was found, $F(2, 681) = 29.75, p = .000$. Shown in Table 19, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did not change when considering gender: both males and females reported a linear relationship between involvement and graduation rates. There was not a statistically significant relationship between the interaction of class rank and involvement on graduation rates, $F(2, 687) = .47, p = .628$.

Table 18

Summary of Graduation Rates Two-Way ANOVA for Involvement and Gender and Class Rank

Source	df	SS	MS	F
Gender				
Gender	1	.02	.02	.75
Involvement	2	10.63	5.32	29.75**
Gender*Involvement	2	.17	.09	.47
Class Rank				
Class Rank	1	36.92	36.92	308.96**
Involvement	2	20.86	10.43	87.26**
Class Rank*Involvement	2	8.73	4.37	36.53**

** $p < .01$

Table 19

Two-Way ANOVA Post-Hoc Results for Graduation Rates for Gender and Class Rank as a Function of Involvement

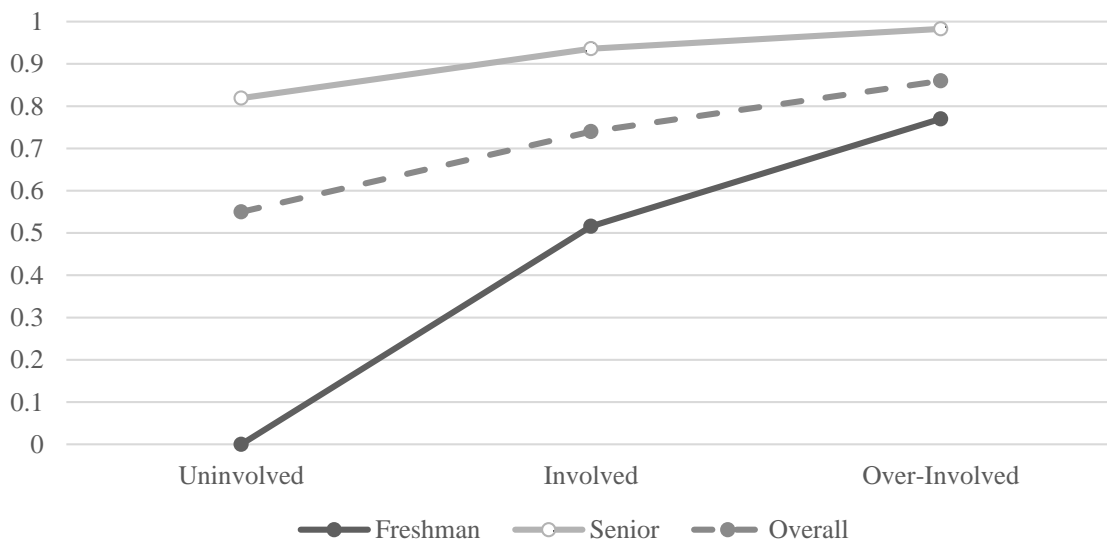
	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	.87 _a	.34	.73 _a	.45	.58 _a	.50
Female	.88 _a	.32	.74 _a	.44	.52 _a	.50
Freshman	.77 _a	.42	.52 _a	.50	.00 _a	.00
Senior	.98 _{a,b}	.13	.84 _a	.25	.82 _b	.39

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

Also, a two-way ANOVA of class rank (freshman, senior) and involvement (over-involved, involved, uninvolved) on graduation rates was conducted. As shown in Table 18, the main effect of class rank was significant, $F(1, 681) = 308.95, p = .000$. Seniors reported statistically higher rates of graduation ($M = .91, 95\% \text{ CI } [.88, .95]$) than freshmen ($M = .43, 95\% \text{ CI } [.39, .47]$). As reported in the one-way ANOVA results, a significant main effect of involvement on graduation rates was found, $F(2, 681) = 87.26, p = .000$. The class rank and involvement interaction was significant, though it did not qualify the main effects, $F(2, 815) = 2.94, p = .053$. Seen in Table 19, when over-involved, seniors ($M = .98$) had higher graduation rates than freshmen ($M = .77$). Likewise, when uninvolved, graduation rates were still higher for seniors ($M = .82$) than freshmen ($M = .55$), though the relative difference between class ranks was more marked when students were uninvolved. The results of this interaction and comparison to overall graduation rates are depicted in Figure 8.

Figure 8

Graduation Rates Overall and Interaction Results for Involvement and Class Rank



Research Question 7

What relationship exists between extracurricular involvement level and undergraduate academic challenge? Additionally, does this relationship differ based on gender and class rank?

A one-way ANOVA comparing means of the term of Level of Academic Challenge (LAC) revealed significant difference across the involvement groupings, $F(2, 773) = 11.132, p = .000$.

As seen in Table 20, Tukey's post-hoc comparisons found that over-involved students ($M = 2.910, 95\% \text{ CI } [2.85, 2.97]$) reported significantly higher perceived levels of academic challenge than both involved ($M = 2.781, 95\% \text{ CI } [2.72, 2.84]$) and uninvolved students ($M = 2.718, 95\% \text{ CI } [2.66, 2.78]$). The relationship between uninvolved and involved students failed to reach significance at $p < .05$.

Table 20

ANOVA Post-Hoc Results for Level of Academic Challenge as a Function of Involvement Group

	Over-Involved (<i>N</i> = 236)		Involved (<i>N</i> =252)		Uninvolved (<i>N</i> =288)	
	M	SD	M	SD	M	SD
Level of Academic Challenge	2.91 _{a,b}	.43	2.78 _a	.46	2.72 _b	.50

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate higher rates of level of academic challenge.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on level of academic challenge. As seen in Table 21, the main effect of gender was not significant, $F(1, 770) = .15, p = .702$. As reported in the one-way ANOVA results, a significant main effect of involvement on level of academic challenge was found, $F(2, 770) = 10.77, p = .000$. As seen in Table 22, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did not change when considering gender: both male and female

over-involved students ($M = 2.90, 2.92$) had higher LAC scores than involved ($M = 2.79, 2.78$) and uninvolved students ($M = 2.75, 2.70$), who did not differ significantly from each other.

There was not a statistically significant relationship between the interaction of class rank and involvement on level of academic challenge, $F(2, 770) = .37, p = .691$.

Table 21

Summary of LAC Two-Way ANOVA for Involvement as a function of Gender and Class Rank

Source	df	SS	MS	F
Gender				
Gender	1	.03	.03	.147
Involvement	2	4.74	2.37	10.77**
Gender*Involvement	2	.16	.08	.37
Class Rank				
Class Rank	1	3.56	3.56	16.76**
Involvement	2	5.88	2.94	13.83**
Class Rank*Involvement	2	1.97	.987	4.64**

** $p \leq .01$

Also, a two-way ANOVA of class rank (freshman, senior) and involvement (over-involved, involved, uninvolved) on level of academic challenge was conducted. As shown in Table 21, the main effect of class rank was significant, $F(1, 770) = 16.76, p = .000$. Seniors reported statistically higher levels of academic challenge ($M = 2.86, 95\% \text{ CI } [2.82, 2.91]$) than freshmen ($M = 2.73, 95\% \text{ CI } [2.68, 2.77]$). As reported in one-way ANOVA results, a significant main effect of involvement on graduation rates was found, $F(2, 770) = 13.83, p = .000$.

Table 22

Two-Way ANOVA Post-Hoc Results for LAC for Gender and Class Rank as a Function of Involvement

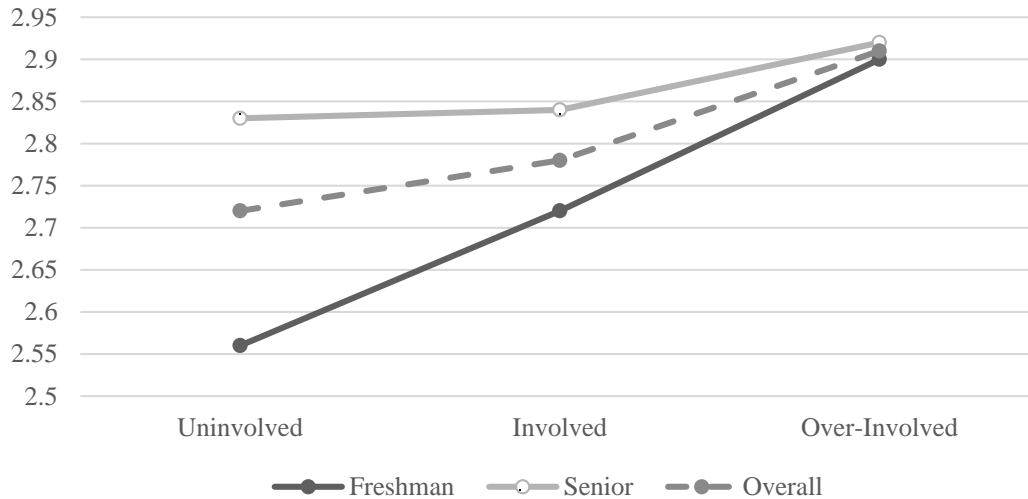
	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	2.90 _{a,b}	.45	2.79 _a	.50	2.75 _b	.53
Female	2.92 _{a,b}	.43	2.78 _a	.41	2.70 _b	.48
Freshman	2.90 _a	.43	2.72 _a	.39	2.56 _a	.42
Senior	2.92	.46	2.84	.50	2.83	.52

Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

The class rank and involvement interaction was significant, though it did not qualify the main effects, $F(2, 770) = 4.64, p = .010$. When over-involved, seniors ($M = 2.92$) had higher levels of academic challenge than freshmen ($M = 2.90$). Likewise, when uninvolved, levels of academic challenge were still higher for seniors ($M = 2.83$) than freshmen ($M = 2.56$), though the relative difference between class ranks was more marked when students were uninvolved. Shown in Table 22, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did change when considering class rank: freshmen had a significant linear relationship between involvement and LAC scores, while seniors did not significantly differ based on involvement level. The results of this interaction and comparison to overall LAC scores are depicted in Figure 9.

Figure 9

Level of Academic Challenge Overall and Interaction Results for Involvement and Class Rank



Research Question 8

What relationship exists between extracurricular involvement level and undergraduate relationships with faculty members? Additionally, does this relationship differ based on gender or class rank? A one-way ANOVA examining the term of Faculty-Student Interactions (FACRX) showed significant differences between the three groups, $F(2, 797) = 23.92, p = .000$. As shown in Table 23, Tukey's post-hoc comparisons indicated that over-involved students ($M = 2.86, 95\% \text{ CI } [2.79, 2.94]$) had significantly higher ratings of faculty interactions than uninvolved students ($M = 2.52, 95\% \text{ CI } [2.45, 2.59]$). Involved students ($M = 2.75, 95\% \text{ CI } [2.68, 2.82]$) also reported significantly higher FACRX scores than uninvolved students, while the relationship between over-involved and involved students did not reach significance at $p < .05$.

Table 23

ANOVA Post-Hoc Results for Faculty-Student Interactions as a Function of Involvement Group

	Over-Involved (N= 239)		Involved (N=260)		Uninvolved (N=301)	
	M	SD	M	SD	M	SD
Faculty-Student Interactions	2.86 _a	.61	2.75 _b	.58	2.52 _{a,b}	.58

Note: Means in a row sharing subscripts are significantly different. For all measures, higher means indicate higher rates of faculty-student interactions.

Additionally, a two-way ANOVA was conducted that examined the influence of gender (male, female) and involvement level (over-involved, involved, uninvolved) on faculty-student interactions. As seen in Table 24, the main effect of gender was not significant, $F(1, 794) = 3.37, p = .067$. As reported in the one-way ANOVA results, a significant main effect of

Table 24

Summary of FACRX Two-Way ANOVA for Involvement and Gender and Class Rank

Source	df	SS	MS	F
Gender				
Gender	1	1.17	1.17	3.37
Involvement	1	15.70	7.85	22.73**
Gender*Involvement	2	.60	.30	.86
Class Rank				
Class Rank	1	17.64	17.64	54.32**
Involvement	2	19.15	9.57	29.48**
Class Rank*Involvement	2	.28	.14	.43

** $p < .01$

Table 25

Two-Way ANOVA Post-Hoc Results for FACRX for Gender and Class Rank as a Function of Involvement

	Over-Involved		Involved		Uninvolved	
	M	SD	M	SD	M	SD
Male	2.86 _a	.62	2.81 _b	.61	2.56 _{a,b}	.60
Female	2.86 _a	.59	2.69 _a	.54	2.47 _a	.57
Freshman	2.74 _{a,b}	.55	2.56 _a	.50	2.45 _b	.53
Senior	3.00 _a	.64	2.91 _b	.60	2.64 _{a,b}	.59

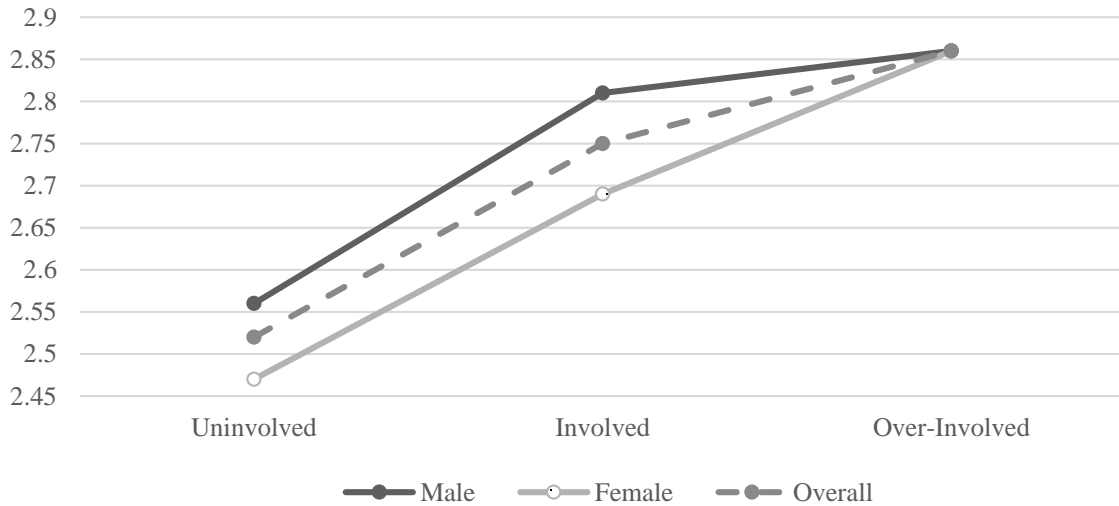
Note: Means in a row sharing subscripts are significantly different based on Tukey's HSD.

involvement on faculty-student interactions was found, $F(2, 794) = 22.74, p = .000$. As shown in Table 25, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did change when considering gender, but only for females. Males displayed the same pattern as overall FACRX score, with uninvolved males ($M = 2.58$) reporting lower scores than involved ($M = 2.81$) and over-involved males ($M = 2.86$), who did not differ from each other. Alternatively, for females, the relationship between involvement level and FACRX scores became positive and significantly linear (see Table 25). The post-hoc results for gender and comparison to overall faculty-student interacts are depicted in Figure 10. There was not a statistically significant relationship between the interaction of class rank and involvement on faculty-student interactions, $F(2, 294) = .86, p = .422$.

Also, a two-way ANOVA of class rank (freshman, senior) and involvement (over-involved, involved, uninvolved) on faculty-student interactions was conducted. As shown in Table 24, the main effect of class rank was significant, $F(1, 794) = 54.32, p = .000$. Seniors

Figure 10

Post-Hoc Results for Gender and Overall Faculty-Student Interaction



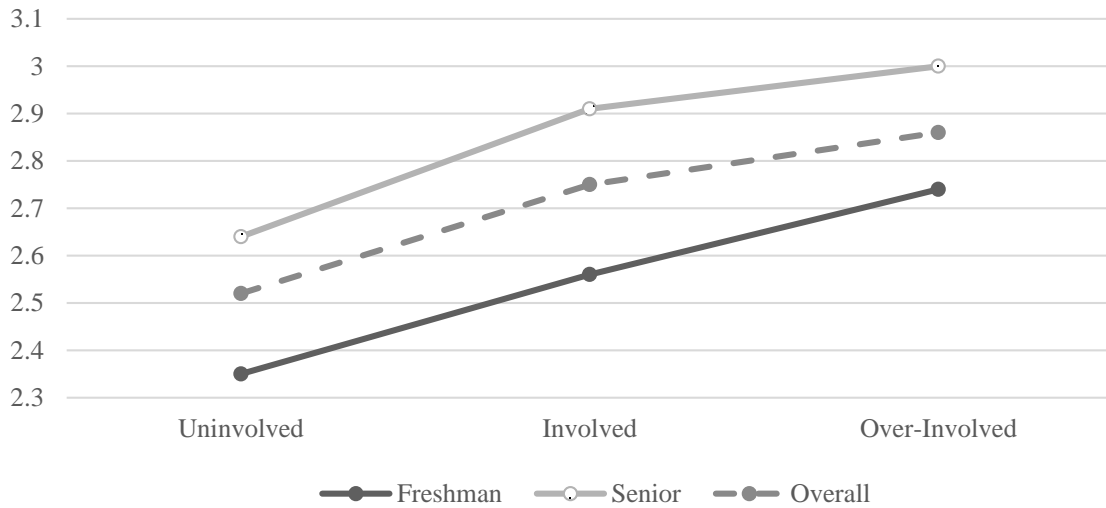
Reported statistically higher scores ($M = 2.85$, 95% CI [2.79, 2.90]) than freshmen ($M = 2.55$, 95% CI [2.49, 2.61]). As reported in the one-way ANOVA results, a significant main effect of involvement on faculty-student interactions was found, $F(2, 794) = 29.50, p = .000$. Shown in Table 25, post-hoc analyses using Tukey's HSD indicated that the original relationship revealed in the one-way ANOVA results did change when considering class rank, but only for freshmen. Seniors displayed the same pattern as overall FACRX scores, with uninvolved students ($M = 2.64$) reporting lower scores than both involved ($M = 2.91$) and over-involved students ($M = 3.00$), who did not significantly differ from each other.

Alternatively, freshman over-involved students ($M = 2.74$) had higher FACRX scores than both involved ($M = 2.56$) and uninvolved students ($M = 2.35$), who did not differ significantly from each other. There was not a statistically significant relationship between the interaction of class rank and involvement on faculty-student interactions, $F(2, 794) = .427, p = .652$. The results highlighting the main effect of class rank and comparison to overall FACRX

scores are depicted in Figure 11.

Figure 11

Main Effect for Class Rank and Overall Faculty-Student Interaction



Summary

Demographic information for the population and sample were presented. A one-way ANOVA design was conducted for each of the independent variables to test whether there were significant differences between involvement groupings and the measures of academic success. The results highlighted various outcomes based on involvement and a summary of these outcomes is present in Table 26. Out of the involvement groupings, over-involved students were found to have statistically higher retention rates, persistence rates, duration of study, graduation rates, levels of academic challenge, and levels of faculty-student interactions than the other groups. Involved students were found to have higher spring and cumulative GPAs, as well as the shortest times to completion. Several notable non-significant relationships were also presented.

Two-way ANOVAs were also conducted to explore the possible changes of these relationships based on both gender and class rank. The results showcased both interaction and main

Table 26

Summary of Post-Hoc Results for All Measures

	Overall	Male	Female	Freshman	Senior
Spring GPA	I, O > U	I, O > U	I, O > U	I, O > U	I > O > U
Final GPA	I, O > U	I, O > U	I, O > U	O > I > U	I > O > U
Retention	O > I, U	O, U > I	O > U	N/A	N/A
Persistence	O > I, U	O > U > I	O > I, U	N/A	N/A
Duration of Study	O, U > I	O > I, U	U > O > I	O, U > I	O, U > I
Graduation	O > I > U	O > I > U	O > I > U	O > I > U	O > I, U
Academic Challenge	O > I, U	O > I, U	O > I, U	O > I > U	None
Faculty Interactions	O, I > U	O, I > U	O > I > U	O > I, U	O, I > U

Note: Over-involvement is signified by “O,” Involvement is signified by “I,” and Uninvolved is signified by “U.” Relationships represented by a > are significant at $p < .05$, while those separated by a comma are not significant. Retention and persistence did not allow analysis based on gender, and no significant difference were found for seniors concerning LAC.

effects for gender and class rank. Specifically, regardless of involvement, women were shown to have higher GPAs than men. More so, males spent longer at the university, except for at the uninvolved level: when uninvolved, females spent longer than males. Specifically for male students, being involved was linked to the lowest retention rates compared to both the uninvolved and over-involved levels. Likewise, seniors were found to have higher rates of graduation and GPAs than freshmen, despite involvement levels. The same pattern was found for level of academic challenge, as seniors reported higher levels than freshmen regardless of their involvement. Chapter 5 will present the summary, conclusions, implications, and recommendations of the study.

Chapter 5

Summary, Conclusions, Discussion, Implications, and Recommendations

Introduction

Chapter 1 addressed the statement of the problem, theoretical framework, purpose of the study, objectives of the study, research questions, significance of the study, limitations and assumptions of study, and definitions of the terms. Chapter 2 reviewed the literature surrounding involvement in high school, the positive and negative implications of involvement, and the scant literature focused on the phenomenon of over-involvement. Chapter 3 then addressed participants, procedure, and instrumentation, focusing on the utilization, reliability, and validity of the National Survey of Student Engagement (NSSE). The variables derived from the NSSE, as well as those from institutional data, were described. Chapter 3 concluded with the analysis strategies for the data. Chapter 4 addressed the demographic results and data analysis. Statistical findings addressing the eight research questions were presented. Chapter 5 will provide a summary, conclusions, implications, and recommendations for future research.

The purpose of this study was to highlight the relationship between undergraduate over involvement in extracurricular activities and academic success measures (GPA, retention, persistence, duration of study, graduation rates, and level of academic challenge) and faculty-student interactions. As illustrated in the literature review, there is currently a gap in modern knowledge concerning the influence of extracurricular over-involvement on student academic success.

Research Questions

This study aimed to seek answers to the following questions:

1. What are the demographic characteristics of undergraduate students who are over-involved in extracurricular activities?
2. What relationship exists between extracurricular involvement level and undergraduate GPA? Does this relationship change based on gender or class rank?
3. What relationship exists between extracurricular involvement level and undergraduate retention? Does this relationship change based on gender?
4. What relationship exists between extracurricular involvement level and undergraduate persistence? Does this relationship change based on gender?
5. What relationship exists between extracurricular involvement level and undergraduate duration of study? Does this relationship change based on gender or class rank?
6. What relationship exists between extracurricular involvement level and undergraduate graduation rates? Does this relationship change based on gender or class rank?
7. What relationship exists between extracurricular involvement level and undergraduate academic challenge? Does this relationship change based on gender or class rank?
8. What relationship exists between extracurricular involvement level and undergraduate relationships with faculty members? Does this relationship change based on gender or class rank?

Summary

The participants of this study were selected from a large southeastern university which serves approximately 25,000 students. Participants were drawn from the 1,462 freshmen and seniors who participated in the National Survey of Student Engagement (NSSE) in the spring of

2008. An over-involvement group of 246 was identified based on their responses, and matched groups of those who were involved and uninvolved were created, resulting in a sample size of 821.

In order to assess the relationship between involvement levels and several measures of academic success, results from the NSSE were analyzed. Level of Academic Challenge (LAC), constructed of 11 questions, showcased the perceived level of challenge presented by students' courses and the university atmosphere. Faculty-Student Interactions (FACRX), constructed of six questions, assessed the quality and assessment of interaction with faculty members. The other variables of retention, persistence, duration of study, graduation, and both current and cumulative GPAs were gathered from institutional data provided by the Office of Institutional Research and Assessment.

The data were analyzed by both one-way ANOVAs and two-way ANOVAs to examine the difference between involvement levels and the influence of gender and class rank, respectively. Research Question 1 addressed the demographic characteristics of over-involved students. Research Question 2 addressed the relationship between involvement level and GPA. The ANOVA results for both current, $F(2, 815) = 15.57, p = .000$, and cumulative GPA, $F(2, 818) = 16.100, p = .000$, revealed a difference between the three groups. For both spring and cumulative GPAs, involved students reported statistically higher GPAs (3.07, 3.06) than uninvolved students (2.79, 2.79), who had lower GPAs than over-involved students (3.03, 3.05). There was no statistical significance between over-involved and involved students for either spring or final GPAs. A two-way ANOVA was conducted to determine the influence of both gender and class rank on GPAs. For both spring and final GPAs, females reported higher GPAs than males, regardless of their involvement level. Seniors also reported higher spring and final

GPA's regardless of involvement level. There was neither a statistically significant relationship between the interactions of involvement and gender nor class rank on spring or final GPA's. However, for senior spring and final GPA's, there was a pronounced improvement for involved students over uninvolved ones, while over-involved seniors experienced a drop-off in GPA's. This non-linear relationship differs from that of freshmen, who reported higher GPA's as involvement level rose.

Research Question 3 examined the relationship between involvement level and retention. One-way ANOVA results revealed a difference based on involvement level, $F(2, 375) = 5.885, p = .003$. Over-involved students had higher retention rates (.96) than both involved (.83) and uninvolved students (.85), who did not differ statistically from each other. A two-way ANOVA was conducted to examine the influence of gender, finding an interaction between gender and involvement level, $F(2, 372) = .3.20, p = .046$. Males were retained at higher rates than females, except when involved, where their rates were significantly the lowest. Females reported a more linear relationship, as retention rates rose with involvement level. While over-involvement resulted in the highest retention rates for each, men who were uninvolved were also retained at significantly higher rates than when involved.

Research Question 4 investigated the relationship between involvement level and persistence, finding a significant difference across groups, $F(2, 375) = 8.81, p = .000$. Over-involved students had higher rates of persistence (.87) than both involved (.66) and uninvolved students (.67), who did not differ from each other significantly. Results of the two-way ANOVA examining the influence of gender did not find a main effect for gender nor an interaction effect.

Research Question 5 examined the relationship between involvement level and duration of study, finding a significant difference across groups, $F(2, 614) = 10.56, p = .000$. Involved

students had the shortest duration of study (4.12 years) than both the uninvolved (4.41 years) and over-involved students (4.42 years), who did not differ significantly from each other. Although this non-linear relationship remained regardless of gender, an interaction was reported through two-way ANOVA results: males spent longer at the university than females, except when uninvolved. Over-involved males spent considerably more time, while uninvolved females spent the most time. For both genders, involved students spent the least amount of time on the road to graduation. Two-way ANOVA analyses failed to find a significant main effect or interaction effect for class rank.

Research Question 6 investigated the relationship between involvement level and graduation rates, finding a significant difference across groups, $F(2, 684) = 31.77, p = .000$. A linear and positive relationship was revealed, as graduation rates rose parallel to involvement level. Although there was not a main or interaction effect for gender, two-way ANOVA results revealed that seniors had higher graduation rates than freshmen. Freshmen followed the linear pattern presented in the ANOVA results, while over-involved seniors had higher rates than the other involvement groups, who did not differ from each other.

Research Question 7 examined the relationship between involvement level and academic challenge, finding a significant difference across groups, $F(2, 773) = 11.132, p = .000$. Over-involved students reported higher LAC scores (2.91) than both involved (2.78) and uninvolved students (2.72), who did not significantly differ from each other. Although there was not a main or interaction effect for gender, two-way ANOVA results revealed that seniors had higher LAC scores than freshmen. However, freshman students reported a significantly linear relationship, while senior LAC scores did not differ significantly based on involvement level.

Research Question 8 investigated the relationship between involvement level and faculty

interactions, finding a significant difference across groups, $F(2, 797) = 23.917, p = .000$.

Uninvolved students reported lower FACRX scores (2.52) than both involved (2.75) and over-involved students (2.86), who did not differ significantly from each other. Although there was not a main or interaction effect for gender, two-way ANOVA results revealed that seniors had higher FACRX scores than freshmen. The linear, yet non-significant, relationship held for both males and seniors, while females reported a significantly linear relationship and freshman failed to have a significant difference between involved and uninvolved.

Conclusions

To the extent that the data collected for this study were valid and reliable and the assumptions of the study were appropriate and correct, several conclusions can be made. First, there are significant differences between involvement groups on every measure of academic success presented (spring and final GPA, retention, persistence, duration of study, graduation rates, academic challenge, and faculty interactions). Specifically concerning GPAs, involved students reported the highest GPAs, yet not significantly higher than over-involved students. This underscores the value of involvement in general, as uninvolved students reported both the lowest spring and final GPAs, regardless of gender or class rank. What did alter based on class rank concerned the involved and over-involved groups. For seniors, the involved groups had significantly better spring and final GPAs than the over-involved, while freshmen reported a linear relationship for final GPAs. This suggests that seniors, who are likely in major-specific classes, require more time to focus on academics rather than extracurriculars. What is notable is that the trajectory for cumulative GPAs of freshmen and seniors do not mirror each other: it would be assumed that when the freshmen become seniors and have final GPAs, they too would start to need more academic-focused time. Yet, for final GPAs of those freshmen at the time of

the survey, a linear relationship was reported. This could be explained in a couple of ways. It could be a result of the attrition of freshmen who were over-involved or uninvolved over the four years, resulting in an over-involved category of those who are confident and able to handle the balance. Alternatively, it could be a result of the instrumentation: the NSSE asked about current involvement levels, and cannot provide involvement levels over the next three years for freshmen, nor did it provide involvement levels for the previous three years for seniors. The results simply indicate that final GPAs had a positive relationship with freshman involvement levels. This showcases the importance of getting involved early, as those who reported such early involvement did have better results than those who reported the same activity level three years later.

Over-involvement was highlighted on the measures of retention, persistence, and LAC—for these measures, there was no significant difference between involvement and uninvolved, emphasizing the unique benefit of over-involvement. Concerning retention, the importance of involvement differs for males and females. Although over-involved students reported the highest retention rates, uninvolved males were retained at higher rates than involved males. This differed from the linear relationship of females. Thus, for males, the results suggest that to acquire the retention benefits of involvement, over-involvement is required. Otherwise, males could remain uninvolved and be retained at similar rates as those who are over-involved. Alternatively, over-involvement is best for women when compared to uninvolved only. Retention for women does not differ when involved from either over-involvement or uninvolved, suggesting a need to push women beyond simple involvement into over-involvement in order to increase retention.

Concerning persistence rates, over-involvement continued to produce the best results when considering gender, while a unique finding for involved males arose: involved males no longer reported similar persistence rates as uninvolved, but actually reported significantly lower rates. This suggests that for males only, over-involvement and uninvolved are better than involvement when considering persistence. Perhaps males are engaging in different activities than females, which are less intense or rewarding at moderate levels than females. Exploring the different types and quantities of male and female activities and creating strategic plans based on these results could prove useful.

Concerning duration of study, involved students consistently spent the shortest amount of time while reaching graduation, regardless of either gender or class rank. Overall, while involved students spent the shortest, there was not a significant difference between the other groups, highlighting the unique value of involvement. While both males and females had the shortest duration of study when involved, the relationship altered: over-involved males and uninvolved females required the most amount of time. Again, this variation between genders points to a potential underlying difference concerning the type or intensity of activities which could explain their incongruous outcomes despite equal hours spent. The original pattern of persistence held for class rank, supporting the unique value of involvement regardless of rank.

Concerning graduation rates, a linear relationship with involvement was found overall and for both genders and freshmen. Although seniors reported a slightly different relationship, over-involved students of both genders and classes reported significantly higher graduation rates than any other involvement group. Although, as seen by the results of question 6, over-involved students spent more time at the university, the end of their collegiate journey is likely graduation. This is also paralleled by the results of uninvolved students who also spent considerable time in

college, but are least likely to graduate. In fact, freshmen who are uninvolved reported a .00 rate of graduation, showcasing the necessity of early involvement.

Concerning level of academic challenge, over-involved students had higher scores than both other groups, who did not differ from each other. This highlights the unique value of this particular form of involvement. The original LAC results were mirrored when examining gender, but shifted when looking at class rank: a linear relationship exists for freshman involvement level and LAC, while there is no difference between the involvement groups for seniors. Now fully immersed in their core classes, senior students are likely to report heavy academic challenge regardless of their extracurricular load.

Finally, concerning faculty interactions, the negative influence of uninvolved students was highlighted, as uninvolved students, males, and seniors had the lowest FACRX scores while involved and over-involved students did not differ significantly. This emphasizes the value of involvement in general, rather than any one level. Alternatively, over-involved females and freshmen reported significantly higher scores than involved students, showcasing the unique benefit of this heightened level.

Implications

The review of literature discussed in Chapter 2 established both the positive influence of involvement for college students as well as potential limits to these benefits. Involvement was found to positively link to cognitive growth (Tieu et al., 2010), higher grades and knowledge attainment (Astin, 1993), persistence (Pascarella et al., 1986), and overall adjustment (Busseri et al., 2010). Conversely, researchers also found that over-involvement detracts from academics, both in preparation (Cheung & Kwok, 1998; Hlavac et al., 2010) and grade outcomes (Brint & Cantwell, 2010; Kuh et al., 2008; Yin & Lei, 2007). If true, involvement could influence

persistence, as researchers posited that those with lower GPAs were more likely to succumb to attrition or fail to be retained (Kern et al., 1998; Kuh et al., 2008).

The literature review presented conflicting data concerning academic performance and involvement. The results of this study were consistent with the distraction theory (Black, 2002; Brint & Cantwell, 2010; Coleman 1961; Marsh 1992; Marsh & Kleitman 2002), as involved students had the highest GPAs. However, over-involved students did not report significantly lower GPAs than those who were involved, supporting the claims that involvement does increase grades. Perhaps high levels of extracurricular involvement are only beneficial when matched with co-curricular involvement and not when the former overshadows the latter (Huang & Change, 2004). Still, this relationship was not linear, and thus lends credence to the idea that the benefits of involvement for GPAs do level out, rather than increase, at the highest levels (Kuh et al., 2008). These results bolster the findings of Marsh and Kleitman (2002) who discovered the utilization of a quadratic model superseded the previously seen linear relationship between involvement and grades, completing homework, and future aspirations. In fact, seniors reported this drop-off significantly, highlighting the need for moderation while taking harder, more advanced classes. This was also present for freshman final GPAs, suggesting that over-involvement's benefit degrades after the first few years. Thus, as many universities are currently doing, freshmen and sophomores should be heavily encouraged to join activities and become involved, while upperclassmen should be encouraged to seek a moderate level of involvement in order to allow for sufficient time to dedicate to academics.

Results of this study support the findings of Kuh et al. (2008), who found that those who spent over 21 hours a week in extracurriculars were more likely to be retained and persist. Likewise, this study found that over-involved students had significantly higher retention and

persistence rates. Of note, involved and uninvolved students did not differ from each other, signifying the importance of higher levels of involvement. Yet, this unique value waned when examining gender: for retention rates, over-involved males did not differ from uninvolved males and over-involved females did not differ from involved females. In fact, even uninvolved males reported significantly higher retention rates than involved ones. Relatedly, a significant non-linear relationship was present for males and persistence rates, with involved males reporting the lowest rates. This finding might be related to differences in course load, as taking a lighter course load negatively predicted retention (Kuh et al., 2008), and involvement is linked to taking a less than full course load (DeBard et al., 2006). Thus, institutions who are struggling with retention and persistence, especially for male students, could pilot course load requirements for those involved in certain campus activities.

For these universities concerned with retention and persistence, these results suggest a need for individualized efforts, rather than a blanket approach. Clearly, there are different outcomes between the genders, and thus involvement recruitment and enrollment needs to vary based on this demographic. Research has shown that GPA is one of the strongest predictors of attrition (Kern et al., 1998; Lufi et al., 2003; Nagda et al., 1998). As shown in results of question 2, those who are involved reported higher GPAs. Thus, although over-involved students were shown to retain and persist at high rates, increased GPAs could result in even higher rates. Universities could target over-involved students with academic success tips, strategies, and initiatives to increase GPAs and allow for the optimal environment for retention and persistence.

Research on duration of study was very scant concerning involvement; yet, researchers posited that employment and its distraction from academics and added constraints on time could contribute to a longer duration of study (Bound et al., 2012; Tyson, 2012). Filling in the

literature gap examining involvement and duration of study, the results of this study found that involved students had significantly shorter times of study. Confirming the notion that over-involvement might require students to take a lighter course load each semester in order to have time for their extracurricular involvement (DeBard et al., 2006), over-involved males and seniors reported their longest tenures when over-involved. Research posited that males had a lengthier durations of study (Crissman-Ishler, 2005), which was partially supported by this study: an interaction effect was discovered, as males did spend longer than females, except when uninvolved. Rather than presuming a benefit of uninvolved for males, this stresses the added detriment of this level for females. As stated, a nation-wide epidemic of staying in college past the expected length can have detrimental outcomes (Bati et al., 2013; Garibaldi et al., 2010; Turner, 2005), and involvement might be beneficial to their cause. Owing to the fact that uninvolved students also stayed longer than involved, involvement—in moderation—should be encouraged and monitored to assist in students staying for the appropriate amount of time.

Involvement research on graduation rates was similarly rare as that concerning duration of study. Research has shown that for some students, extracurricular involvement was associated with higher rates of graduation (Byun et al., 2012; Derby, 2006). The results of this study bolster these initial findings, as a linear relationship between involvement and graduation rates was present for overall, both genders, and freshmen. Perhaps there is support for the claim that faculty advisors are helping promote graduation. Also, as seen by the results of question 5, over-involved students spent longer at the university, but were successful in doing so. This finding may highlight the fact that those who stay longer eventually do graduate, rather than showcasing an inherent value of over-involvement. Yet, as that was not explicitly explored here, it does emphasize the unique benefit of over-involvement.

Research has found that those who spend more time preparing for classes, an element in the perceived level of academic challenge, perform better (Gordon et al., 20007; Lahmers & Zulauf, 2000). The results of this study fill the literature gap concerning involvement and academic challenge, finding that over-involved students had higher LAC scores, while involved and uninvolved did not differ from each other. This remained for both genders, allowing involvement efforts and policies to be similar for each. Yet, the relationship does change for class rank. Where involved and uninvolved students did not differ significantly overall, uninvolved freshmen reported the lowest LAC scores. This again affirms the need for early involvement. Conversely, involvement had no influence for seniors. In conjunction with the other findings, it appears seniors do not need involvement in the same manner as they did as first-year students. University efforts could be tailored to target first-year students, rather than casting a wider net. However, upperclassmen should not be ignored, but rather recognized for their need to reprioritize their time since arriving on campus.

While organizations and extracurricular activities provide a unique avenue to interact with faculty members (Nadler, 1997), students who have several non-academic time commitments are often unavailable to meet with faculty during office hours (Haworth, 1999). Yet, even those students who interacted with faculty only moderately still had positive views of their relationship with faculty (Lundberg, 2003). This study supports Lundberg (2003) and Nadler (1997), as those who were uninvolved had the lowest FACRX scores, while involved and over-involved did not differ from each other. This showcases the detriment of uninvovlement and the benefit of general involvement. Yet, institutional efforts must change for each gender and class rank. Males reported this same pattern, while females had a linear relationship. This showcases the heightened need for women to be involved, especially at higher levels. Likewise,

freshmen broke the mold, as over-involvement was better than involvement and uninvolvement, who did not differ from each other. This underscores the unique benefit of over-involvement for freshmen that is not present for seniors. This pattern was seen throughout the findings, solidifying the difference between the two class ranks and their respective needs. Universities, regardless of their unique struggles, should recognize the inherent need for freshmen to be involved in order to reap the several academic success benefits. For those who have first-year experience programs, these findings could be utilized when campaigning for more departmental or institutional recognition or in funding efforts. Likewise, institutions trying to develop such programs should use these results as a motivating factor to begin such a valuable initiative.

Recommendations

This study was conducted to explore involvement, especially the under-studied phenomenon of over-involvement, on several measures of academic success. As an exploratory study, replication and continued studies are essential; as such, there are several recommendations for the replication of this study.

First, several of the results differed based on gender (spring and final GPAs, retention, duration of study, and FACRX scores). Although they reported dedicating the same amount of time, perhaps there are differences in the amount of activities or the types in which each gender engages. A study could expand upon these results to determine the type, intensity, or breadth of each gender's involvement, as these factors have been shown to be influential (Fredericks, 2012). Quality of activities has also been shown to influence outcomes measures (Astin, 1993; Tieu et al., 2009), which should prompt future researchers to include both quality and quantity of involvement.

Second, future studies would also be strengthened by using instruments that expand upon self-reported data. It has been shown to be difficult for students to recall the amount of time spent on activities, the number of books read in an entire semester, or the hours spent studying in the past week (Porter, Rumann, & Pontius, 2011). Research that asks students to track their hours throughout a week or one that bolster survey instruments with teacher or syllabus information could present stronger and more accurate findings. Also survey instruments which include elements of stress or anxiety would showcase a pivotal piece of student success, as over-involved students are likely experiencing high levels of stress (May & Casazza, 2012).

Third, replications of this study would be valuable if students from diverse backgrounds were analyzed. Although over 800 students were analyzed, 87% were White, leaving all other racial groups to comprise the remaining 13%. A more heterogeneous population could result in different outcomes. Also, this population did not allow for race to be analyzed in the same manner of gender and class rank, as the resultant group sizes would be too small for sufficient statistical power. Replications that include a wider range and larger quantities of non-White students could allow for such further analyses.

Fourth, future studies could explore involvement longitudinally, to better highlight and explain the found discrepancies between class ranks, especially concerning cumulative GPAs. This would provide a trajectory of involvement for the same individuals over time, rather than comparing different individuals as seniors and freshmen. Also, this would adjust for any time-restrictive or cohort-specific characteristics that might be present.

A fifth recommendation for future studies would be to compare those who were successful in attaining their degree against those who were not. This would allow a breakdown of “successful” students’ involvement levels. This may be especially useful, as this study

included many students in each involvement group who did not attain their degree whose results would not be recommended for best practices.

Finally, as seen in the results, many of the dependent variables are not independent from each other. Thus, future studies could explore the mediation factors between some of the presented measures in order to get a more accurate depiction. Future studies could follow the advice of Busseri and Rose-Krasnor (2009) and look at moderating or amplifying factors which could contribute to the results.

References

- ACT. (2010). *What works in student retention? Fourth national survey* [Data file]. Retrieved from <http://www.act.org/research/policymakers/pdf/droptables/PublicFour-YrColleges.pdf>.
- ACT. (2012). *Completion trends* [Data file]. Retrieved from http://www.act.org/research/policymakers/pdf/12retain_trends.pdf.
- ACT. (2012). *National collegiate retention and persistence to degree rates* [Data file]. Retrieved from http://www.act.org/research/policymakers/pdf/retain_2012.pdf.
- Adlaf, E. M., Gliksman, L., Demers, A., & Newton-Taylor, B. (2001). The prevalence of elevated psychological distress among Canadian undergraduates: Findings from the 1998 Canadian Campus Survey. *Journal of American College Health, 50*, 67 – 72.
- Allen, J., & Robbins, S. (2010). Effects of interest-major congruence, motivation, and academic performance on timely degree attainment. *Journal of Counseling Psychology, 57*, 23-35
- Arulampalam, W., Naylor, R. A., & Smith, J. (2012). Am I missing something? The effects of absence from class on student performance. *Economics of Education Review, 31*, 363-375.
- Arum, R., & Roksa, J. (2011). *Academically adrift: Limited learning on college campuses*. Chicago, IL: University of Chicago Press.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass.
- Astin, A. W. (1977). *Four critical years*. San Francisco: Jossey-Bass.

- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal for College Student Personnel*, 25, 297–309.
- Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey Bass.
- Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 40, 518-529
- Babcock, P., & Marks, M. (2011). The falling time cost of college: Evidence from half a century of time-use data. *Review of Economics and Statistics*, 93, 468-478.
- Baker, C. N. (2008). Under-represented college students and extracurricular involvement: The effects of various student organizations on academic performance. *Social Psychological Education*, 11, 273-298.
- Baltes, P. B., Staudinger, U. M., & Lindenberger, U. (1999). Lifespan psychology: Theory and application to intellectual functioning. *Annual Review of Psychology*, 50, 471 – 507.
- Barba, W. C. (1995). *Higher education in crisis: New York in national perspective*. New York: Taylor & Francis.
- Barnett, R. (2010). Life-wide education: A new and transformative concept for higher education? In Norman J. Jackson (Ed.), *Learning for a complex world: A life wide concept of learning, education, and personal development* (pp. 22-39). Bloomington, IN: Author House.
- Bati, A. H., Mandiracioglu, A., Orgun, F., & Govsa, F. (2013). Why do students miss lectures? A study of lecture attendance amongst students of health science. *Nurse Education Today*, 33, 596–601
- Baxter Magolda, M. B. (1992). Co-curricular influences on college students' intellectual

- development. *Journal of College Student Development*, 33, 203-213.
- Bergen-Cico, D., & Viscomi, J. (2013). Exploring the association between campus co-curricular involvement and academic achievement. *College Student Retention*, 14, 329-343.
- Black, S. (2002). The well-rounded student. *American School Board Journal*, 189, 33-35.
- Bound, J., Lovenheim, M. F., & Turner, S. (2007). Understanding the decrease in college completion rates and the increased time to the baccalaureate degree. *Population Studies Center Research Project 07-626*, 1-92.
- Bound, J., Lovenheim, M. F., & Turner, S. (2012). Increasing time to baccalaureate degree in the United States. *Education*, 7, 375-424.
- Braddock, J. H., II. (1981). Race, athletics, and educational attainment: Dispelling the myths. *Youth & Society*, 12, 335-350.
- Braxton, J. M., Bray, N. J., & Berger, J. B. (2000). Faculty teaching skills and their influence on the college student departure process. *Journal of College Student Development*, 41, 215-227.
- Braxton, J. M., Duster, M., & Pascarella, E. T. (1988). Causal modeling and path analysis: An introduction and an illustration in student attrition research. *Journal of College Student Development*, 29, 263-272.
- Braxton, J. M., Hirschy, A. S., & McClendon, S. A. (2004). *Understanding and reducing college student departure*. Washington, DC: School of Education and Human Development, The George Washington University.
- Bray, S. R., & Born, M. Y. W. (2004). Physical activity is associated with better health and psychological well-being during the transition to university life. *Journal of American College Health*, 55, 77 – 82.

- Brint, S., & Cantwell, A. M. (2010). Undergraduate time use and academic outcomes: Results from the University of California Undergraduate Experience Survey 2006. *Teachers College Record, 112*, 2441-2470.
- Busseri, M. A., & Rose-Krasnor, L. (2009). Breadth and intensity: Salient, separable, and developmentally significant dimensions of structured youth activity involvement. *British Journal of Developmental Psychology, 27*, 907 – 933.
- Busseri, M. A., Rose-Krasnor, L., Pancer, S. M., Pratt, M. W., Adams, G. R., Birnie-Lefcovitch, S.,...Wintre, M. G. (2010). A longitudinal study of breadth and intensity of activity involvement and the transition to university. *Journal of Research on Adolescence, 21*, 512-518.
- Byun, S., Irvin, M. J., & Meece, J. L. (2012). Predictors of Bachelor's degree completion among rural students at four-year institutions. *The Review of Higher Education, 35*, 463-484.
- Call, R. W. (1974). *A comparison of academic achievement and student involvement in extracurricular activity*. (Unpublished doctoral dissertation). Nova University, Fort Lauderdale, FL.
- Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education, 47*, 1-32.
- Carnevale, A., & Rose, S. (2011). *The college payoff: Education, occupations, and lifetime earnings*. Washington, DC: Georgetown Center on Education and Workforce.
- Case, K. F. (2011). A gendered perspective on student involvement in collegiate clubs and organizations in Christian higher education. *Christian Higher Education, 10*, 166-195.
- Centra, J. A., & Rock, D. A. (1971). College environments and student academic achievement. *American Educational Research Journal, 8*, 623-634.

- Cerrito, P. B., & Levi, I. (1999). An investigation of student habits in mathematics courses. *College Student Journal, 33*, 584-588.
- Cheung, C., & Kwok, S. (1998). Activities and academic achievement among college students. *The Journal of Genetic Psychology: Research and Theory on Human Development, 159*, 147-162.
- Chickering, A. (1969). *Education and identity*. San Francisco: Jossey-Bass.
- Chickering, A. W., & Gamson, Z. (1991). *Applying the seven principles for good practice in undergraduate education*. San Francisco, CA: Jossey-Bass.
- Clegg, S., Stevenson, J., & Willott, J. (2010). Staff conceptions of curricular and extracurricular activities in higher education. *Higher Education, 59*, 615- 26
- Coleman, J. S. (1961). *The adolescent society*. New York: Free Press of Glencoe.
- CollegeBoard. (2011). Extracurricular activities: Life outside the classroom. Retrieved from <http://www.collegeboard.com/student/plan/high-school/113.html>
- Cooper, D.L., Healy, M.A., & Simpson, J. (1994). Student development through involvement: Specific changes over time. *Journal of College Student Development, 35*, 98-102.
- Cooper, H., Valentine, J. C., Nye, B., & Lindsay, J. J. (1999). Relationships between five after-school activities and academic achievement. *Journal of Educational Psychology, 91*, 369-378.
- Côté, J., Baker, J., & Abernethy, B. (2003). From play to practice: A developmental framework for the acquisition of expertise in team sports. In J. Starkes & K. A. Ericsson (Eds.), *Expert performance in sports: Advances in research on sport expertise* (pp. 89–110). Champaign, IL: Human Kinetics.
- Cox, B. E., & Orehovec, E. (2007). Faculty-student interaction outside the classroom: A typology

- from a residential college. *The Review of Higher Education*, 30, 343-362.
- Crissman-Ishler, J. L. (2005). Today's first-year students. In M. L. Upcraft, J. N. Gardner, & B. O. Barefoot (Eds.), *Challenging and supporting the first-year student: A handbook for improving the first year of college*, (pp. 15-26). San Francisco: Jossey-Bass.
- Crockett, D.S. (1985). Academic advising. In L. Noel, R. Levitz, and D. Saluri (Eds.), *Increasing student retention* (pp. 244-263). San Francisco, CA: Jossey-Bass.
- Davidson, W. B., Beck, H. P., & Milligan, M. (2009). The College Persistence Questionnaire: Development and validation of an instrument that predicts student attrition. *Journal of College Student Development*, 50, 373–389.
- DeBard, R., Lake, T., & Binder, R. S. (2006). Greeks and grades: The first-year experience. *NASPA Journal*, 43, 56-68.
- Derby, D. C. (2006). Student involvement in clubs and organizations: An exploratory study at a community college. *Journal of Applied Research in the Community College*, 14, 45-51.
- Dobkin, C., Gil, R., & Marion, J. (2010). Skipping class in college and exam performance: Evidence from a regression discontinuity classroom experiment. *Economics of Education Review*, 29, 566-575.
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research*, 14, 10-43.
- Edwards, H. (1984). The Black “Dumb Jock”: An American sports tragedy. *College Board Review*, 131, 8–13.
- Eitzen, D. S. (2003). *Fair and foul: Beyond the myths and paradoxes of sport*. Lanham, MD: Rowman & Littlefield Publishers.

- Eklund-Leen, S. J., & Young, R. B. (1997). Attitudes of student organization members and nonmembers about campus and community involvement. *Community College Review, 24*, 71-81.
- Endo, J. J., & Harpel, R. L. (1982). The effect of student-faculty interaction on students' educational outcomes. *Research in Higher Education, 16*, 115-138.
- Feldman, K. A., & Newcomb, T. M. (1969). *The impact of college on students. Volume I: An analysis of four decades of research*. San Francisco: Jossey-Bass.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117-142.
- Flanagan, C., & Bundick, M. (2011). Civic engagement and psychosocial well-being in college students. *Liberal Education, 97*, 20-27.
- Fredricks, J. A. (2012). Extracurricular participation and academic outcomes: Testing the over-scheduling hypothesis. *Journal of Youth and Adolescence, 41*, 295-306.
- Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues, 30*, 159-165.
- Fulgini, A., & Stevenson, H. W. (1995). Time use and mathematics achievement among American, Chinese, and Japanese high school students. *Child Development, 66*, 830-842.
- Fuller, M. B., Wilson, M. A., & Tobin, R. M. (2011). The national survey of student engagement as a predictor of undergraduate GPA: A cross-sectional and longitudinal examination. *Assessment & Evaluation in Higher Education, 36*, 735-748.
- Gall, T. L., Evans, D. R., & Bellorose, S. (2000). Transition to first-year university: Patterns of change in adjustment across life domains and time. *Journal of Social and Clinical Psychology, 19*, 544 – 567.
- Garber, J., Keiley, M. K., & Martin, N. C. (2002). Developmental trajectories of adolescents' depressive symptoms: Predictors of change. *Journal of Consulting and Clinical*

Psychology, 70, 79–95.

- Gardner, S., Koeppel, K., & Moran, S. (2010). Student over-involvement: When more is not better. *Campus Activities Programming*, 43, 38-44.
- Garibaldi, P., Giavazzi, F., Ichino, A., & Rettore, E. (2012). College cost and time to complete a degree: Evidence from tuition discontinuities. *The Review of Economics and Statistics*, 94, 699-711.
- Gellin, A. (2003). The effect of undergraduate student involvement on critical thinking: A meta-analysis of the literature 1991–2000. *Journal of College Student Development*, 44, 746–762.
- Gilman, R. (2001). The relationship between life satisfaction, social interest, and frequency of extracurricular activities among adolescent students. *Journal of Youth and Adolescence*, 30, 749–767.
- Gonyea, R. M., Kish, K. A., Kuh, G. D., Muthiah, R. N., & Thomas, A. D. (2003). *College student experiences questionnaire: Norms for the fourth edition*. Bloomington, IN: Indiana University Center for Postsecondary Research, Policy, and Planning.
- Gordon, J., Ludlum, J., & Hoey, J. J. (2007). Validating NSSE against student outcomes: Are they related? *Research in Higher Education*, 49, 19-39.
- Graham, C., & Essex, C. (2001). *Defining and ensuring academic rigor in online and on-campus courses: Instructor perspectives*. Paper presented at the Association for Educational Communications and Technology Conference, Atlanta.
- Hanks, M. P., & Eckland, B. K. (1976). Athletics and social participation in the educational attainment process. *Sociology of Education*, 49, 271–294.
- Harnish, R. (2005). Community college recruitment and retention: Challenges and predictions.

- Recruitment & Retention in Higher Education*, 19 (11), 1-3.
- Hatcher, L., Prus, J. S., Englehard, B., & Farmer, T. M. (1991). A measure of academic situational constraints: Out-of-class circumstances that inhibit college student development. *Educational and Psychological Measurement*, 51, 953-962.
- Haworth, B. (1999). An analysis of the determinants of student E-mail use. *Journal of Education for Business*, 51, 55-59.
- Hayek, J. C., Carini, R. M., O'Day, P. T., & Kuh, G. D. (2002). Triumph or tragedy: Comparing student engagement levels of members of Greek-letter organizations and other students. *The Journal of College Student Development*, 43, 643-663.
- Heidenreich, L. (2006). Against the grain: Confronting Hispanic service organizations in times of increasing inequalities, 1930 and 2005. *Journal of Latinos and Education*, 5, 123-137.
- Hernandez, K., Hogan, S., Cynthia, H., & Lovell, C. D. (1999). Analysis of the literature on the impact of student involvement on student development and learning: More questions than answers? *NASPA Journal*, 36, 184-197.
- Hlavac, J., Peterson, J., & Piscioneri, M. (2010). Time allocations for study: Evidence from Arts students in Australia. *Education + Training*, 52, 27-44.
- Holland, A., & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Review of Educational Research*, 57, 437-466.
- Hood, A. (1984). Student development: Does participation affect growth? *Bulletin of the Association of College Unions-International*, 54, 16-19.
- Horowitz, J. L., & Garber, J. (2006). The prevention of depressive symptoms in children and adolescents: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 74, 401-415.

- Huang, Y., & Change, S. (2004). Academic and cocurricular involvement: Their relationship and the best combinations for student growth. *Journal of College Student Development, 45*, 391-406.
- Jaasma, M. A., & Koper, R. J. (1999). The relationship of student-faculty' out of-class communication to instructor immediacy and trust and to student motivation. *Communication Education, 48*, 41-47.
- Jackson, N. (2008). Tackling the wicked problem of creativity in higher education. *Background paper, ARC Centre for the Creative.*
- Jacobs, S. R., & Dodd, D. K. (2003). Student burnout as a function of personality, social support, and workload. *Journal of College Student Development, 44*, 291-303.
- Jordan, W. J. (1999). Black high school students' participation in school-sponsored sports activities: Effects on school engagement and achievement. *Journal of Negro Education, 68*, 54-71.
- Kadison, R. D. & DiGeronimo, T. F. (2004). *College of the overwhelmed: The campus mental health crisis and what to do about it.* San Francisco: Jossey-Bass.
- Kellom, G. E. (Ed.). (2004). *Developing effective programs and services for college men: New directions for student services (No. 105).* San Francisco: Jossey-Bass.
- Kern, C. W., Fagley, N. S., & Miller, P. M., (1998). Correlates of college retention and GPA: Learning and study strategies, testwiseness, attitudes, and ACT. *Journal of College Counseling, 1*, 26-34.
- Kimbrough, W. M. (1995). Self-assessment, participation, and value of leadership skills, activities, and experiences for Black students relative to their membership in historically Black fraternities and sororities. *Journal of Negro Education, 64*, 63-74.

- Kimbrough, W. M., & Hutcheson, P. A. (1998). The impact of membership in black Greek-letter organizations on black students' involvement in collegiate activities and their development of leadership skills. *Journal of Negro Education, 67*, 96–105.
- Knifsend, C. A., & Graham, S. (2012). Too much of a good thing? How breadth of extracurricular participation relates to school-related affect and academic outcomes during adolescence. *Journal of Youth and Adolescence, 41*, 379-389.
- Kohn, M. L., Schooler, C., Miller, J., Miller, K. A., Schoenbach, C., & Schoenberg, R. (1983). *Work and personality: An inquiry into the impact of social stratification*. Norwood, NJ: Ablex.
- Kuh, G. D. (1995). The other curriculum: Out-of-class experiences associated with student learning and personal development. *The Journal of Higher Education, 66*, 123–155.
- Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New Directions for Institutional Research, 141*, 5-20.
- Kuh, G. D., & Hu, S. (2001). The effects of student-faculty interaction in the 1990's. *The Review of Higher Education, 24*, 309-332.
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education, 79*, 540-563.
- Kuh, G. D., Douglas, K. B., Lund, J. P., & Ramin-Gyurnek, J. (1994). *Student learning outside the classroom: Transcending artificial boundaries*. Washington, DC: Graduate School of Education and Human Development, The George Washington University.
- Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. C. (2007). *Piecing together the student success puzzle: Research, propositions, and recommendations*. San Francisco:

Jossey-Bass.

- Kuh, G. D., Schuh, J. H., Whitt, E. J., Andreas, R. E., Lyons, J. W., Strange, C. C., ... MacKay, K. A. (1991). *Involving colleges: Successful approaches to fostering student learning and personal development outside the classroom*. San Francisco: Jossey-Bass.
- Lahmers, A. G., & Zulauf, C. (2000). The secret to academic success: Hours and hours of study. *Journal of College Student Development, 41*, 545-554.
- Lang, K. (2012). The similarities and differences between working and non-working students at a mid-sized American public university. *College Student Journal, 46*, 243-255.
- Leef, G. (1999). Governor Hunt's starry-eyed view. *Clarion, 3*, 11.
- Lerner, R. M., Freund, A. M., DeStefanis, I., & Habermas, T. H. (2001). Understanding developmental regulation in adolescence: The use of the selection, optimization, and compensation model. *Human Development, 44*, 29-50.
- Lufi, D., Parish-Plass, & Cohen, A. (2003). Persistence in higher education and its relationship to other personality variables. *College Student Journal, 37*, 50-59.
- Lundberg, C. A. (2003). The influence of time-limitations, faculty, and peer relationships on adult student learning: A causal model. *The Journal of Higher Education, 74*, 665-688.
- Luthar, S. S., & Sexton, C. (2004). The high price of affluence. In R. V. Kail (Ed.), *Advances in child development* (pp. 126-162). Academic Press; San Diego, CA.
- Mahon, N. E., Yarcheski, A., Yarcheski, T. J., Cannella, B. L., & Hanks, M. M. (2006). A meta-analytic study of predictors for loneliness during adolescence. *Nursing Research, 55*, 308-315.
- Mahoney, J. L. (2001). Children who participate in school extracurricular activity were less likely to drop out or have been arrested. *Evidence-Based Mental Health, 4*, 29- 30.

- Mahoney, J. L., Harris, A. L., & Eccles, J. S. (2006). Organized activity participation, positive youth development, and the over-scheduling hypothesis. *Society for Research in Child Development: Social Policy Report*, 20(4), 1-32.
- Mahoney, J. L., & Vest, A. E. (2012). The over-scheduling hypothesis revisited: Intensity of organized activity participation during adolescence and young adult outcomes. *Journal of Research on Adolescence*, 22, 409-418.
- Manzo, K. K. (2004). Men no longer majority of college students, graduates. *Black Issues in Higher Education*, 21, 1.
- Marsh, H. W. (1991). Employment during high school: Character building or a subversion of academic goals? *Sociology of Education*, 64, 172–189.
- Marsh, H. W. (1992). Extracurricular activities: Beneficial extension of the traditional curriculum or subversion of academic goals. *Journal of Educational Psychology*, 84, 553–562.
- Marsh, H. W., & Kleitman, S. (2002). Extracurricular school activities: The good, the bad, and the non-linear. *Harvard Educational Review*, 72, 464–514.
- Maslach, C. & Jackson, S. E. (1981). *Maslach Burnout Inventory* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
- May, R. W., & Casazza, S. P. (2012). Academic major as a perceived stress indicator: Extending stress management intervention. *College Student Journal*, 46, 264-273.
- McCabe, D. L., & Treviño, L. K. (1997). Individual and contextual influences on academic dishonesty: A multicampus investigation. *Research in Higher Education*, 38, 379–396.
- McGrath, C. (2001). Under-developed and over-involved: Unpacking hidden realities in student leadership development. *The Vermont Connection*, 22, 46-60.
- McNeal, R. B. (1995). Extracurricular activities and high-school dropouts. *Sociology of*

Education, 68, 62–80.

- Melman, S., Little, S., & Akin-Little, A. (2007). Adolescents overscheduling: The relationships between levels of participation in scheduled activities and self-reported clinical symptomology. *High School Journal*, 2, 18–30.
- Michaels, J. W., & Miethe, T. D. (1989). Academic effort and college grades. *Social Forces*, 68, 309–319.
- Milem, J. F., & Berger, J. B. (1997). A modified model of college student persistence: Exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of College Student Development*, 38, 387-400.
- Miller, R. J. (1991). Persistence in higher education: A review of the literature for continuing educators. *The Journal of Continuing Higher Education*. 38, 19-22.
- Moore, J., Lovell, C., McGann, T., & Wyrick, J. (1998). Why involvement matters: A review of research on student involvement in the collegiate setting. *College Student Affairs Journal* 17, 4-17.
- Moore, T., & Gayle, B. (2010). Student learning through co-curricular dedication: Viterbo University boosts faculty/student research and community services. *Transformative Dialogues: Teaching & Learning Journal*, 4, 1-7.
- Nadler, M. K. (1997). The value of student organizations and the role of faculty advisers. *Journalism and Mass Communication Educator*, 52, 16-25.
- Nagda, B. A., Gregerman, S. R., Jonides, J., von Hippel, W., & Lerner, J. S. (1998). Undergraduate student-faculty research partnerships affect student retention. *The Review of Higher Education*, 22, 55-72.
- National Survey of Student Engagement (NSSE). (2003). *Converting data into action:*

Expanding boundaries of institutional improvement. Bloomington, IN: Indiana University.

National Survey of Student Engagement (NSSE). (2010a). Psychometric portfolio: Factor analysis. Retrieved from

http://nsse.iub.edu/pdf/psychometric_portfolio/Validity_DeepLearning.pdf

National Survey of Student Engagement (NSSE). (2010b). Psychometric portfolio: Validity, predicting retention and degree progress. Retrieved from

http://nsse.iub.edu/pdf/psychometric_portfolio/Validity_RetentionAndDegreeProgress.pdf

National Survey of Student Engagement (NSSE). (2010c). Reliability 2010 internal consistency. Retrieved from

http://nsse.iub.edu/pdf/psychometric_portfolio/Reliability_InternalConsistency_2010_benchmarks.pdf

National Survey of Student Engagement (NSSE). (2011a). Frequencies by Carnegie

Classification [Data file]. Retrieved from <http://nsse.iub.edu/html/summarytables.cfm>.

National Survey of Student Engagement (NSSE). (2011b). Psychometric portfolio: Reliability.

Retrieved from:

http://nsse.iub.edu/pdf/psychometric_portfolio/2011/Reliability_TemporalStability_Institution-Level_2011.pdf

National Survey of Student Engagement (NSSE). (2012). Psychometric portfolio: Validity,

BCSSE-NSSE relationships. Retrieved from

http://nsse.iub.edu/pdf/psychometric_portfolio/Validity_BCSSE-NSSE%20Relationships.pdf

- National Survey of Student Engagement (NSSE). (2013). NSSE 2013 engagement indicators internal consistency statistics. Retrieved from http://nsse.iub.edu/2013_institutional_report/pdf/EI%20Intercorrelations%202013.pdf
- Nelson Laird, T. F., Chen, D., & Kuh, G. D. (2008). Classroom practices at institutions with higher-than-expected persistence rates: What student engagement data tell us. *New Directions for Teaching and Learning*, 115, 85-99.
- Nelson Laird, T. F., Korkmaz, A., & Chen, P. D. (2008). How often is “often” revisited: The meaning and linearity of vague quantifiers used on the National Survey of Student Engagement. Paper presented at the Annual Meeting of the American Educational Research Association. San Diego, CA.
- Neuman, S. B. (1988). The displacement effect: Assessing the relation between television viewing and reading performance. *Reading Research Quarterly*, 23, 414-440.
- Noflfe, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology*, 93, 116-130.
- Pascarella, E. T. (1980). Student-faculty informal contact and college outcomes. *Review of Educational Research*, 50, 545-595.
- Pascarella, E. T. (1989). The development of critical thinking: Does college make a difference *Journal of College Student Development*, 30, 19-26.
- Pascarella, E. T., & Chapman, D. (1983). A multi-institutional path analytical validation of Tinto's model of college withdrawal. *American Educational Research Journal*, 20, 87-102.
- Pascarella, E. T., & Terenzini, P. (1980). Predicting freshman persistence and voluntary dropout

- decisions from a theoretical model. *Journal of Higher Education*, 51, 60-75.
- Pascarella, E. T., & Terenzini, P. T. (1977). Patterns of student-faculty informal interaction beyond the classroom and voluntary freshman attrition. *Journal of Higher Education*, 48, 540-552.
- Pascarella, E. T., & Terenzini, P. T. (1978). Student-faculty informal relationships and freshman year educational outcomes. *Journal of Educational Research*, 71, 183-189.
- Pascarella, E. T., Flowers, L., & Whitt, E. J. (2001). Cognitive effects of Greek affiliation in college: Additional evidence. *NASPA Journal*, 38, 280-301.
- Pascarella, E. T., Seifert, T. A., & Blaich, C. (2010). How effective are the NSSE benchmarks in predicting important educational outcomes? *Change: The Magazine of Higher Learning*, 42, 16-22.
- Pascarella, E. T., Terenzini, P. T., & Wolfe, L. (1986). Orientation to college and freshman year persistence/withdrawal decisions. *Journal of Higher Education*, 57, 155-175.
- Pascarella, E., & Terenzini, P. (1998). Studying college students in the 21st century: Meeting new challenges. *Review of Higher Education*, 21, 151-165.
- Pascarella, E., Edison, M., Whitt, M., Nora, A., Hagedorn, L., & Terenzini, P. (1996). Cognitive effects of Greek affiliation during the first year of college. *NASPA Journal*, 38(3), 280-301.
- Pascarella, E.T., and Terenzini, P.T. (1991). *How college affects students*. San Francisco, CA: Jossey-Bass.
- Payne, S. L., Kleine, K. M., Purcell, J., & Carter, G. (2005). Evaluating academic challenge beyond the NSSE. *Innovative Higher Education*, 30, 129-146.
- Peltier, J. W., Laden, R., & Matranga, M. (1999). Student persistence in college: A review of

- research. *Journal of College Student Retention*, 1, 357–375.
- Pike, G. R. (2000). The influence of fraternity or sorority membership on students' college experiences and cognitive development. *Research in Higher Education*, 41, 117–139.
- Porter, O. F. (1990). *Undergraduates' completion and persistence at four-year colleges and universities detailed findings*. Washington, DC: National Institute of Independent Colleges and Universities.
- Porter, S. R., Rumann, C., & Pontius, J. (2011). The validity of student engagement survey questions: Can we accurately measure academic challenge? *New Directors for Institutional Research*, 150, 87-98.
- Raikes, M. H., Berling, V. L., & Davis, J. M. (2012). To dream the impossible dream: College graduation in four years. *Christian Higher Education*, 11, 310-319.
- Randall, E. T., & Bohnert, A. M. (2009). Organized activity involvement, depressive symptoms, and social adjustment in adolescents: Ethnicity and socioeconomic status as moderators. *Journal of Youth and Adolescence*, 38, 1187-1198.
- Rau, W., & Durand, A. (2000). The academic ethic and college grades: Does hard work help students to “make the grade”? *Sociology of Education*, 73, 19–38.
- Rose, S. (2013). The value of a college degree. *Change: The Magazine of Higher Education*, 45, 24-33.
- Rosenbaum, J. E. (2004). It's time to tell the kids: If you don't do well in high school, you won't do well in college (or on the job). *American Educator*, 28, 8-20.
- Rubin, R. S., Bommer, W. H., & Baldwin, T. T. (2002). Using extracurricular activity as an indicator of interpersonal skill: Prudent evaluation or recruiting malpractice? *Human Resources Management*, 41, 441–454.

- Ryan, J., Anderson, A., & Birchler, A. (1980). Student evaluations: The faculty responds. *Research in Higher Education, 12*, 317–333.
- Saenz, V. B., & Barrera, D. S. (2007). *Findings from the 2005 college student survey (CSS): National aggregates*. Los Angeles, CA: Higher Education Research Institute, UCLA.
- Sax, L. J., Bryant, A. N., & Harper, C. E. (2005). The differential effects of student-faculty interaction on college outcomes for women and men. *Journal of College Student Development, 46*, 642-659.
- Schroeder, C. C. (2013). Process and progress in action: Examples of what works. *New Directions for Higher Education, 167*, 71-80.
- Schuman, H., Walsh, E., Olson, C., & Ethridge, B. (1985). Effort and reward: The assumption that college grades are affected by quantity of study. *Social Forces, 63*, 945–966.
- Schwartz, M. D., & DeKeseredy, W. S. (1997). *Sexual assault on the college campus: The role of male peer support*. Thousand Oaks, CA: Sage.
- Shaw, S., Caldwell, L. L., Kleiber, D., & Douglas, A. (1996). Boredom, stress, and social control in daily activities of adolescents. *Journal of Leisure Research, 28*, 274–292.
- Shucker, H. B. (1987). *Certain extracurricular activities and its relationship and grade point averages of freshmen at a church-related college*. Retrieved from ProQuest Digital Dissertations. (AAT 8724873).
- Snay, S. (2011, October, 12). Recent study finds that students are spending too long in college. *The Reflector*. Retrieved from <http://reflector.uindy.edu/2011/10/12/recent-study-finds-that-students-are-spending-too-long-in-college/>
- Stern, D., McMillion, M., Hopkins, C., & Stone, J. (1990). Work experience for students in high school and college. *Youth & Society, 21*, 355-389.

- Stoecker, J., Pascarella, E., & Wolfe, L. (1988). Persistence in higher education: A 9-year test of a theoretical model. *Journal of College Student Development, 29*, 196-109.
- Storch, E. A., & Ledley, D. (2005). Peer victimization and psychosocial adjustment in children: Current knowledge and future directions. *Clinical Pediatrics, 44*, 29–38.
- Storch, E. A., & Storch, J. B. (2002). Fraternities, sororities, and academic dishonesty. *College Student Journal, 36*, 247–252.
- Strange, A. (2007). E is for effort: Correlates of college students' differential effort expenditure across academic contexts. *College Student Journal, 41*, 1225-1230.
- Svanum, S., & Bigatti, S. M. (2006). The influences of course effort and outside activities on grades in a college course. *Journal of College Student Development, 47*, 564-576.
- Taylor, H. (1971). *How to change colleges: Notes on radical reform*. New York: Holt, Rinehart, and Winston.
- Tchibozo, G. (2007). Extra-curricular activity and the transition from higher education to work: A survey of graduates in the United Kingdom. *Higher Education Quarterly, 61*, 37- 56.
- Terenzini, P. K., Pascarella, E. T., & Blimling, G. S. (1996). Students' out-of-class experiences and their influence on learning and cognitive development: A literature review. *Journal of College Student Development, 37*, 149-162.
- Terenzini, P. T. (1993, May). *Influences affecting the development of students' critical thinking skills*. Paper presented at the Association for Institutional Research, New Orleans, LA.
- Terenzini, P. T., Springer, L., Pascarella, E. T., & Nora, A. (1994, May). *Influences affecting the development of students' critical thinking skills*. Paper presented at the annual meeting of the Association for Institutional Research, New Orleans.
- Thacher, P. V. (2008). University students and "the all nighter:" Correlates and patterns of

- students' engagement in a single night of total sleep deprivation. *Behavioral Sleep Medicine*, 6, 16-31.
- Thompson, L. J. (2013). "It's just like an extra string to your bow:" Exploring higher education students' perceptions and experiences of extracurricular activity and employability. *Active Learning in Higher Education*, 14, 134-147.
- Tieu, T. T., & Pancer, S. M. (2009). Youth involvement and first year students' transition to university: Quality vs. quantity of involvement. *Journal of the First-Year Experience and Students in Transition*, 21, 43- 64.
- Tieu, T. T., Pancer, S. M., Pratt, M. W., Wintre, M. G., Birnie-Lefcovitch, S., Polivy, J., & Adams, G. (2010). Helping out or hanging out: The features of involvement and how it relates to university adjustment. *Higher Education*, 60, 343- 55.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.
- Tinto, V. (1987). *Leaving college*. Chicago: The University of Chicago Press.
- Tinto, V. (1993). *Leaving college*. Chicago: The University of Chicago Press.
- Trout, P. A. (1997). Student anti-intellectualism and the dumbing down of the university. *Montana Professor*, 7, 4-10.
- Turner, S. E. (2005). Going to college and finishing college: Explaining different educational outcomes. In C. Hoxby (Ed.), *College decisions: How students actually make them and how they could*. Chicago: University of Chicago Press for NBER.
- Tyson, W. (2012). Negative impact of employment on engineering student time management, time to degree, and retention: faculty, administrator, and staff perspectives. *Journal of College Student Retention: Research, Theory & Practice*, 13, 479-498.

- U.S. Department of Education, National Center for Education Statistics. (2012). *Digest of Education Statistics*, 2011 (NCES 2012-001), Chapter 3.
- U.S. Department of Education. (2006). *A test of leadership: Charting the future of U.S. higher education*. Washington, D.C.
- UCLA (2011). General FAQs. Undergraduate admissions & relations with schools. Retrieved from <http://www.admissions.ucla.edu/faq/faqgeneral.htm>
- Ullah, H., & Wilson, M. A. (2007). Students' academic success and its association to student involvement with learning and relationships with faculty and peers. *College Student Journal*, *41*, 1192-1202.
- Vianden, J. (2009). Exploring college men's perceptions about interacting with faculty beyond the classroom. *The College Student Affairs Journal*, *27*, 224-241.
- Wall, V. A. (2004). National Center on Student Leadership [Conference]. Orlando, FL. 6 Nov. 2004.
- Weldy Boyd, A. C. (2011). I came, I saw, I put it on my resume for Medical School. *Journal of College and Character*, *12*, 1-3.
- Whitla, D. K. (1981). *Value added and other related matters*. Washington, DC: National Commission on Excellence in Education.
- Wintre, M. G., & Bowers, C. D. (2007). Predictors of persistence to graduation: Extending a model and data on the transition to university model. *Canadian Journal of Behavioural Science*, *39*, 220 – 234.
- Yin, D., & Lei, S. A. (2007). Impacts of campus involvement on hospitality student achievement and satisfaction. *Education*, *128*, 282-293.
- Young, M. R., Klemz, B. R., & Murphy, W. J. (2003). Enhancing learning outcomes: The effects

of instructional technology, learning styles, instructional methods, and student behavior.

Journal of Marketing Education, 25, 130-142.

Zlokovich, M. S., Crites, D., Bingham, J., Buck, L., Burt, S., Goings-Vogelsang, C.,...Steiner, A.

(2003). How are first-year student study habits and grade predictions related to semester and cumulative grades, long-term retention, and Graduation? *Journal of the First-Year Experience & Students in Transition*, 15, 77-104.

(2005). Survey finds unexpected relationship between engagement and retention. *Recruitment & Retention in Higher Education*, 19, 3.

Appendix A

**AUBURN UNIVERSITY INSTITUTIONAL REVIEW BOARD for RESEARCH INVOLVING HUMAN SUBJECTS
RESEARCH PROTOCOL REVIEW FORM**

For Information or help contact **THE OFFICE OF RESEARCH COMPLIANCE**, 115 Ramsay Hall, Auburn University
Phone: 334-844-5966 e-mail: hsubjec@auburn.edu Web Address: <http://www.auburn.edu/research/vpr/ohs/>

Revised 03.26.11 – DO NOT STAPLE, CLIP TOGETHER ONLY.

1. PROPOSED START DATE of STUDY: Feb 17, 2014

PROPOSED REVIEW CATEGORY (Check one): FULL BOARD EXPEDITED EXEMPT

2. PROJECT TITLE: Overwhelmed and Under Pressure: The Influence of Extracurricular Over-Involvement on Academic Success and Student-Faculty Relationships.

3. Jessica Koehler Graduate Student EFLT 678-525-8981 jeh0024@auburn.edu
PRINCIPAL INVESTIGATOR TITLE DEPT PHONE AU E-MAIL

Hall Director, Dowell Hall 320 P.O. Davis Drive Auburn, AL 36849
MAILING ADDRESS

FAX ALTERNATE E-MAIL

4. SOURCE OF FUNDING SUPPORT: Not Applicable Internal External Agency: _____ Pending Received

5. LIST ANY CONTRACTORS, SUB-CONTRACTORS, OTHER ENTITIES OR IRBs ASSOCIATED WITH THIS PROJECT:

n/a

6. GENERAL RESEARCH PROJECT CHARACTERISTICS

6A. Mandatory CITI Training	6B. Research Methodology								
<p>Names of key personnel who have completed CITI: Jessica Koehler <u>Maria M. White</u> _____ _____</p> <p>CITI group completed for this study: <input checked="" type="checkbox"/> Social/Behavioral <input type="checkbox"/> Biomedical</p> <p>PLEASE ATTACH TO HARD COPY ALL CITI CERTIFICATES FOR EACH KEY PERSONNEL</p>	<p>Please check all descriptors that best apply to the research methodology.</p> <p>Data Source(s): New Data <input type="checkbox"/> Existing Data <input checked="" type="checkbox"/></p> <p>Will recorded data directly or indirectly identify participants? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Data collection will involve the use of: <input type="checkbox"/> Educational Tests (cognitive diagnostic, aptitude, etc.) <input type="checkbox"/> Interview / Observation <input type="checkbox"/> Physical / Physiological Measures or Specimens (see Section 6E.) <input checked="" type="checkbox"/> Surveys / Questionnaires <input type="checkbox"/> Internet / Electronic <input type="checkbox"/> Audio / Video / Photos <input type="checkbox"/> Private records or files</p> <div style="border: 2px solid blue; padding: 5px; width: fit-content; margin: 10px auto;"> <p style="text-align: center; font-size: small;">The Auburn University Institutional Review Board has approved this document for use from 2/3/2014 to 2/4/2017 Protocol # 14-044 EX 1402</p> </div>								
6C. Participant Information	6D. Risks to Participants								
<p>Please check all descriptors that apply to the participant population. <input checked="" type="checkbox"/> Males <input checked="" type="checkbox"/> Females <input checked="" type="checkbox"/> AU students</p> <p>Vulnerable Populations <input type="checkbox"/> Pregnant Women/Fetuses <input type="checkbox"/> Prisoners <input type="checkbox"/> Children and/or Adolescents (under age 19 in AL)</p> <p>Persons with: <input type="checkbox"/> Economic Disadvantages <input type="checkbox"/> Physical Disabilities <input type="checkbox"/> Educational Disadvantages <input type="checkbox"/> Intellectual Disabilities</p> <p>Do you plan to compensate your participants? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Please identify all risks that participants might encounter in this research.</p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Breach of Confidentiality*</td> <td><input type="checkbox"/> Coercion</td> </tr> <tr> <td><input type="checkbox"/> Deception</td> <td><input type="checkbox"/> Physical</td> </tr> <tr> <td><input type="checkbox"/> Psychological</td> <td><input type="checkbox"/> Social</td> </tr> <tr> <td><input checked="" type="checkbox"/> None</td> <td><input type="checkbox"/> Other:</td> </tr> </table> <p>Data received from OIRA will not include personal or identifying information. _____ _____</p> <p style="font-size: x-small;">*Note that if the investigator is using or accessing confidential or identifiable data, breach of confidentiality is always a risk.</p>	<input type="checkbox"/> Breach of Confidentiality*	<input type="checkbox"/> Coercion	<input type="checkbox"/> Deception	<input type="checkbox"/> Physical	<input type="checkbox"/> Psychological	<input type="checkbox"/> Social	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
<input type="checkbox"/> Breach of Confidentiality*	<input type="checkbox"/> Coercion								
<input type="checkbox"/> Deception	<input type="checkbox"/> Physical								
<input type="checkbox"/> Psychological	<input type="checkbox"/> Social								
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:								
<p>Do you need IBC Approval for this study? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - BUA # _____ Expiration date _____</p>									

FOR OHSR OFFICE USE ONLY

DATE RECEIVED IN OHSR: _____ by _____	PROTOCOL # <u>14-044</u>
DATE OF IRB REVIEW: _____ by _____	APPROVAL CATEGORY: _____
DATE OF IRB APPROVAL: _____ by _____	INTERVAL FOR CONTINUING REVIEW: _____
COMMENTS:	

Received

FEB 03 2014



National Survey of Student Engagement 2008

The College Student Report

1 In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples: or

	Very often	Often	Some- times	Never		Very often	Often	Some- times	Never
a. Asked questions in class or contributed to class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	r. Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Made a class presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Worked on a paper or project that required integrating ideas or information from various sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	u. Had serious conversations with students of a different race or ethnicity than your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Come to class without completing readings or assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
g. Worked with other students on projects during class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 During the current school year, how much has your coursework emphasized the following mental activities?				
h. Worked with classmates outside of class to prepare class assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Very much	Quite a bit	Some	Very little
i. Put together ideas or concepts from different courses when completing assignments or during class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Tutored or taught other students (paid or voluntary)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	b. Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Participated in a community-based project (e.g., service learning) as part of a regular course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	c. Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	d. Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Used e-mail to communicate with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	e. Applying theories or concepts to practical problems or in new situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Discussed grades or assignments with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
o. Talked about career plans with a faculty member or advisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
p. Discussed ideas from your readings or classes with faculty members outside of class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
q. Received prompt written or oral feedback from faculty on your academic performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

3 During the current *school year*, about how much reading and writing have you done?

- a. Number of assigned textbooks, books, or book-length packs of course readings
- None 1-4 5-10 11-20 More than 20
- b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment
- None 1-4 5-10 11-20 More than 20
- c. Number of written papers or reports of **20 pages or more**
- None 1-4 5-10 11-20 More than 20
- d. Number of written papers or reports **between 5 and 19 pages**
- None 1-4 5-10 11-20 More than 20
- e. Number of written papers or reports of **fewer than 5 pages**
- None 1-4 5-10 11-20 More than 20

4 In a *typical week*, how many homework problem sets do you complete?

- None 1-2 3-4 5-6 **More than 6**
- a. Number of problem sets that take you **more** than an hour to complete
-
- b. Number of problem sets that take you **less** than an hour to complete
-

5 Mark the box that best represents the extent to which your examinations during the current school year have challenged you to do your best work.

- Very little Very much
- 1 2 3 4 5 6 7

6 During the current school year, about how often have you done each of the following?

- Very often **Some-times** Never
- a. Attended an art exhibit, play, dance, music, theater, or other performance
-
- b. Exercised or participated in physical fitness activities
-
- c. Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)
-
- d. Examined the strengths and weaknesses of your own views on a topic or issue
-
- e. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective
-
- f. Learned something that changed the way you understand an issue or concept
-

7 Which of the following have you done or do you plan to do before you graduate from your institution?

- | | Done | Plan to do | Do not plan to do | Have not decided |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Practicum, internship, field experience, co-op experience, or clinical assignment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Community service or volunteer work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Participate in a learning community or some other formal program where groups of students take two or more classes together | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Work on a research project with a faculty member outside of course or program requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Foreign language coursework | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Study abroad | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Independent study or self-designed major | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

8 Mark the box that best represents the quality of your relationships with people at your institution.

- a. Relationships with **other students**
- Unfriendly, Unsupportive, Sense of alienation Friendly, Supportive, Sense of belonging
- 1 2 3 4 5 6 7
- b. Relationships with **faculty members**
- Unavailable, Unhelpful, Unsympathetic Available, Helpful, Sympathetic
- 1 2 3 4 5 6 7
- c. Relationships with **administrative personnel and offices**
- Unhelpful, Inconsiderate, Rigid Helpful, Considerate, Flexible
- 1 2 3 4 5 6 7

9 About how many hours do you spend in a typical 7-day week doing each of the following?

- a. Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week
- b. Working for pay **on campus**
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week
- c. Working for pay **off campus**
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week
- d. Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week
- e. Relaxing and socializing (watching TV, partying, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week
- f. Providing care for dependents living with you (parents, children, spouse, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week
- g. Commuting to class (driving, walking, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
Hours per week

10 To what extent does your institution emphasize each of the following?

- | | Very
much | Quite
a bit | Some | Very
little |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Spending significant amounts of time studying and on academic work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Providing the support you need to help you succeed academically | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Helping you cope with your non-academic responsibilities (work, family, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Providing the support you need to thrive socially | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Using computers in academic work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

11 To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

- | | Very
much | Quite
a bit | Some | Very
little |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Acquiring a broad general education | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Acquiring job or work-related knowledge and skills | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Writing clearly and effectively | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Speaking clearly and effectively | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Thinking critically and analytically | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Analyzing quantitative problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Using computing and information technology | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Working effectively with others | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Voting in local, state, or national elections | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Learning effectively on your own | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Understanding yourself | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| l. Understanding people of other racial and ethnic backgrounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| m. Solving complex real-world problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| n. Developing a personal code of values and ethics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| o. Contributing to the welfare of your community | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| p. Developing a deepened sense of spirituality | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12 Overall, how would you evaluate the quality of academic advising you have received at your institution?

- Excellent
 Good
 Fair
 Poor

13 How would you evaluate your entire educational experience at this institution?

- Excellent
 Good
 Fair
 Poor

14 If you could start over again, would you go to the same institution you are now attending?

- Definitely yes
 Probably yes
 Probably no
 Definitely no

15 Write in your year of birth:

16 Your sex:
 Male Female

17 Are you an international student or foreign national?
 Yes No

18 What is your racial or ethnic identification? (Mark only one.)
 American Indian or other Native American
 Asian, Asian American, or Pacific Islander
 Black or African American
 White (non-Hispanic)
 Mexican or Mexican American
 Puerto Rican
 Other Hispanic or Latino
 Multiracial
 Other
 I prefer not to respond

19 What is your current classification in college?
 Freshman/first-year Senior
 Sophomore Unclassified
 Junior

20 Did you begin college at your current institution or elsewhere?
 Started here Started elsewhere

21 Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)
 Vocational or technical school
 Community or junior college
 4-year college other than this one
 None
 Other

22 Thinking about this current academic term, how would you characterize your enrollment?
 Full-time Less than full-time

23 Are you a member of a social fraternity or sorority?
 Yes No

24 Are you a student-athlete on a team sponsored by your institution's athletics department?
 Yes No (Go to question 25.)

On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:

25 What have most of your grades been up to now at this institution?
 A B+ C+
 A- B C
 B- C- or lower

26 Which of the following best describes where you are living now while attending college?
 Dormitory or other campus housing (not fraternity/sorority house)
 Residence (house, apartment, etc.) within walking distance of the institution
 Residence (house, apartment, etc.) within driving distance of the institution
 Fraternity or sorority house

27 What is the highest level of education that your parent(s) completed? (Mark one box per column.)

Father	Mother	
<input type="checkbox"/>	<input type="checkbox"/>	Did not finish high school
<input type="checkbox"/>	<input type="checkbox"/>	Graduated from high school
<input type="checkbox"/>	<input type="checkbox"/>	Attended college but did not complete degree
<input type="checkbox"/>	<input type="checkbox"/>	Completed an associate's degree (A.A., A.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/>	Completed a bachelor's degree (B.A., B.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/>	Completed a master's degree (M.A., M.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/>	Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

28 Please print your major(s) or your expected major(s).

a. Primary major (Print only one.):

b. If applicable, second major (not minor, concentration, etc.):

THANKS FOR SHARING YOUR RESPONSES!

After completing the survey, please put it in the enclosed postage-paid envelope and deposit it in any U.S. Postal Service mailbox. Questions or comments? Contact the National Survey of Student Engagement, Indiana University, 1900 East Tenth Street, Eigenmann Hall Suite 419, Bloomington IN 47406-7512 or nsse@indiana.edu or www.nsse.iub.edu. Copyright © 2007 Indiana University.