THE COMPLETION OF ADVANCED PLACEMENT COURSES AS AN INDICATOR OF ACADEMIC SUCCESS IN FIRST-YEAR COLLEGE STUDENTS

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The Completion of Advanced Placement Courses as an Indicator of Academic Success in First-Year College Students

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Abstract


The purpose of this study was to determine if Advanced Placement (AP) courses were an indicator of academic success in first-year college freshmen. A quantitative analysis of a twenty-one question survey was conducted in order to understand how AP classes create a successful high school graduate for the academic rigors of a postsecondary institution. The survey was administered to one-hundred first-year college freshmen at a large suburban state university in Georgia. The results of the quantitative survey yielded information in support of the research hypothesis and rejected the null hypothesis. The researcher was mindful of threats to both internal and external validity and implemented validation methods. A number of experts in the field of quantitative educational research determined the instrument, the data, and findings were valid and reliable.
Dedication

This study is dedicated to God, my wife Jillian, my mother Patty, and the countless students who have taught me what it really means to teach. Without their undying support this study would have failed before it ever began. I also dedicate this study to Eric Munn and Lynette Eachus for their profound professionalism and unwavering mentorship of me as an educator.
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Chapter I

Introduction

America’s high schools have an awesome responsibility and privilege of educating the nation’s youth. In addition to transmitting knowledge, schools must prepare students for life beyond their hallways, classrooms, and practice fields. For a majority of students, a four-year stretch at a college or university is the logical and anticipated next step, yet an unfortunate reality is beginning to take shape; some high school graduates are not prepared for the rigor of a college environment. While the majority of high school students may have passed their academic courses, navigated the moguls of standardized tests, and completed lengthy college admissions applications, success is not inevitable. Current research, college drop-out rates, and freshmen course failures all indicate that too many high school graduates are either unprepared or ill-prepared for the first-year academic rigor of a college environment (Sax, 2003).

In 2005, the Associated Press published an article titled: “U.S. Colleges Drop-out Rates Sparks Concern.” The article claims that just 54 percent of students entering four-year colleges in 1997 had earned a degree six years later, in 2003. More and more students, in addition to parents and counselors, have considered the Advanced Placement Program a potential solution to this problem. According to Klopfenstein and Thomas (2005), “students who have taken AP courses have higher bachelor’s degree completion rates, and studies have shown that AP students are more likely to maintain a high GPA and graduate from college with honors than their college classmates of similar ability” (p. 5). Though this is a stark reality, the burden of college preparation is being passed on to
our nation’s colleges and universities, which further illustrates the problem of inadequate
aademic preparation in first-year college students. Though completion of AP courses
may curtail this problem, not all high school students will enroll in those courses. As a
result, many post-secondary institutions have implemented first-year programs to stem
the tide of the college freshmen drop-out rate and overall academic success. Peach State
University has created a freshman seminar with this idea in mind. Every incoming
freshman is required to complete the course as part of the general education graduation
requirement. The textbook used in the course was written by the faculty of Peach State
University (PSU). The introduction of the text offers insight into the goal of the course:
“As you progress through your college experience, you will be challenged. However, it
is our intent to provide you with the tools you will need to meet those challenges. This
course will provide you with many of those tools…you will learn about strategies for
achieving academic success through an understanding of your learning style and ways to
optimize your learning experience” (Rascati, 2007, p. vii).

In another instance, the mission statement of First-Year Programs at Buffalo State
University described their intervention program as “the means through which Buffalo
State examines, articulates, and applies its vision of the first-year experience. All
programs engaged primarily with first-year students consider how they can better fulfill
Buffalo State’s mission, communicate strategies for implementing the mission in their
particular contexts, discuss emerging trends among our students, and share best
practices” (2008). Despite these attempts, college preparation remains a major focus of
all high schools. School districts are beginning to understand the accountability of such a
charge; parents, students, colleges, and universities expect high school graduates to function and succeed at “the college level.”

The Advanced Placement Program

Since this study deals with the Advanced Placement Program, it is important to have a sound foundational understanding of what AP is, its mission and goals, and how successful it has been in accomplishing those goals. The AP Program is the brainchild of the College Board and attempts to better prepare students for the academic rigor of a college environment. “Advanced Placement is a curricular option for academically superior, tenth, eleventh, and twelfth-grade students. Courses offered in the program are more demanding of time and intellectual skill than corresponding courses in the regular high school curriculum” (Postsecondary Educational Planning Commission, 1988, p. 4). The overall goal of the AP program is to hasten the educational process in order to afford high schools students the opportunity to complete college-level coursework (Maeroff, 1983).

Preparing for AP examinations is the major objective of any high school Advanced Placement curriculum (Oakes and Lipton, 1990). These examinations, created by the College Board and prepared by the Educational Testing Services, represent the benchmark assignment of a specific AP curriculum. Students must receive a score of 3 out of a possible 5 points to be awarded credit at their postsecondary institution. Passing scores are submitted to the student’s college or university, and postsecondary credit is considered. No uniform policy exists for granting the student college credit as a result of passing the AP examination (Maeroff, 1983). If the institution accepts the AP credit, the
student will be excused from the introductory courses in those subjects, and in some cases, may gain sophomore standing before they ever set foot on the campus (Oakes and Lipton, 1990). Burke states that, “at approximately 1,700 colleges and universities nationwide, scores of 3 or higher on at least three AP examinations often qualify a student to skip the freshman year and enter college as a sophomore” (1989, p. 2).

The AP program is organized into two parts: content and annual examinations. The content includes the outlines and curricula and is developed by a committee of secondary school teachers and college professors. The content reflects current pedagogical trends and changing college entrance requirements. The texts and materials used in many colleges and universities are also used in the Advanced Placement courses (Sadler and Tai, 2007; Burke, 1989). The second aspect of AP, the annual examination, is a tool used to assess the students’ performance. The exams consist of two sections: multiple-choice objective questions and subjective essay-based questions. The second section can be further divided into free-response questions (FRQs) and document-based questions (DBQs). They are graded according to a national standard by readers made up of high school and college educators. The two sections are combined and converted to a 5 point scale. The scale is as follows: a score of 5 means extremely well qualified; a score of 4 means well qualified; a score of 3 means qualified; a score of 2 means possibly qualified; and a score of 1 means no recommendation. Scores of 3 and above are accepted for college credit at participating colleges and universities (Sadler and Tai, 2007; Burke, 1989).
In 2008, William Crain published an article titled “Success” in which he states, “In the pursuit of success, adults also press children to master academic material as rapidly as possible. Everyone seems to agree that the most successful students are in the accelerated and Advanced Placement classes. What’s more, the admissions committees of prestigious colleges give extra weight to high grades in Advanced Placement courses, so students are encouraged to take as many as possible” (p.3). This article demonstrates that AP courses maintain the perception that they will help a student be more successful in college, and therefore they may actually make the student’s application packet more attractive.

Furthermore, in an article titled “Predicting Transition and Adjustment to College: Biomedical and Behavioral Science Aspirants’ and Minority Students’ First Year of College,” published in Research in Higher Education, the authors found that an active learning pedagogy, a structure within classrooms, created greater student engagement within the academic environment. This in turn results in students’ social and academic integration, thereby increasing the likelihood of returning for the second year at the same college (Hurtado ET AL, 2007). The active learning pedagogy, described in the article, is at the core of Advanced Placement classrooms. It is one of the distinguishing elements of an AP course and what most closely resembles the college setting.

Significant research conducted by Timothy Delicath (1998) and A.R. Greenberg (1991) points to trends in Advanced Placement courses as they deal with high school seniors. Delicath determined that AP classes help solve the problem of “senioritis,” defined as senior-year boredom among capable high school students who complete most of their diploma requirements by the end of their junior year (Delicath, 1998). Seniors
who enroll in Advanced Placement courses often remain more focused and attached to learning than their non-AP counterparts (Greenberg, 1991). According to Greenberg “the program allows seniors a unique opportunity to gauge their abilities to do college work in introductory freshman-level courses prior to full-time college matriculation” (1999, p. 4). Finally, Delicath claims that AP classes act as a proving ground for college-bound seniors. In other words, success in an AP course validates their college potential, thus fostering the notion that Advanced Placement courses prepares for a more successful freshmen college experience. Furthermore, the Birmingham News reported in 2008, that The College Board released a statement claiming that national AP enrollment increased by 8.6% during the 2007-2008 school year (Leech, 2008). The same article underscores that students who completed AP exams last year increased their scores from a 3 to a 5, the highest score possible, at a rate of 5.7%. Such an increase in enrollment and score dictates that further research should be conducted in order to better portray the advantages of enrolling in and completing Advanced Placement courses as a tool for college preparation.

**Problem Statement**

The Advanced Placement program has gained significant popularity in recent years, and as a result, a new generation of AP students are filling the seats once reserved for the elite high school student. In 2008, William Deresiewicz, a professor at Yale University, published an article for the *American Scholar*, which condemned elitist education. He stated: “The kid who’s loading up on AP courses during their junior year or editing three campus publications while double-majoring, the kid whom everyone
wants at their college or law school but no one wants in their classroom, the kid who
doesn’t have a minute to breathe, let alone think, will soon be running a corporation or an
institution or a government. She will have many achievements but little experience, great
success but no vision. The disadvantage of an elite education is that it’s given us the elite
we have and the elite we’re going to have” (Deresiewicz, 2008). The sentiment of
Professor Deresiewicz is one of growing concern. In the 1970’s, the AP program was
researched, debated, and scrutinized. These studies included students who were
considered the “best of the best.” They were certainly going on to major universities and
needed to be challenged before they arrived on upper echelon campuses. However, very
little research has been conducted since then.

The new AP classroom still contains those elite students, similar to the classrooms
of the 70’s and 80’s. In addition to these students, regular education, “average” pupils,
and relatively unmotivated children are enrolling in AP classes by the thousands.
According to Eddy Ramirez (2008), 700,000 high school seniors took at least one AP
test—one quarter of all high school graduates in the nation. This number is up from
2002, when 473,000 seniors were tested (California Postsecondary Education
Commission, 2005). Moreover, the College Board reports AP enrollment is at an all-time
high and that student scores are rising (Ramirez, 2008). Eddy Ramirez (2008) reports
that “there has been a nearly 50 percent increase in the number of high school students
taking college-level AP exams since 2002, followed by a rise from 11.7 percent to 15.2
percent in the number of public school students who passed at least one AP exam before
graduating.”
In 2006, Alvin Sanoff conducted a research study concerning college preparation titled “What Professors and Teachers Think.” Overall, the study concluded that college professors across the board believed high school graduates were ill-prepared for the demand of higher education. Specifically, 44% of college faculty members said students were not prepared for college-level writing, while 6% of their peers said high school graduates were very well-prepared. In the area of math and science, 32% of professors said students were not well prepared; 4% of their contemporaries said they were well-prepared. “The findings are likely to add fuel to a growing debate over whether students who graduate from secondary schools are prepared for the rigor of college” (Sanoff, 2006). When college professors were asked about students’ overall preparation for college, 84% said that high school graduates were either unprepared or only somewhat well-prepared to pursue a college degree; one fourth of the faculty members said flatly that students were not prepared for college. When asked about students’ abilities and attitudes in several specific areas, college professors claimed that students were inadequate writers, had trouble understanding difficult materials, fell short in knowledge of science and math, had poor study habits, and lacked motivation (Sanoff, 2006).

The researcher gleaned from the review of the literature that this shift in the AP population finds its impetus in two areas: assumptions that Advanced Placement courses create a more productive future-college student and that their student will learn more appropriate material in an AP classroom. Current research indicates students and parents believe that AP courses offer a glimpse into college-level academics, better prepare students for academic life after high school graduation, and may increase their chances for admission into the college or university of their choice (Klopfenstein & Thomas,
However, according to Klopfenstein and Thomas (2005), very little research has been conducted to determine if this trend has any foundational merit. In other words, are students enrolling in AP classes to make them more successful in college? Moreover, are high school students better prepared for the most rigorous and trying year of their collegiate career, their freshmen year?

In addition to the theory of Klopfenstein and Thomas, researchers Acker and Halasek (2008) published an article titled “Preparing High School Students for College-Level Writing: Using ePortfolio to Support a Successful Transition” which clearly outlines a need for this study. In their article, they claim that teachers report and studies show that teachers are compelled to “bend to the pressures of accountability at the expense of innovative teaching and challenging learning opportunities that benefit all students” (Acker & Halasek, 2008, p. 57). This dilemma is further complicated by the “mixed messages” sent to students who successfully complete graduation requirements and pass state-mandated proficiency and graduation tests only to find themselves unprepared for first-year college course work. This is a phenomenon that the Center for Educational Policy Research has shown is detrimental to students’ self concepts and academic performance. Colleges and universities seek students prepared to succeed because many studies indicate that college student success is heavily determined by the characteristics of entering students (Acker & Halasek, 2008). This study sought to determine if the solution to ill-prepared high school graduates is the completion of Advanced Placement courses. In 2008, an article titled “Theoretical Perspectives on Student Success” and published in the *ASHE Higher Education Report* claimed that “at its core, student success is determined by the attitudes, motivations, and behaviors of
individual students” (p. 35). AP courses attempt to ingrain such tendencies in their students, thus creating a more successful high school graduate.

In order to answer these questions, a new study should be conducted and a relevant instrument developed. High schools, universities, students, parents, and educators need to know if Advanced Placement courses produce a more successful college student when compared to their non-AP counterparts, especially during the formative and developmental freshmen year.

Purpose of the Study

The purpose of this study was to determine whether Advanced Placement (AP) courses were an indicator of academic success in first-year college freshmen as reported by the students at Peach State University. According to Klopfenstein and Thomas (2005), “the effectiveness of the AP Program at improving early college outcomes has not been rigorously tested” (p. 2). The researcher designed a survey study to specifically test 100 first-year students at Peach State University and how, if at all, the completion of AP courses created a more successful college student.

A survey approach was utilized in order to determine whether AP graduates were more successful during the first year of college than their non-AP counterparts. Specifically, an experimental design was employed to affirm the research hypotheses. Following the survey portion of this research study, a subsequent empirical study was conducted in order to further understand how AP classes create a more successful first-tier college student. The survey study of 100 high school graduates provided the
groundwork for the open-ended questionnaire administered to 25 college freshmen within the original subject population of first-year students who indicated that Advanced Placement courses better prepared them for the rigor of a college environment.

Reliable research supports the claim that completion of Advanced Placement courses makes for a better prepared college student when taken in the context of the 1970’s, when research on the AP program was in its infancy. However, very little research indicates whether AP courses better prepare first-year college freshmen when compared to their non-AP counterparts, promulgated by the fact that AP has “opened” its once elite doors to more traditional students. This study focused solely on the population of first-year college students and hoped to determine how the completion of AP courses afforded these students the opportunity to successfully navigate the academic rigor of a postsecondary environment.

The subsequent chapters of the study present the review of literature, provide an overview of the methodology used, and present a summary of the results. The project concludes by noting significant professional discussion on the topic of college success.

Research Questions

The purpose of this research study is to determine if Advanced Placement (AP) courses create a more successful first-year college student when compared to non-AP counterparts. Many research studies have identified a problem with recent high school graduates—they are not adequately prepared for the academic rigor of a college environment. This study sought to examine two research questions: (1) Will there be a
significant difference in academic success between students who completed Advanced Placement courses and those that did not as indicated by the grade point average (GPA) at the end of the first semester of college by the students in the two groups? (2) Will there be a significant difference in academic success between students who completed Advanced Placement courses and those that did not as indicated by the results of the Freshmen Success Survey (FSS)? Such an examination was the focus of this study and gleaned information solely from first-year college students at Peach State University, in Georgia. First-year college students are considered students who are attending PSU the fall directly after high school graduation and are between the ages of 18 and 19 years old. Transfer students, non-traditional students, or students older than 19 years old were not used for this study.

The research conducted by Crain and Hurtado lends itself to a directional hypotheses in support of the claim that Advanced Placement courses create a more successful first-year college student. Furthermore, as stated by Moore and Slate, “45 percent of students who take one AP course and 61 percent who take two or more courses are finishing their bachelor’s degree in four years or less” (2008, p. 2). The information encouraged the researcher to conduct a right, one-tail t-test.

Null Hypotheses

There were two null hypotheses for this study: (1) There will be no significant difference in academic success between students who completed Advanced Placement courses and those that did not as indicated by the grade point average (GPA) at the end of the first semester of college. (2) There will be no significant difference in academic
success between students who completed Advanced Placement courses and those that did not as indicated by the results of the Freshmen Success Survey (FSS). If the null hypotheses are true, then the level of academic success between AP-takers and non-AP graduates would be the same. This study hoped to test the null hypotheses and answer the research questions. These results would determine whether or not AP courses help to establish academic success in first-year college students more than their counter-parts who are in on-level, non-AP classes.

Definition of Terms

In order to answer the question posited above, it is important to define some terms that will be used to understand the problem, implement the study, and interpret results.

College Success: College success requires high motivation and effort, strong study skills, effective time management, and good test-taking skills (http://www.how-to-study.com).

College Preparedness: the study was based primarily on the creation of an operational definition of “college preparedness” and a survey administered to 100 college freshmen at Peach State University. The definition of college preparedness includes the minimum admission requirements for PSU: SAT 950, ACT 20. Furthermore, the researcher defined college preparedness as a first-year student who has maintained a high school cumulative GPA of 3.5 of higher. This was also the line of demarcation for the subjects used in this study.

Advanced Placement Courses: college-level coursework designed for the high school student. Each course ends with an AP exam, and if passed, allows the student to
potentially secure college credit for the course. The test is scored from 1-5; scores of 3, 4, or 5 are considered passing scores.

Advanced Placement (AP) Takers: any high school student who completed at least two Advanced Placement courses in any subject area.

The College Board: a non-profit organization that has been in existence since 1955. This organization develops and maintains college-level courses in various subject areas, which are designed for students to complete while still enrolled in high school. In addition, the College Board supports teachers of AP courses, supports universities as they define their policies regarding AP grades, and develops and coordinates the administration of annual AP examinations, which are funded through fees charged to students taking AP exams.

First-year Programs: a course used in many post-secondary institutions. These courses are implemented in order to help prepare college freshmen for the academic rigor of the college environment and often include study and test-taking strategies, time management, organization, and essay-writing. Incoming freshmen are required to complete the course as part of their general education graduation requirement (Rascati, 2007).

Overview

The following four chapters include a review of the literature, the methodology, the findings, and the conclusions. Chapter 2 contains research findings on issues related to Advanced Placement and academic success. Chapter 3 discusses the selected research methods. Chapter 4 reports the results of findings from this study. Chapter 5 reports the conclusions and implications for further research.
Chapter II

History and Review of Literature

This study employed a survey research approach and compared college success during the first year of college among high school graduates who have completed Advanced Placement (AP) courses versus their non-AP counterparts. In addition, an analysis of a review of the literature was conducted to further explore the affiliation between high school graduates who completed AP courses and those who did not.

Literature states that Advanced Placement high school courses are designed to improve success in college; however, little data has been collected to determine whether a connection exists between these courses and college success during the first year of college. As stated in the introduction, Advanced Placement courses were studied and examined in the 1970’s. These studies focused on the high school elites and their ability and motivation to finish a four year degree, usually at prestigious universities in the Northeast. Presently, AP classes are not made up of the elite student hoping to matriculate at an Ivy League university. Instead, the AP program educates a mosaic of students from all walks of life who maintain a myriad of career pursuits and are attending large universities, community colleges, and everything in between.

The researcher employed a review of the literature and determined that a substantial amount of literature and research on the concept of college preparedness and success was available and provided a basis for the present study. This section explains the search process with regard to the review of the literature and summarizes studies that
have been completed to-date on AP fundamentals and testing results. Furthermore, it examines both theoretical and empirical studies within the following five areas: (1) definition of Advanced Placement and national testing; (2) literature supporting the claim that AP courses better prepare high school graduates; (3) the role of AP in the college admissions process used as evidence that it is a program designed to create a more “collegiate” student; (4) how the AP experience helps first-year college students maintain “good standing” at their university and graduate in four years, and (5) the high school curriculum’s need to be more rigorous and the idea that the AP program provides a plausible solution to this problem.

A systematic search of current and relevant material aided in the construction and development of the review of literature. The origins of the sources are bi-furcated; half the material was written from the college perspective, while the remaining portion originated from the frame of reference of the high school.

Regardless of a student’s academic background, the National Center for Educational Accountability (2005) stated that “a number of prior research analyses have established a predictive relationship at the individual student level between Advanced Placement and college readiness and success measures. The willingness of a student to enroll in an AP course and take the AP exam conveys information about that student that predicts that the student is more likely to graduate from college” (p. 6).
History of the Advanced Placement Program

The Advanced Placement Program was created by the College Board in 1955. Its motto, “Connecting Student to College Success,” is evidenced by the fervor and consistency at which the College Board maintains and operates the Advanced Placement program (Geiser, 2006). The AP Program began as two projects funded by the Fund for the Advancement of Education of the Ford Foundation. The first project, headed by John Kemper of Andover Academy, addressed the problem of academically able students repeating courses they had completed in high school during their first year of college (Santoli, 2002). The second project, known as the Kenyon Plan, brought together high school teachers, university professors, and representatives from the Educational Testing Service (ETS). This group developed high school course outlines, syllabi, and tests. These tests were first administered in 1954. The next year, the College Board took over the program (Santoli, 2002).

According to Susan Santoli, “the driving ideas behind the program were that many high school students were capable of college-level work, and many high schools had the desire and resources to offer college-level courses. The course syllabi and high course standards were the keys to the success of the program. They meant to provide a framework for the course, a standard for achievement, a basis for testing, and a reference for colleges” (2002).

These high school classes are modeled after freshman-level college courses, utilizing college-style syllabi, collegiate textbooks, and requiring additional certification for the instructors charged with teaching an AP class. The main purposes of any AP
course are to conduct class in a style conducive to the college setting, create assignments that foster differentiation, and prepare the student for the rigor of a college environment.

Because many colleges and universities consider the completion of an AP course during the admissions process, enrollment in these courses is on the rise. The College Board reported that between 1997 and 2002, enrollment increased by a full third across the entire nation (2003). The California Postsecondary Education Commission determined that Advanced Placement courses in their state also rose. In 1998, 39,878 students chose to enroll in AP classes. Five years later, in 2003, AP enrollment rose to 62,677 total students, resulting in a 57% increase. Moreover, the number of California schools offering AP courses also increased from 1,095 schools in 1998 to 1,272 schools in 2003. Currently, the College Board offers 31 courses, 34 exams, and 19 subject areas. This spectrum of classes represents a sampling of the course offerings at a majority of the nation’s colleges and universities, increasing the impact of Advanced Placement courses on the educational career of high school graduates as they become first-year college freshmen.

The AP audit ensures that all AP courses cover the same material and utilize the national standards. Beginning in January 2007, the College Board began an audit of all AP courses. AP teachers are now required to submit their course syllabus and an audit form that verifies that their classes meet the College Board’s course standards. According to an article in *Gifted Child Today* (2004), “the syllabus will then be sent for review to one or more college professors selected by the College Board. If the first professor finds that it does not meet AP standards, then the syllabus will be sent to a
second professor. If the reviewer finds the syllabus lacking, the College Board will contact the teacher and principal for clarification and if necessary, the teacher will revise and resubmit the syllabus” (p. 7). The process can take up to two months and aims to ensure that the educator adheres to the guidelines and stipulations outlined in the syllabus submitted to the College Board. The Advanced Placement program is standardized and objective. Because of the AP Audit, colleges and universities can rest assured that every student who completes an AP course and the subsequent national exam has done so in a uniform manner.

The national exam constructed by the College Board is valid and reliable and tests only the concepts listed in the AP course objectives; individual classroom teachers do not write the AP exams. High school on-level and honors courses are not standardized and are often subjective. Therefore, the amount a student studies to earn an “A” in an honors course at school X may be the equivalent of a “B” at school Z (Gifted Child Today, 2004).

The Advanced Placement Program, like any educational program, has both its strengths and weaknesses. Positively, the AP program, when taught effectively, simulates collegiate rigor and relevance. The AP content curriculum mirrors college-level grading, reading requirements, outside-of-class enrichment assignments, tests and examinations, problem-solving, and most importantly, autonomy. College professors generally do not remind students of due dates and reading assignments. Instead, they believe the student is ultimately responsible and accountable for all assigned work. AP teachers are required to have additional certification, a minimum of three years teaching
experience in a specific subject at a non-AP level, and are commonly found to have advanced degrees such as a Master’s or an Educational Specialist. Most important, AP teachers possess an insatiable passion for their subject. This contagious passion quickly spreads to students and other members of the faculty and may be one element that is drawing the non-elite high school student out of the shadows and into an AP classroom.

As mentioned earlier, in 2007 the College Board began a painstaking endeavor: to audit every school-level AP program, instructor, syllabus, textbook, and curriculum (*Gifted Child Today*, 2004). The audit was carried out “amid concerns about whether the program’s rapid growth had diluted its quality” (Cech, 2008, p. 1). The national audit has contributed to uniformity among AP classes, schools, districts, and states. Prior to the AP audit, the College Board could not guarantee that a student was being taught in the rigorous and relevant manner on which the Advanced Placement Program was founded in 1955. This uniformity is considered a tremendous strength, as it is the only national program with such consistency. Moreover, the review of the high school instructor, syllabi, textbooks, and overall curriculum is also being conducted by college professors who specialize in the specific AP class being audited. This adds another level of academia to the AP program as college professors use their expertise to scrutinize every submission all across the country. Trevor Packer, the vice president of the College Board stated, “the audit was designed to assure college-admissions officers and others that ‘AP’ wasn’t being attached to courses that weren’t AP, and that any course labeled ‘AP’ had been examined by college faculty” (Cech, 2008, p. 1).
Finally, colleges and universities are using AP scores and course completion in the admission process. A majority of institutions, with the exception of the four military academies, accept AP credit. Most schools consider the passing score of a 3 sufficient content mastery to earn college credit, while more esteemed institutions, such as Yale and Harvard, will only accept a perfect score of a 5 (The College Board, 2007). The question then is this: if colleges are using AP scores and course completion in the admissions process, shouldn’t AP be considered the premier college-preparatory program in the country? If this is true, shouldn’t AP students outperform their non-AP counterparts in college; especially during the first year?

The Advanced Placement program is not without its flaws and drawbacks. The most obvious imperfections were the pre-audit courses. In other words, before the College Board launched the AP course audit in 2007, Advanced Placement courses were taught in a variety of forms and lacked a degree of uniformity all across the country. Many instructors presented the course with intense rigor and relevance and attempted to mirror college expectations at every possible opportunity. Others simply stamped the course “AP” and taught it in a similar fashion to an honors course. Presently, the College Board, via college professors who are determined to be experts in their given field, is reviewing every single course and instructor in the nation. This is a daunting task no doubt, one that has the skeptics mewing about the impossibility of such a task.

The quality of a specific instructor’s AP course is still a victim of subjectivity. Though the college professors reviewing the material may be experts in their subject area, they may not all be experts on teaching strategies and pedagogy. Furthermore, simply
reviewing an instructor’s course syllabus, the crux of the audit, only affords a glimpse into that particular AP course. In addition to the syllabus, the audit officials should have considered asking for an example of a unit test, the semester or course pacing guide, and a copy of thematic lecture notes, all of which might provide a more accurate picture as to the quality of that instructor’s course.

*Arguments in Support of the Advanced Placement Program*

*AP Students Significantly Outperform their Peers: Hargrove, 2007*

Advanced Placement classes are offered to high school students who aspire to get a head start in college by passing the AP exam associated with the course. Dr. Hargrove, via a longitudinal study, identified a trend that supports the notion that “students who successfully participated in one or more AP courses *significantly outperformed* their non-AP peers” (2007, p. 1). These comparisons were made against classmates and peers with similar levels of academic ability, GPA’s, and socio-economic status. Furthermore, Dr. Hargrove’s research assistant, Leslie Keng, concluded that students who placed out of college introductory courses due to AP credit did better in more advanced college courses than their non-AP peers achieved in the traditional first-year freshman courses (Hargrove, 2007). As a result of Dr. Hargrove’s findings, the researcher concluded that AP graduates are better prepared for the academic rigors of a college environment because they significantly outperformed their non-AP counterparts.
Our Incoming Students: What are they like? Sax, 2003

Linda J. Sax, a professor at UCLA, conducted a significant research study among college freshmen (2003). She concluded that recent educational trends revealed a wavering picture of college freshmen. These freshmen demonstrated a stronger record of academic achievement but had a lesser commitment to completing homework and studying for tests and quizzes. During the course of her research study, Dr. Sax has also discovered that students attempted to boost their GPA’s by taking AP classes, thus making their college applications more attractive. The California Postsecondary Education Commission (2005) added that “students can improve their chances for admission by successfully completing Advanced Placement courses because these courses are weighted heavier than other courses when computing a student’s grade point average” (p. 1). Now that colleges and universities are using AP exam scores and AP course completion in the admission process, evidence has emerged that Advanced Placement is a notable program that is rapidly gaining popularity, and needs to be viewed in a different light.

Comparing State High School Assessments to Standards for Success in Entry-Level University Courses: Brown, 2007

Researcher Brown conducted a study in the area of success for first-year college students. He suggests that high school and college curriculum should be vertically aligned. This would result in higher levels of academic success in first-year students who normally struggle with the high school-to-college transition. According to researcher Brown, greater alignment has proven challenging but not impossible. Programs such as
Advanced Placement and International Baccalaureate have devised assessment methods that connect directly to college readiness and also include performance tasks to measure complex cognitive processes, but these systems are more costly and complex to construct and maintain and currently are restricted to only the highest achieving high school students. However, if AP courses were open for more students, the level of success may also increase proportionately.

*The Role of Advanced Placement and Honors courses in College Admissions: Geiser, 2004*

In “The Role of Advanced Placement and Honors Courses in College Admissions,” researchers Geiser and Santelices reported that merely having an AP course on a student’s transcript did not predict a strong college performance; however, taking the official College Board AP examination and scoring above a 3 out of a possible 5 was an indicator of college grades (Geiser and Santelices, 2004).

In addition to challenging classrooms with potentially better prepared teachers, another reason to enroll in AP classes is the college factor. Susan Santoli surmised that “a transcript with AP courses on it strengthens the chances for college admission. Many colleges, such as Michigan and Berkeley, award extra points for AP courses taken and in fact some colleges ‘penalize students’ who could have taken AP courses, but chose not to do so” (2002). Furthermore, colleges have revealed that it was not the AP national exam grade that was important to the student, but the course itself and how it mimicked a traditional college environment.
Several theories have been advanced to explain the nature of college success. These theories do not identify a uniform practice in which a high school graduate can participate to properly prepare for college. High schools vary from state to state, county to county, and even among individual area schools (Maxwell, 2006). Furthermore, academic rigor is widely defined among the nation’s schools. For some researchers, Advanced Placement classes may present a modicum of uniformity. According to Howard-Vital, AP is one of many pathways to increase and measure college readiness (2006). Advanced Placement classes sustain a rigorous and relevant learning environment. In turn, this type of exposure will increase college attendance rates and prepare students for the challenges that await them on post-secondary campuses across the nation.

*The Advanced Placement Factor: Dillon, 1986*

Many studies have shown that completion of Advanced Placement courses bodes well in terms of the college admissions process. Dillon (1986) surveyed the 50 colleges that the College Board listed as the schools that have received the most AP scores resulting in college credit. He confirmed in his research study that “AP on a transcript has come to be accepted as proof of rigorous academic preparation, worthy of special weight in admissions decisions. Students who have taken Advanced Placement classes are considered to have learned scientific inquiry, reasoning, problem solving, and analysis, all of which enhance course quality” (Dillon, 1986 from National Commission on Excellence in Education, 1982).
In 1992, research in this field continued under the supervision of the State Council of Higher Education: “The academically prepared high school students are not only more successful in academic work in college, but they are more self-confident, they have increased aspirations, and they “fit-in” more easily into college” (State Council of Higher Education, 1992). Furthermore, academically prepared students tended to have higher GPA’s. The council also claimed that schools that institute a strict admissions policy—one based on academic preparedness rather than raw test scores or an open-admissions policy—maintain higher first-year retention rates (Miller, 1994). Louisiana State University implemented this type of policy and experienced an increase in freshmen retention; it moved from 67% to 79% in just one year (Miller, 1994). Miller stated that since the mid-1990’s, other universities have gone as far as to offer college-level courses in the high school so that seniors can be exposed to the academic rigor of a college curriculum prior to high school graduation. Syracuse University found that students who entered their institution with AP credit maintained a first-year retention rate of 96%, while the national average remained 79% (Miller, 1994).

Research indicates that the academic benefit of AP courses extends well beyond college admission. AP students have an advantage over non-AP students in that they have already been exposed to the academic rigor, expectations, and autonomy often associated with the college curriculum (Harris and Galitsis, 1980). According to Susan Santoli (2002), students said that “AP classes make a difference in how prepared they feel for college and allow students to gain more knowledge prior to attending college” (p. 25).
While conducting research on high school–college alignment, Travis Reindl (2006) identified a “dead zone,” the segment of time between high school graduation and a student’s first college class. Reindl hypothesized that, for many individuals, the dead zone is accompanied by feelings of being under-prepared and in possession of inadequate academic tools, namely critical thinking and organizational skills. He suggested that students are not taking enough of the right courses to succeed in college and that classroom assessments are not rigorous enough to encourage and promote mastery of the material.

Empirical studies have focused on tangible aspects of college success. Lesli Maxwell (2006) reported on a school district in San Jose, California, that required all upper-level students to enroll in Advanced Placement classes during their junior and senior years. By increasing the standards for students, the new policy resulted in questionable discriminatory practices, as many African-American and Latino children did not meet the necessary enrollment criteria. However, the students who registered for AP classes, mostly white and Asian, felt more prepared for the challenges of a college setting.

*California Postsecondary Education Commission: 2005 & Opening AP to All: Gewertz: 2001*

The California Postsecondary Education Commission (2005) concluded that Advanced Placement courses strongly encouraged the “going-to-college culture.” Completing an AP course did not single-handedly put students in the college mindset, but it polished the students’ perspectives. It opened their eyes to the types of material
covered and the collegiate style of lectures, autonomous enrichment assignments, and high expectations. A California study noted, “Completing AP courses greatly improves the student’s chances of completing a degree program. According to the College Board, 45% of students who have taken one AP course and 61% of students who have taken two or more courses complete their bachelor’s degree within four years; only 29% of students that have not taken an AP course complete their bachelor’s degree in four years” (California Postsecondary Education Commission, 2005, p. 5). Furthermore, the College Board argues that “the course standards are tested against college-level courses and provide a comparable standard” (Gewertz, 2008, p. 1). The College Board believes that offering AP courses to a larger spectrum of students will help prepare those students for college. 70% of students enrolled in an AP course terminated with the national exam, while the remainder simply completed the course and opted out of the culminating test. Of those 70%, about 61% earned a 3, the benchmark many colleges consider acceptable (Gewertz, 2008).

Research has uncovered a vital statistic in education: despite huge increases in the college attendance rate over the past three decades, the percentage of students who stay on track to earn a four-year baccalaureate degree is roughly the same as it was in 1950 (The Progress of Education Reform 1999-2001 High School Curriculum, 2001). Evidence suggests that the quality and intensity of high school curriculum is to blame and that too few students are taking the types of courses needed to succeed in their first year of college, much less graduate in four years. The 2001 National Commission on the High School Senior Year concluded that “high schools can no longer act as sorting machines, preparing some students for postsecondary education and some for the world of work.
The conditions of modern life demand that all students graduate from a rigorous academic program that equips them with the knowledge and skills needed to succeed in both postsecondary education and careers” (Weiss, 2001, p. 2).

According to data from the U.S. Department of Education, a rigorous curriculum was the most significant factor in determining whether young people earned a bachelor’s degree; it ranked higher than a student’s GPA, high school test scores, or class rank (Weiss, 2001). The U.S. Department of Education conducted a study that demonstrated a consistent advantage for students who completed a rigorous high school curriculum over their peers enrolled in lower-level classes (Weiss, 2001). Furthermore, U.S. Secretary of Education, Rod Paige, remarked that “Advanced Placement courses have become the hallmark of excellence in this country” (Paige, 2004, p. 35). When asked about educational reform, Secretary Paige stated that AP was the best kind of reform, one with higher expectations and achievement. At a national conference in Washington, D.C., Paige stated: “Like you, I have the chance to talk with students. There is much appreciation for AP classes. These courses are a mark of distinction. AP courses are characterized by more intensive learning, higher expectations, and more pronounced results. They are also the courses that change a life, inspire a career, or lead to a love of learning. When students talk, they speak in awe of a teacher or a book or a class. It is amazing how often the courses mentioned are AP” (Paige, 2004, p. 36).

William Tierney, the director of the Center for Higher Education Policy Analysis at the University of Southern California, determined that college preparation was failing at a majority of the nation’s high schools. His research team determined that even when
school curriculum was sound, the teachers did not always thoroughly teach the standards, objectively assign grades, demonstrate adequate content mastery, or enforce high expectations and significant challenges.

Creating a challenging curriculum is no easy task. The U.S. Department of Education has been trying to create, implement, and evaluate a rigorous curriculum since 1983, when the department issued *A Nation at Risk* (Weiss, 2001). This publication recommended that all high school students be required to complete four years of English, three years of math, science and social studies, and one to one-and-one-half years of computer science. In addition, those students planning to attend college should take two years of a foreign language. Later, in 1999, the U.S. Department of Education attempted to re-define a rigorous curriculum in a report titled *Answers in the Toolbox* (Weiss, 2001). This report defined rigor as more than three years each of English and math (beyond Algebra II); a minimum of two years each of laboratory sciences, history, and foreign languages; and more than one Advanced Placement course. Recently, the bar was set even higher. A 2001 report, *High School Academic Curriculum and the Persistence Path Through College*, describes a rigorous curriculum as four years of English, three years of a foreign language, three years of social studies, four years of math (including pre-calculus or higher), three years of science, and at least one or more AP courses (Weiss, 2001).

*High School Curriculum: Weiss, 2001*

Suzanne Weiss, author of *High School Curriculum*, stated that “a growing number of high schools are looking to the Advanced Placement (AP) programs as a quick way to
introduce more rigorous coursework into their academic programs, as high school teachers and college instructors work together, in various subject areas, to develop AP tests, which enable students to earn college credits for taking tougher classes in high school” (2001, p. 6). Former U.S. Secretary of Education Richard W. Riley called for every American high school to offer at least one AP course by fall 2001 and to add one such course each year for the next 10 years (2001). In addition to providing a curriculum with greater rigor, AP is no longer the elite program for only a few accomplished high school students in their senior year who are primed to do college-level work (Casement, 2003). It is now open to many students in the 10th, 11th, and 12th grades. An on-level, seemingly “average” student at Wolfson High School in Jacksonville, Florida was asked to join the AP program as a freshman. The student did so and later said, “I found out that it was difficult, but if you studied and did the reading, it was OK; it made me become a harder worker” (Gerwertz, 2008, p. 1).

Rigorous high school courses better prepare students for college work, and dropout rates are often lower among high school graduates who completed AP courses. Susan Santoli referenced studies conducted at Yale, Duke, and Michigan that revealed AP students were not only a superior group prior to college entry, but had an overall better four-year college performance (2002). Building on these studies, researchers Morris and Willingham conducted a study among freshmen at nine colleges who had submitted at least one AP grade. This group consisted of 1,115 students who were observed for four years. Conclusions were that “AP students were found to have better academic records than non-AP students, and to be more successful overall in everything but athletics and student elected offices. AP students do well or better in subsequent advanced courses
than students who take their introductory courses in college. Additionally, students who take a more rigorous curriculum are more likely to finish college. The drop out rate among AP students is 15%, while non-AP students experience a 25% drop out rate” (2002).

In 2004, researchers Klopfenstein and Thomas conducted a study that stands in contrast to the recent popularity of the AP program among high school students. According to their study, “the variance in the freshmen students’ grade-point averages and dropout rates was explained by the familiar predictors of college performance; high-school grade-point averages, SAT scores, parent’s education and income, and the proportion of experienced teachers in the students’ high schools” (Glenn, 2005). Furthermore, the authors concluded by saying, “AP experience may serve as a signal of high ability and motivation, but does not by itself indicate superior academic readiness” (Glenn, 2005).

Weighting for Recognition: Sadler & Tai, 2007

Sadler and Tai (2007) made two observations with regard to deficiencies in the AP program. First, the authors ventured back to the founding of the program in 1955. They claim that, “when the program was conceived, no mention was made of the impact on admission to college or how taking advanced courses should impact GPA or honors in high school” (p. 6). The College Board, best known for its creation, production, and supervision of the SAT and ACT college admissions tests, should have possessed the foresight to anticipate that a program that allows qualified high school students to take what amounts to a college course, and potentially earn college credit, while still enrolled
in high school might affect the students’ GPA and the college admissions process.

Secondly, Sadler and Tai (2007) warn that “educators should keep in mind that there is a anomaly between enrollment in AP courses as an indicator of college preparation versus the degree to which these courses contribute to college preparation” (p. 8). The researcher is aware of such a difference and titled this study, “The Completion of Advanced Placement Courses as an Indicator of Academic Success in First-Year College Students.” The wording of the title highlights this warning by Sadler and Tai. Simply enrolling in an AP class does not, by itself, contribute to college success; however, the researcher hopes to determine what effect the successful completion of an AP course has on the student during the first year of college.

The researcher acknowledged the above statements and the overall conclusions of the study and considers them further rationale for the need for a new study and more importantly, a survey instrument. The increased enrollment in AP courses, the rising popularity of the program, and the recent consideration of AP exam scores during college admissions, all imply a program that is actually helping students be more successful. Glenn (2005) reports, “that the subgroups of students who took the official AP tests, and did well on them, performed very well in college.” This alone is evidence that something beneficial is happening as a result of the completion of AP courses. The researcher, after completing a more current study, with the aid of a new instrument, hopes to paint a more accurate portrait of how AP courses create a successful first-year college student.
For the past 30 years, freshmen have been asked about their attitudes, behaviors, and aspirations when they enter college. Their opinions were printed in an article titled “Freshmen Pay, Mentally and Physically, as They Adjust to Life in College” (2002) in the *Chronicle of Higher Education*. Until recently, no one has asked a more critical question: What happens to students during that transformative first year? (Bartlett, 2002)

In response to this problem, researcher John Gardner pioneered the idea of “Your First College Year” (YFCY) survey, later developed by the Higher Education Research Institute and used in conjunction with the “Cooperative Institutional Research Program (CIRP). According to Gardner, the instrument was designed to offer a “more holistic portrait” of first-year college students (Bartlett, 2002). The YFCY survey was first administered in 2000 at UCLA and sampled 3,680 freshmen at 50 four-year institutions.

The YFCY was created to be used in concert with the CIRP, which was first used in 1966. Oklahoma State University has been conducting the CIRP study for all first-time, full-time freshmen since 1993. They use this device in order to assess the effects of college on students. In 2006, OSU freshmen claimed to have significantly more interest in pursuing advanced degrees, earned more A’s in their high school courses, and entered college with a greater sense of self-confidence. OSU uses this information to increase their freshmen retention rate and create a more successful environment for incoming students (Oklahoma State University, 2006). In 2007, Charleston Southern University distributed the CIRP survey to their freshmen students. The most notable result was that
CSU saw an increase of 35% in high school graduates who had completed at least one Advanced Placement course (Charleston Southern University, 2007).

According to the Policy Center on the First Year of College, the “Your First College Year” survey is “the most prestigious assessment instrument in the history of higher education, to measure growth, learning, and change in the first year of college” (Policy Center on First Year of College, 2008). The YFCY survey provides at least three major advances in collegiate assessment practices: it links end-of-first-year student responses to start-of-first-year student responses from the annual Freshman Survey, serving as the only assessment instrument specifically designed to measure change during the first year of college; the collection process allows institutional researchers to link change scores to specific experiences in the first college year, such as extra-curricular participation, curricular choices, and special programs; finally, the aggregated results form the only nationally representative data set of change over the first year—providing institutions with both national comparisons and a baseline of student characteristics as they enter the sophomore year.

The Policy Center on the First Year of College goes on to say that the YFCY survey is “a soundly designed survey instrument—built on psychometric research and informed by an array of external authorities—providing an unmatched opportunity for institutions to explore how policies and practices affect student learning and growth across the first college year” (Policy Center on First Year of College, 2008).

In 2005, St. John’s University conducted the YFCY survey which yielded various results that the university administration could consider with regard to new, incoming freshmen. The most significant result claimed that 90% of their first-year students felt
very successful with their transition to college at St. John’s University, nearly 16% higher than the national average. Additionally, their college freshmen reported studying 7.4 hours per week (Saint John’s University, 2005). Adelphi University also conducted the YFCY survey. In 2006, the results indicated that 73% of their first-year college freshmen were satisfied with their college experience and 75% were content with their academic experience (Adelphi University, 2006).

In order to glean current and useful information, the researcher identified the need to produce a modern incarnation of the YFCY and CIRP surveys with a narrow focus on the completion of AP courses and its effects on academic success. The Freshmen Success Survey (FSS) was designed to test the research hypotheses and provide the academic community with contemporary, relevant, and pertinent information and statistics with regards to the completion of AP courses and first-year college success.

**Experimentation**

This study relied on a survey perspective. The independent variable was the high school graduates who completed an Advanced Placement course(s), while the dependent variable was the results of the Freshmen Success Survey (FSS) survey instrument created from the CIRP and YFCY research instruments, products of the Higher Education Research Institute. Specifically, the researcher attempted to establish a co-relational association within the experimental perspective. Causal comparative research is also called ex post facto research (Glatthorn, 2005). Donald Ary states that ex post facto research consists of five steps, all of which were carried out by the researcher throughout the course of this study: (1) state the research problem in a form of the question; (2)
select the two groups to be compared; (3) choose the design study; (4) collect data on the independent and dependent variables; (5) analyze and interpret the data (2006).

In order to further illustrate the conclusion of the survey, the researcher employed an empirical questionnaire. According to Donald Ary (2006), empirical research is “a generic term for a variety of research approaches that study phenomena in their natural settings, without predetermined hypotheses” (p. 449). The two most important elements of an empirical approach are rigor in research and credibility of the study. This study contains both elements.

The researcher established and maintained rigor in research by answering the following six (6) questions: (1) are the data based on your own observation or is it hearsay; (2) is there corroboration by others of your observation; (3) in what circumstances was an observation made or reported; (4) how reliable are the people providing data; (5) what motivations might have influenced a participant’s report; and (6) what biases might have influenced how an observation was made or reported (Ary, 2006). These questions guided the study, and the researcher was mindful to answer them throughout the construction of the data collection instrument and then report on the findings in chapter 5.

In order to establish empirical credibility, or believability, the researcher employed two tools: peer review and respondent checks. Ary posits this question: given the evidence presented, is there consensus in the interpretation? (2006) “Colleagues and peers are presented with the raw data along with the researcher’s interpretation or explanation. Discussions then determine whether the reviewer considers the
interpretation to be reasonable, given the evidence” (Ary, 2006, p. 505). The researcher
presented the raw data to a member of the expert panel, who reviewed the collected data
and the researcher’s interpretations of the findings.

The second tool the researcher used to determine credibility was respondent
checks. Again, Ary puts forth the following question: do the people that were studied
agree with what has been said about them? Ari states, “by the end of the data collection
period, the researcher may ask participants to review and critique field notes or tape
recordings for accuracy and meaning” (Ary, 2006, p. 506). In this case, the researcher
contacted 5 research participants out of the random sample of 25 AP graduates used in
this portion of the study. These students were asked to review the researcher’s
interpretations of their statements as they appeared in the study. All 5 respondent checks
determined the interpretation was accurate, thus confirming the study was credible
(Appendix F).

Empirical research was developed as a way of studying and analyzing human
behavior in a non-mathematical manner. The study is then undertaken without any \textit{a priori}
hypothesis, in order to avoid predetermining what is observed. As Ary (2006)
states, “an [empirical perspective] is the in-depth study of naturally occurring behavior
within a culture or social group; it seeks to understand the relationship between culture
and behavior, with culture referring to the beliefs, values, and attitudes of a specific
group of people” (p. 458). The researcher used an empirical approach in order to work
in a natural environment rather than one fabricated by the researcher. A variety of data
collection techniques may be used as part of an empirical study (Ary, 2006). The most
common means of collecting data include interviews, document analysis, participant observations, researcher diaries, and life stories. In this study, the researcher utilized document analysis of an open-ended essay prompt. The participants of the overall study were 100 first-year college students enrolled at Peach State University.

The researcher closely followed the widely used methodology of empirical research: (1) selecting an observable project, (2) asking appropriate questions, (3) collecting empirical data, (4) making a record, (5) analyzing the data, and (6) writing the empirical report (Ary, 2006). The empirical approach yielded credible data for this research study.

Summary

The literature review supports the claim that Advanced Placement courses help to develop a more successful college student. Researchers such as Santoli, Hargrove, and Sax make similar claims that AP courses better prepare students for the academic rigors of a postsecondary learning environment. Collectively, the researchers reference the benefit students gain by being exposed to college-level coursework, expectations of professors, and the autonomy bestowed upon college students from the outset. Researchers Geiser, Santelices, and Dillon explore the burgeoning relationship between AP exam scores and college admissions. This trio of researchers claim that most colleges and universities, with the exception of the U.S. military academies and the Ivy League schools, allow graduates who score 3 or higher on subject AP exams to obtain college credit for that course prior to beginning their freshman year. This claim is a solid argument in support of AP programs as a significant college preparatory element.
Moreover, the research conducted by Michelle Howard-Vital claims that AP is one of a few pathways to measure college readiness (2006). Her research claims that AP courses sustain a rigorous and relevant learning environment, very similar to that found in a majority of America’s colleges and universities. Finally, the U.S. Department of Education has made statements in support of the Advanced Placement program. Both former U.S. Secretary of Education Richard Riley and the former Secretary, Rod Paige, state that AP classes are distinctive courses that are worthy of increased enrollment and are often considered the hallmark of educational excellence in our country (2001; 2004). However, the review of the literature says little to nothing about the affects of AP graduates on first-year college students.

College preparedness and subsequent success are increasingly vital aspects of America’s high school system. In the early years of our nation, college was not an option for a vast majority of Americans. Only the wealthy and elite could realistically make a college education a goal; fewer achieved it. During the 1700s, a formal education consisted primarily of reading, writing, and arithmetic. The purpose of the one-room school house was to teach people the basic skills needed to raise a family, pursue a craft, and hopefully live long enough to see their grandchildren mature. Over time, education became more goal-oriented. Spurred on by the industrial revolution of the 1850s, people began to see the value of a vocational education. Grammar schools were quickly transformed into institutions that prepared students for a future in a trade industry. After World War II, technology was the new “industrial revolution,” and students began to prepare for careers beyond hands-on vocational training. Colleges and universities became the goal for a greater number of students. As the 20th century came to an end,
attending college was a reality—possibly a requirement—for a majority of America’s students. High schools were now charged with preparing students for the rigor of a college education.

The research material clearly determined that Advanced Placement courses are an effective college preparatory tool: (1) the course material is written at the college-level; (2) college textbooks are used in the high school course; (3) the course objectives and expectations closely mirror those of a postsecondary academic environment; (4) the teachers are often veterans and considered content masters, and (5) the course and national exam are standardized, leaving little room for subjectivity. Collectively, the researchers celebrate the positive effects AP courses have had on students, as well as the role of AP in the college admissions process. Some even consider the College Board’s AP curricula to be among the most rigorous and relevant used in American education today.

However, the review of the literature, and the previous studies contained within, do not adequately conclude that the completion of Advanced Placement courses guarantees a successful first-year college student. When AP is viewed only in the light of the first year of college, the outcome is blurred, and earlier research does not clearly outline a conclusion. A new instrument needed to be developed; one that would properly measure the success of the AP program in first-year college students.
Chapter III

Methodology

A survey research design was employed to carry out the study. The researcher distributed surveys to 100 college freshmen at Peach State University. The independent variable measured which students completed Advanced Placement courses while in high school, while the dependent variable was the results of the survey instrument. The survey instrument was created by the researcher as a derivative of two well-established research tools: the “Cooperative Institutional Research Program,” known as CIRP, and “Your First College Year,” referred to as YFCY. Both of these instruments were created by the Higher Education Research Institute and were determined to be valid and reliable survey instruments. The CIRP covers a wide range of student characteristics: parental income and education, ethnicity, and other demographic items; financial aid; secondary school achievement and activities; educational and career plans; and values, attitudes, beliefs, and self-concept. In 2001, Emory University in Georgia conducted the CIRP survey (Higher Education Research Institute, 2008). According to officials at Emory University and the results of the survey, which were made public by Higher Education Research Institute (HERI), 24% of students at Emory University sought a graduate and/or professional degree versus the national average of 19%. This information enabled officials at Emory University to request more funding for graduate programs and additional buildings and faculty.

“Your First College Year” survey (YFCY) was developed through a collaboration between HERI and the Policy Center on the First Year of College at Brevard College.
YFCY enables institutions to identify features of the first year that encourage student learning, involvement, satisfaction, retention, and success, thereby enhancing first-year programs and retention strategies at campuses across the country (Higher Education Research Institute, 2008). In 2002, Elon University in North Carolina, utilized the YFCY survey. The results, made public by HERI, identified, from the perspective of the student body, the positive attributes of Elon University. Specifically, the YFCY determined that their university maintained a 75% retention rate between the freshmen and sophomore years; a few percentage points higher than the national average.

Using the CIRP and YFCY, the researcher identified a total of 21 questions from these two survey instruments that were deemed appropriate for the study (see Appendix A). An expert panel validated the researcher’s claims that the 21 questions which comprised the “Freshmen Success Survey” (FSS) were indeed applicable to first-year college freshmen at Peach State University. Furthermore, HERI, the creators of both the CIRP and the YFCY research instruments, previously established validity for all of the questions contained in the surveys.

Since the CIRP Freshman Survey has been administered for forty-two years, it is possible to observe the stability of the survey questions. “The vast majority of CIRP Freshman Survey questions exhibit a great deal of stability over time. In other words, in repeated trials the aggregate results remain very similar (allowing for modest fluctuations due to sampling error). Changes that are observed do not represent wild or random fluctuations, but can be linked to temporal trends or to real and meaningful exogenous shocks” (Higher Education Research Institute, 2008, p. 1). While nothing can be done to
completely eliminate the fluctuations caused by a sampling error, several factors and elements help ensure that such effects are minimized. For example, nearly 90% of the institutions in the CIRP Freshman Survey sample are repeat participants. This helps to ensure that the sample is highly consistent throughout the years. In addition, the data are stratified and weighted by institutional type and gender to correct for ‘response bias’ that occurs due to fluctuations in the annual sample.

While HERI has not performed an in-depth factor analysis for every item on the CIRP and YFCY Freshman Surveys, several publications have investigated the validity of the survey device. In What Matters in College, (Astin, 1992), for example, ‘student types’ were constructed based on select items from the CIRP and YFCY Freshman Surveys (the leader, the scholar, the hedonist, etc). Astin found that the ‘student types’ held together quite well with most of the scale reliability coefficients in excess of .70 (Higher Education Research Institute, 2008, p.2).

According to Allan Glatthorn, the researcher should answer the following questions while conducting ex post facto research:

(1) What subtype will be used?
(2) How will the subjects be selected? If random methods will be used, how will randomness be assured?
(3) Who will subjects be assigned to experimental and control groups?
(4) Will pretesting be used?
(5) What treatment will be applied to the experimental group?
(6) How will the dependent variable be measured?
(7) What inferential statistics will you use to establish relationships?
(8) What methods will you use to control for threats to internal validity?

(9) What methods will you use to control for threats to external validity (p. 99)?

The researcher used the questions stated above as a guideline for the methodology of this study. All facets of the questions were considered throughout the course of this study and were answered in the following manner: (1) two groups of fifty first-year college students were used in the study; (2) within a population of 2,250 freshmen students at PSU, the researcher randomly selected fifty AP students and fifty non-AP students, with both groups having maintained a high school GPA of at least 3.5 or higher; (3) those students who completed at least two AP courses while enrolled in high school became the experimental group and composed the independent variable of the study, while the fifty non-AP students became the control group; (4) no pre-testing was needed or used for this study; (5) the level of college success as measured by the “Freshmen Success Survey” (FSS) acted as the treatment to the experimental group in this study. The subsequent follow-up, open-ended questionnaire further explored the affiliation between AP courses and academic success in first-year college students; (6) the dependent variable was measured using the results of the FSS, with data entered into Mini-Tab under the supervision of a trained statistician; (7) self-reported high school GPA and SAT/ACT standings, as well as random selection method scores, were used to infer observations in the study; questions (8) and (9) are addressed later in this study under the Data Validation section.

This study also utilized an empirical study based on an analysis of a research questionnaire to further explain the outcome of the survey instrument. The research reported in this study was promulgated from a review of the literature and responses to an
essay prompt administered to 25 college freshmen within the 100-student survey population. The focus of the study was to determine whether high school Advanced Placement courses prepare college freshmen for the academic rigor of a post-secondary environment.

The level of readiness is relative to the individual, type of school system from which he or she matriculated, and the academic rigor of the postgraduate location of choice (Glatthorn, 2005). The researcher identified Advanced Placement classes as a common element to measure a student’s level of college success. The College Board, which is responsible for the creation and implementation of AP courses, claims their program simulates collegiate rigor and relevance.

Restatement of the Purpose

Literature suggests that Advanced Placement high school courses are designed to improve success in college; however, little data has been collected to determine whether there is strong connection between these courses and college success in first-year college freshmen as opposed to their non-AP counterparts. The answer to this question may be the Advanced Placement program created by the College Board in 1955. Its motto, “Connecting Student to College Success,” is evident in the fervor and consistency by which they maintain and operate the Advanced Placement program (Geiser, 2006). These high school courses are modeled after freshman-level college courses, utilizing college-style syllabi, collegiate textbooks, and requiring additional certification for the instructors charged with teaching an AP class. The main focus of any AP course is to
conduct class in a style similar to the college setting, create assignments that foster differentiation, and prepare the student for the rigor of a college environment.

**Null Hypotheses**

The null hypotheses for this study demonstrated there will be no significant difference in academic success between students who completed Advanced Placement courses and those who did not, as indicated by the grade point average (GPA) at the end of the first semester of college of the students in the two groups. If the null hypotheses are true, then the level of academic success between AP-takers and non-AP graduates would be the same. This study hoped to test the null hypotheses and answer the research question. These results would determine whether or not AP courses help to foster academic success in first-year college students more than that of their counter-parts in on-level, non-AP classes.

**Population**

The study took place at Peach State University in Georgia. The university is made up of 21,551 undergraduate and graduate students, located 35 miles north of Atlanta. The most common majors at Peach State University are nursing, education, and marketing. Over 85% of the student body consists of individuals from the state of Georgia, many of whom benefit from the Hope Scholarship. The researcher randomly selected 100 first-year college freshmen from a total freshmen population of 2,375 freshmen enrolled in PSU 1101 at Peach State University during the fall semester of 2007.
Instrumentation

The researcher employed a survey research design to carry out the study. The researcher distributed surveys to 100 college freshmen at Peach State University. The independent variable measured which students completed Advanced Placement courses while in high school, while the dependent variable was the numeric results of the survey instrument and the grade point average of the subjects at the end of the first semester. The survey instrument was created by the researcher as a derivative of two well-established, reliable, and valid research tools: the CIRP and YFCY. Both of these instruments were created by the Higher Education Research Institute. The researcher identified a total of 21 questions from both of these survey instruments (see Appendix A).

In order to establish reliability, the researcher employed an expert panel to review the FSS instrument in an attempt to establish face validity. The expert panel consisted of two assistant professors at PSU, both of whom have earned Ph.D.’s, and a professional statistician. Expert panel professor #1 has been teaching at PSU for twenty-two years and has an earned Ph.D. in communications. He is now the director of First-Year Programs and wrote the text book for the course. Expert panel professor #2 has been teaching at PSU for seventeen years and is the department chairperson for the school of communications. He also earned a Ph.D. in communications. The third member of the expert panel has been a professional statistician for eleven years and has a Master’s Degree in Statistics. As mentioned previously, the three-person panel unanimously agreed that the FSS did in fact possess face validity, and they were particularly supportive of the survey questions which consisted of numerous sub-questions (questions
Academic Success

4, 5, 18, and 19), giving the respondent more opportunity to respond to the prompt in an accurate manner (see Appendix A). More specifically, the researcher asked the panel to consider the following questions in reference to the structure and purpose of the FSS: (1) Is the structure of the Freshmen Success Survey (FSS) consistent with other survey devices who have achieved face validity? (2) Are the 21 questions appropriately written for the target age group? (3) Will the 6 “research” questions (4, 5, 12, 13, 18, and 19) and the 54 total sub questions, as reported by first-year college students, answer the research question: “Is the completion of Advanced Placement courses an indicator of academic success?” (4) Is the numeric translation of the narrative responses an appropriate procedure for this study? (5) Does the FSS show signs of bias towards students who may have or have not completed Advanced Placement courses prior to entering college? (6) Does the FSS show signs of bias towards a specific gender, ethnic group, or socio-economic background?

The expert panel answered the questions listed above in the following fashion: (1) Yes, the Freshmen Success Survey has achieved face validity when compared to other devices who have already achieved face validity. The survey instrument strongly resembles a professional device and is of high quality. (2) All 21 questions were written appropriately for the target age group of 18-19 year old first-year college students at Peach State University. Students at this school should experience no difficulty in answering the questions. (3) If answered appropriately, the FSS should answer the research question, giving the researcher a clear picture of academic success in reference to the completion of Advanced Placement courses. (4) Yes, converting the narrative responses into a numeric equivalent is an appropriate procedure for this study. In
essence, this procedure translates the information into a more manageable, Likert-based format which the researcher can easily manipulate for the eventual $f$-test and $t$-test. (5) No, the FSS does not demonstrate signs of bias. The survey device was void of any questions regarding the completion of AP courses. This was especially vital, in that it strongly encouraged honest responses from the subjects. If a question regarding AP courses were present, a student who had never completed such a course might answer to the contrary in order to feel he or she is “part of the study.” (6) No, the FSS does not demonstrate signs of bias towards gender, ethnic origin, or financial status. Again, this is especially important in achieving face validity for this study, in that it allows the student to answer the question without the pressure of confirming or submitting to group conformity.

Furthermore, the expert panel shared their opinions of what each of the six research questions could possibly measure. According to the panel, information gleaned from question #4 may uncover the subject’s opinion on their first weeks or months as a first-year college student. The question asked respondents to rate their study skills, time management, and professors’ expectations, among other items. The researcher wanted to determine if AP students would have more success in these areas and select the “very easy” (choice #4) option. In question #5, the panel determined that respondents were reinforcing their opinions from question #4 when they were asked to describe their successes in various areas since they entered this college as compared to high school. These areas included conducting research, critical thinking skills, and problem-solving skills. Again the researcher determined a successful student as one who selected “much stronger” (choice #5) or “stronger (choice #4) on the FSS.
Question #12 asked students about their plans for next year and whether or not they were planning to attend this school next year. A review of the literature uncovered a trend that AP students are more apt to enroll in and complete their degree at their same institution. A selection of “attending your current school” (choice #4) would support this theory. The panel agreed this question would indeed provide this information. Again in question #13, the researcher, via a review of the literature, discovered that more often than not AP students remain full-time (choice #3) students and finish a four-year degree in four years or less. The expert panel agreed with the researcher in that this question, like question #12, would illustrate this point. In other words, questions #12 and #13 are questions that help create a profile of the respondent in addition to areas of academic success.

The final coupling of questions #18 and #19 consisted of a mixture of academic and social themes. The expert panel determined that question #18 would glean the respondents’ opinion of themselves in areas such as academic ability, drive to achieve, self-confidence, and writing ability. Students who viewed themselves in the “top 10%” of the student population (choice #5) or “above average” (choice #4) were determined by the researcher and the expert panel to be more successful then students who selected choices #3, #2, and #1. The expert panel was interested to see a question regarding time management. The researcher hypothesized that AP students would be more mindful of time management issues and the pitfalls of not managing one’s time in the context of college academics. Question #19 asked students to report how they use their time. Answers ranged from studying and completing to homework to watching TV to commuting. Subjects who indicated they spent more time in the academic areas were
considered more successful than those who placed a higher value on non-academic interests. This was indicated on the Freshmen Success Survey.

Overall, the expert panel met the objectives outlined by the researcher as expressed in the 6 questions listed above. The panel agreed that all 21 questions, particularly the 6 “research questions,” were applicable to first-year college students at Peach State University and that the survey instrument would indeed be an appropriate measure for this study and its population and had achieved face validity as required by the dissertation committee at Liberty University.

In an effort to further establish validity and reliability, the researcher conducted a pilot study to ensure the FSS would ascertain the appropriate information from the research subjects. A group of 25 first-year college students, 10 students who had completed Advanced Placement classes and 15 who had not, were asked to complete the FSS. The researcher looked for any deficiencies or flaws in the questions. All of the students in the pilot group finished the survey in a timely fashion, and none of the participants experienced any difficulty with the wording of the questions or the plausible selections. The researcher determined that the pilot study was successful, and along with the statements of the expert panel, the FSS would be an appropriate and effective survey device.

Furthermore, the researcher conducted a Cronbach alpha test for internal consistency, since the items measured were not scored as right or wrong but as a range of values (Ary, 2006). In the case of this research study, reliability is a function of group heterogeneity and the objectivity of the scoring. According to Ary (2006) “the reliability
coefﬁcient increases as the spread, or heterogeneity, of the subjects who take the test increases” (p.265). The gender, race, socio-economic status, or geographic region of the 100 subjects used in this study was not a consideration to the researcher. Moreover, the objective nature of the question format of the FSS adds to the internal reliability in that is greatly diminishes the subjectivity of open-ended or essay questions.

This research study consisted of six research questions (4, 5, 12, 13, 18, and 19) and contained a total of 54 sub-questions. The researcher conducted a Cronbach alpha test on research questions #4, #5, #18, and #19; questions #12 and #13 did not possess sub-questions, and therefore a Cronbach alpha test for internal reliability was not conducted. Current research protocol utilizes a benchmark value of 0.7 for the minimum acceptable reliability.

Research question #4 contained nine sub-questions. The Cronbach alpha test for internal consistency yielded a score of 0.7533 for the AP group and a 0.7586 for the non-AP group. Research question #5 contained ten sub-questions. The Cronbach alpha test for internal consistency yielded a score of 0.7281 for the AP group and a 0.7055 for the non-AP group. Research question #18 contained eighteen sub-questions. The Cronbach alpha test for internal consistency yielded a score of 0.7021 for the AP group and a 0.7827 for the non-AP group. Finally, research question #19 contained fifteen sub-questions. The Cronbach alpha test for internal consistency yielded a score of 0.6754 for the AP group and a 0.6387 for the non-AP group. Donald Ary claims that Cronbach alpha values can achieve an output below the 0.7 threshold as the number of respondent
selections increases. For question #19, the respondent had to choose a value between 1 and 8, leaving more room for a lower reliability value.

The researcher constructed an empirical study to determine specifically which aspects of AP courses promoted the success of these freshman students beyond that of their non-AP counterparts. Using current research from the review of literature and the coded essay responses, the researcher developed an empirical study that examined the question of college success. The survey instrument contained two open-ended essay prompts.

The proposed research project was completed in five stages. These stages consisted of: (1) preparation/approval, (2) survey instrument administration, (3) data organization, (4) data analysis, and (5) research reporting. The first stage of the project was completed in six weeks. A written proposal was given to the Liberty University Institutional Research Board (IRB), the supporting educational institution, and the dissertation committee. The third stage of the research process, data organization, required four weeks for the research data to be completed. The fourth stage, data analysis, was also completed in four weeks. During this time, data was analyzed using the appropriate empirical procedures and validated using respondent checks and peer reviews. Comparison of the data was analyzed during this time. Eight weeks was allotted for the final stage, which was the report of the research findings. A total of 32 weeks was required to complete the research project.
Data Collection Procedures

The FSS survey was administered to the experimental group of 100 subjects, and documents were completed and returned on the same day of the survey. The surveys were collected, and the data was analyzed using Mini-Tab. The results of the surveys were matched with the student information card. This card contained the following information: (1) student’s name; (2) student’s age; (3) self-reported high school GPA; (4) self-reported SAT or ACT scores; (5) how many, if any, Advanced Placement courses the student completed while enrolled in high school. The students who were identified as AP alumni were placed in the experimental group, while the remaining non-AP students became the control group.

At the completion of the process listed above, the researcher then distributed an essay prompt to a random sample of 25 students who had completed AP courses as concluded by the FSS (Appendix D). This empirical prompt was administered and returned the same day. Later, the researcher coded the responses and identified commonalities within the narrative responses (Appendix E). These narrative responses painted a more specific picture of how Advanced Placement courses contribute to the success of a first-year college student.

To summarize the previous explanation, an emphasis should be placed on the use of a research-based empirical study to identify a positive relationship between high school AP classes and a student’s level of college success. The next section presents the results obtained from the tabulated responses of the student questionnaire administered to the experimental group at Peach State University.
The nature of the study centered on the interconnection between high school Advanced Placement classes and a resulting level of college success. The experimental group consisted of 100 college freshmen who were enrolled in a freshman course at Peach State University. The sample group overwhelmingly attributed at least a part of their college success to their previous exposure to and completion of high school AP courses. The College Board, founder of the Advanced Placement program, recognized that an educational gap existed between an average, “on-level” high school class and archetypal freshman college course. Advanced Placement courses are developed and delivered on the college level. The assignments, assessments, and experiences are designed to replicate the academic rigor of a post-secondary education.

**Statistical Analysis of the Data**

As stated in section one, the study reported herein examined in detail the level of college success rendered as a result of enrollment in high school Advanced Placement classes. Researcher Travis Reindl (2006) identified a “dead zone” between high school graduation and the beginning of a freshman student’s college career. This dead zone is a result of the lack of preparation in the high school for the academic rigor of a college environment. Lesli Maxwell (2006) concluded that high school Advanced Placement courses may hold the solution to this dead zone and to the overall ineffectiveness of the standard high school class in regards to college success. She argues that the rigor, relevance, and rapport of an AP class are more closely associated with the expectations of a college course.
The collected data was analyzed by first separating the survey responses of AP-takers from their non-AP counterparts. Next, the researcher identified the survey questions that pertained directly to college success. These questions were: 4, 5, 12, 13, 18, and 19 (Appendix A). The researcher then converted the respondent choices to a numerical equivalent. For example, when referring to question #5, the choice “much stronger” was converted to the numeric equivalent of a 5; “stronger” a 4; “no change” a 3; “weaker” a 2; “much weaker” a 1. After the conversion, the researcher simply tabulated the mean score for each survey identified as completed by an AP alumnus. The same process was repeated for the non-AP graduates. The remaining survey questions were used to garner demographic and other pertinent information for this study and future research questions.

Using the mean scores for the results of the FSS and the student GPAs, the researcher then implemented a $t$ test for independent samples. According to Donald Ary, “the $t$ test for independent samples is a straightforward ratio that divides the observed difference between the means by the difference expected through chance alone” (2006). The results of this test are discussed in the Findings section of chapter 4.

The collected data was analyzed using the statistical program Mini-Tab under the supervision of an assistant professor at Peach State University and a professional statistician. The data provided crucial information for this study and determined that the completion of Advanced Placement courses do, in fact, produce a successful first-year college student as demonstrated by establishing a significant difference of .05 between the means of the two research groups used in this study. The collected data also allowed
the researcher to separate the AP students from their non-AP counterparts and
subsequently administer the open-ended questionnaire to 25 students who had completed
AP courses. The empirical portion of this study afforded the researcher the opportunity
to specifically answer the question “How do AP classes better prepare a first-year college
freshmen to achieve academic success?”

Data Validation

Allan Glatthorn (2005) warned of threats to internal validity in research and posed
the question “What methods will you [the researcher] use to control for threats to internal
validity?” (p. 99) The researcher identified maturation as a threat to the internal validity
of this study. According to Ary (2006), “maturation refers to changes (biological or
psychological) that may occur within the subjects simply as a function of the passage of
time” (p. 328). The researcher attempted to mitigate the threat of maturation by
implementing two controls: random selection and homogeneous selection of subjects.
“Random assignment is the assignment of subjects to groups in such a way that, for any
given placement, every member of the population has an equal probability of being
assigned to any of the groups” (Ary, 2006, p. 169). The researcher randomly selected
two groups of fifty first-year college students from 95 possible sections of PSU 1101-
Freshman Seminar courses offered during the semester the study was conducted. In
addition, Donald Ary suggests selecting a homogeneous subject group to further thwart
the threat to internal validity. The subjects selected for this study were composed of first-
year college freshmen who had maintained a cumulative high school GPA of 3.5 or
higher.
Threats to external validity are often answered by considering the following question posited by researcher Donald Ary: “Would the same results occur with other subjects, in other settings, and at other times?” (2006, p. 318) The novelty effect was identified as a possible threat to external validity. The novelty effect is best defined as “any [item] or method that may appear to be successful because it leads to excitement and enthusiasm among subjects” (Ary, 2006, p. 319). The researcher considered that the completion of AP courses may promulgate the novelty effect for students who may not otherwise be considered an ideal AP student. The researcher again mitigated the possible effects of this threat to external validity by implementing random selection of subjects prior to conducting the research. Furthermore, the researcher identified the “relevant characteristics of subjects in the target population, and determined the impact of these characteristics by incorporating them into the research study” (Ary, 2006, p. 319). These relevant characteristics were determined to be: (1) first-year college freshmen; (2) not all subjects enrolled in AP courses; and (3) self-reported high school GPA and SAT/ACT scores prior to college entry.

Moreover, the researcher controlled for the effect of ad hoc fallacy—assuming that because one factor preceded another, it must have caused the other (Glatthorn, 2005)—by requiring all research participants to provide self-reported high school GPA and SAT/ACT scores. The study separated first-year college students who completed two AP courses from those who did not complete any. The researcher then matched the responses of the survey with the self-reported GPA and SAT/ACT scores. By doing so, the researcher determined that a greater level of academic success was attributed to the
completion of AP courses and ruled out the threats to internal and external validity and the effects of the ad hoc fallacy.

Empirical research is not without threats to validity as well. The researcher conducted two validating components for the empirical portion of this study: peer review and member checks. Peer review validity is based on consensus. Ary defines consensus as “an agreement among competent others that the description, interpretation, evaluation, and thematic are right” (2006, p. 505). The peer review of the collected empirical data was conducted by two assistant professors at Peach State University. The results of the peer review are presented in the Findings section of chapter 4.

As mentioned earlier, the researcher performed a second validation of the empirical study by conducting a member check, also called participant feedback. At the end of the empirical data collecting period, the researcher randomly selected five of the 25 open-ended essay respondents to complete a member check. According to Donald Ary, participants are asked to review and critique the researcher’s interpretation of what the subjects reported in the questionnaire. The participants checked for accuracy and meaning (Appendix F), and the results of the member checks are presented in the Findings section, chapter four of this dissertation.

Summary

This study rests on the previous research of Travis Riendl (2006), who theorized average high school students are not prepared for the academic expectations of college life. He highlighted the existence of a post-high-school graduation dead zone. The
research of Lesli Maxwell (2006) clearly identified several solutions, the most notable being the exposure of academic rigor in the College Board’s Advanced Placement courses while attending high school. The results of the survey conducted in this study further support this idea and provide survey data for future studies in the area of college preparedness.

A research design was employed to carry out the study. The researcher distributed surveys to 100 college freshmen at Peach State University. The independent variable measured which students completed Advanced Placement courses while in high school, while the dependent variable was the results of the survey instrument. The survey instrument, named by the researcher as the “Freshmen Success Survey,” is a derivative of two well-established research tools called the CIRP and YFCY. Both of these instruments were created by the Higher Education Research Institute.

The researcher tested both of the null hypotheses, which asserts there will be no significant difference in academic success between students who completed Advanced Placement courses and those that did not as indicated by the grade point average (GPA) at the end of the first semester of college by the students in the two groups and the results of the FSS. In other words, the level of success between the two groups will be the same. The research hypotheses claims that the completion of AP courses will yield a higher level of academic success in first-year college students than those graduates who did not complete at least one AP course.

This study also utilized an empirical study based on an analysis of an open-ended prompt to further explain the outcome of the survey instrument. The research reported
here was promulgated from a review of the literature and responses to an essay prompt administered to 25 college freshmen within the 100-student survey population. The focus of the study was to determine whether high school Advanced Placement courses prepare college freshmen for the academic rigor of a post-secondary environment.

The population used in this research study consisted of 100 college freshmen enrolled at Peach State University in the Freshman Seminar course. These students were not pre-selected or pre-determined by the researcher. The FSS was administered to two groups of fifty first-year college students who were randomly selected from a total freshmen population of 2,250 students. The researcher verified that changes in the dependent variable were caused by the independent variable.

The research design secured internal validity by implementing a random and homogeneous sample. The changes in the dependent variable were caused by the independent variable, and the results of the t test were verified by an assistant professor at Peach State University. The study achieved external validity by considering relevant characteristics of the subject group. The empirical portion of the study secured validity via peer review and member checks.
Chapter IV

Findings

As stated in Chapter 1, the study examined the problem of college success. The purpose of this research study is to determine whether Advanced Placement (AP) courses develop successful first-year college students when compared their non-AP counterparts. The purpose of this chapter is to present the findings of the data collected during the course of this research. Chapter IV is organized into four sections. The first section provides a description of the respondents. The second section outlines the results of the Freshmen Success Survey (FSS). The third section provides an analysis and explanation of the data. The fourth and final section offers further analysis of the empirical data and the subsequent results as they apply to the survey data.

Description of Respondents

The respondents used in the study were all first-year freshmen at Peach State University, ages 18 and 19. A total of 100 participants were used and divided into two groups of fifty students. Group A consisted of students who had completed at least one AP course while enrolled in high school, while Group B consisted of students who had not completed an AP course. The responding groups were selected using random sampling procedures and contained a relatively even distribution of males and females. In Group A there were 32 females and 28 males, while in Group B there were 23 females and 37 males. The sex of the participants had no statistical influence on the outcome of
the $t$-test. The sum total of 100 students was selected from 2,375 freshmen enrolled in PSU 1101 – Freshmen Seminar.

**Results of the Freshmen Success Survey**

The data collected via the Freshmen Success Survey was analyzed using the Mini-Tab statistical program. All computations were conducted under the supervision of a trained statistician. First, an $f$-test was conducted to determine if the variances in the data were equal or unequal. The $f$-test determined that the variances were unequal. Next, a $t$-test for independent variables and unequal variances was conducted using the Mini-Tab program. The researcher concluded that the two samples (Group A and Group B) possessed a different mean average: Group A = 221.32 out of a possible score of 303 and Group B = 208.28 out of a possible 303. This divergence in scores between Groups A and B answers the research question: “Is the completion of Advanced Placement courses an indicator of academic success as reported by first-year students and their Grade Point Average at the end of the first semester at Peach State University?” According to the FSS, Advanced Placement high school graduates are more successful than their non-AP counterparts during the first year of college.

In order to further substantiate the findings, the researcher considered additional elements produced from the FSS. For Group A, the standard deviation ($s$) for the sample was 20.5, which demonstrated how concentrated the respondents’ values were in comparison to the mean of 220. The variance ($s^2$) for the sample in Group A was 421.9. The minimum value for the sample was 155 and the maximum value was 253. The median value was 223. For Group B, the standard deviation ($s$) for the sample was 31.5
and the variance ($s^2$) was 994.8. The minimum value in Group B was 63 while the maximum value was 237. The median value was 216. The data concluded that the t-test determined a significant difference, less than .05, was present between the two research groups.

**Explanation and Summary of Survey Respondents**

The summary of responses for both Groups A and B offered a glimpse into the reasons why AP students are more successful during their first year of college. Question #4 asks, “Since entering this college, how has it been to: (a) understand what your professors expect of you academically, (b) develop effective study skills, (c) adjust to the academic demands of college, (d) manage your time effectively, (e) get to know the faculty, (f) develop close friendships with students, and (g) utilize campus services available to students?” Students in Group A overwhelmingly answered to the positive, scoring an average of 33 out of a possible 36, while students in Group B averaged a score of 24. The possible responses included such items as: (1) understand what your professors expect of you academically, (2) develop effective study skills, (3) adjust to the academic demands of college, (4) manage your time effectively, (5) get to know the faculty, (6) develop close friendships with (a) male students, (b) female students, and (c) students of different racial/ethnic groups, and (7) utilize campus services available to students. The score from Group A suggests that AP students possess a stronger skill set as they enter college compared to their non-AP counterparts.

Question #18 instructed the student to rate himself on a list of traits as compared with the average person his age. The students had to choose between various answers:
(1) academic ability, (2) computer skills, (3) self-confidence, and (4) writing ability. Using the numerical equivalent, the highest score was a 90. AP students from Group A averaged a score of 70, while students from Group B, the non-AP counterparts, averaged a 55. The 15-point divergence between the mean of the two groups implied that AP students felt their college competency was better than the average student their own age, while the non-AP group felt that their skill set was average or even below that of a typical student.

Question #19 asked, “Since entering college, how much time have you spent during a typical week doing the following activities?” Using the numerical equivalent, the highest score was 105. AP students from Group A averaged a score of 97, while students from Group B, the non-AP counterparts, averaged an 83. Again, the divergence in scores between the two groups clearly indicates that AP students spend more time attending classes and preparing for tests and assignments, while spending less time watching TV, reading for pleasure, or socializing/partying. The non-AP group on the other hand, indicated that they spent more time watching TV, reading for pleasure, or socializing/partying.

In order to test the first null hypothesis, the researcher considered the students’ individual grade point averages (GPA) at the end of the first semester of college. The researcher collected the first semester GPA’s and entered them into Mini-Tab. First, an $f$-test was conducted, and the results determined that the samples variances were equal (See Appendix H). After a review of the literature, the researcher established a directional hypothesis in support of the claim that AP students would have a higher first-semester
GPA than their non-AP counterparts. At this point, the researcher conducted a right tail $t$-test. The results were in support of the directional hypothesis and are as follows: the AP Group possessed a mean of 3.5225, while the non-AP Group earned a mean of 3.0157. Complete results of the $f$-test and $t$-test are located in Appendix I. The results established a significant difference because the p-value is equal to 0.000. Therefore, the researcher can reject the null hypothesis at the 0.01 alpha level (because the p-value equals 0.000). This finding indicates that the researcher can be 99% confident that the true population mean for the AP Group’s GPA’s would be greater than the true population mean for the non-AP Group’s GPA’s.

In order to test the second null hypothesis, the researcher considered the findings of the Freshmen Success Survey as reported by the two research groups. The researcher collected the data and entered them into Mini-Tab. First, an $f$-test was conducted, and the results determined that the samples were unequal in variance (See Appendix I). After a review of the literature, the researcher established a directional hypothesis in support of the claim that AP students would have a higher FSS value than their non-AP counterparts. At this point, the researcher conducted a right tail $t$-test. The results were in support of the directional hypothesis and are as follows: the AP Group possessed a mean of 221.32, while the non-AP Group earned a mean of 208.28. Complete results of the $f$-test and $t$-test are located in Appendix I. The results established a significant difference because the p-value is equal to 0.029. Therefore, the researcher can reject the null hypothesis at the 0.05 alpha level (because the p-value equals 0.029). This finding indicates that the researcher can be 95% confident that the true population mean for the
AP Group’s FSS results would be greater than the true population mean for the non-AP Group’s FSS’s.

In order to further contrast the two groups, the researcher elicited the SAT scores from all students used in the study. The SAT average for the AP Group was 1128, while the non-AP students had an average SAT score of 1055. This implies a strong correlation between completing an AP class and academic success during the first year of college and scoring well on the SAT. The SAT, created by the College Board, also founders of the Advanced Placement Program, has long been considered an established indicator of college success. This is evident in the fact that a vast majority of colleges in this country either require SAT scores for admission or consider it along with the ACT. Therefore, it can be assumed that if a population of AP students outperforms their non-AP counterparts on the SAT, as well as on the Freshmen Success Survey, that the academic performance of AP students will prove to be greater during their first year of college.

Explanation and Summary of Coded Information from the Empirical Study

The researcher conducted a brief empirical study to further support the findings from the survey (FSS) given to one hundred first-year college freshmen. Group A consisted of 50 AP graduates. Of this group, 25 students were randomly selected to complete an essay response (See Appendix D). The participants were asked to write a concise narrative response to the following question: “What is the association between Advanced Placement classes and college success, as measured by an empirical analysis of a study of first-year freshmen at Peach State University?”
The researcher collected the 25 responses and coded reoccurring statements and themes in order to glean measurable data. The issue of “time management” was the most reoccurring theme. Of the 25 participants measured, 23 mentioned this is a significant element of college preparation afforded to them as a result of completing AP courses while enrolled in high school. Moreover, 11 of the 25 respondents identified the acquired skill of time management as the most critical benefit resulting from the completion of AP courses. The skills of critical thinking, organization, and writing rounded out the list of the most frequently mentioned, coded elements found in the narrative responses (See Appendix E).

The information gleaned from the subsequent empirical study significantly demonstrated that AP courses do develop potentially successful first-year college students. Because respondents outlined the elements that were most helpful to them in college by ranking them in descending order, the researcher was able to discern the AP classroom skills that were most helpful in college, as well as the particular skills that most aided the student.

In order to validate the empirical portion of this study, the researcher employed two methods: member checks and peer reviews. The member checks were conducted one week after the empirical data was coded and recorded. The researcher randomly contacted 5 out of 25 participants by phone. The researcher shared the coded information with the 5 respondents in an effort to establish accuracy with regard to the translation of the narrative response. All five participants agreed that the narrative responses were
accurately coded and that the true meaning of their writing was truthfully represented in the study (See Appendix F).

In addition to the member checks, the researcher instituted a peer review to further validate the empirical data. An expert panel, consisting of two assistant professors at Peach State University, was convened in order to review the empirical data, the researcher’s interpretation of that data, and the coding system employed. The panel validated the study and the associated data, thus rendering the findings appropriate and accurate. According to the expert panel, the open-ended questionnaire added a great deal of clarity and professionalism to the study.

*Interview of High School Counselor*

In order to further define the quality of the respondent data, the researcher interviewed three veteran high school counselors in order to gain a deeper understanding of how Advanced Placement courses promote college success (Appendix F). The interviews were conducted in an appropriate manner and followed the proper procedures. According to Ary (2004), “The interview is one of the most widely used methods for obtaining empirical data. Interviews are used to gather data on subjects’ opinions, beliefs, and feelings about the situation in their own words” (p. 412). The interviews were conducted in a valid and reliable fashion, and the researcher used the information obtained from the interviews to substantiate the results of the Freshmen Success Survey instrument.
In summary, the interviews of the high school counselors yielded pertinent information. Collectively, the three counselors believed that Advanced Placement courses help first-year college students achieve a greater degree of success. They cited the rigor of the AP course and the necessity to complete out-of-class enrichment assignments as two crucial elements that yield a prepared high school graduate. Specifically, counselor number one states that “AP classes ease the transition to college because of the high expectations AP teachers have for their students.” Moreover, counselor number two cites that time management, organization, and study habits, which are components of high school AP courses, will certainly help first-year college students succeed. Finally, counselor number three attributes college success to the strong work ethic fostered in AP courses. See Appendix F in order to read the full narrative of the interview with the high school counselors.
Chapter V

Significance of the Study

Preparing high school students for the academic rigors of a college environment has been a challenge since the days of Horace Mann and the groundbreaking ceremony of our nation’s first institution of higher learning, Harvard University. Since then, America’s educators have been charged with the important responsibility of educating children and preparing them for life beyond the hallways, classrooms, and practice fields of the high school. For many students, four years at a college or university is the logical and anticipated next step. An unfortunate reality is that some high school graduates are not prepared for the rigor of a college environment, even though they have passed their academic courses, navigated the treacherous waters of standardized tests, and completed lengthy college admissions applications. Current research, college drop-out rates, and freshmen course failures indicate that many high school graduates are ill-prepared for the academic rigors of college.

Restatement of the Problem

The purpose of this research study is to explore the association between Advanced Placement (AP) classes and college success. Many research studies have identified as a problem the fact that recent high school graduates are not adequately prepared for the academic rigors of a college environment. This study attempted to answer the question of whether AP courses develop a more successful first-year college student when compared to their non-AP counterparts. This study sought to support the
research hypotheses which states there will be a significant difference in academic success between students who completed Advanced Placement courses and those who did not, as indicated by the grade point average (GPA) at the end of the first semester of college by the students in the two groups. Such an examination was the focus of this study.

Restatement of the Null Hypotheses

The null hypotheses for this study demonstrated there will be no significant difference in academic success between students who completed Advanced Placement courses and those who did not, as indicated by the grade point average (GPA) at the end of the first semester of college by the students in the two groups and the results of the FSS. The study suggested that the null hypotheses are not true. The level of academic success between students who took AP classes and those who did not was dramatically divergent. Students who took AP classes (Group A) maintained a mean of 220, while students who did not take AP classes (Group B) possessed a mean of 205. This study clearly rejected the null hypotheses and established a connection between the completion of AP courses and academic success in first-year college students.

Summary of Related Literature

“Connecting Students to College Success,” the motto of the College Board, clearly identifies its mission as creating high school courses modeled after freshmen-level college courses. These courses utilize a college-style syllabus, textbooks, and outside readings, while the instructors are required to be certified by the College Board.
The literature in the field clearly supports the claim that AP courses better prepare students for the academic rigors of a postsecondary environment. Dr. Hargrove (2007) identified a trend that supports the idea that “students who successfully participated in one or more AP courses significantly outperformed their non-AP peers” (p.1). In 2003, Dr. Linda Sax concluded that the profile of current first-year freshmen illustrates a higher academic record but demonstrates the lack of commitment to completing homework and studying for tests and quizzes. Her research also highlighted the fact that many students are completing AP classes to make their college applications more attractive. Furthermore, Michelle Howard-Vital discovered that AP courses are often used to increase and measure college readiness (2006).

Studies have shown that completion of AP courses better prepares students for the college admissions process. Dillon (1986) surveyed the 50 colleges that the College Board listed as the schools that have received the most AP scores resulting in college credit. His research study confirmed that “AP on a transcript has come to be accepted as proof of rigorous academic preparation, worthy of special weight in admissions decisions. Students who have taken Advanced Placement classes are considered to have learned scientific inquiry, reasoning, problem solving, and analysis, all of which enhance course quality” (Dillon, 1986 from National Commission on Excellence in Education, 1982, p.2).

In 1992, research in this field continued under the supervision of the State Council of Higher Education. “The academically prepared high school students are not only more successful in academic work in college, but they are more self-confident, they have
increased aspirations, and they “fit-in” more easily into college” (State Council of Higher Education, 1992, p.3).

Creating a demanding curriculum is a challenging task. The U.S. Department of Education has been encouraging states to create, implement, and evaluate a rigorous curriculum since the publication of \textit{A Nation at Risk} in 1983 (Weiss, 2001). This document recommended that all high school students be required to complete four years of English, three years of math, science and social studies, and one to one-and-one-half years of computer science. In addition, those students planning to attend college should take two years of a foreign language. In 1999, the U.S. Department of Education attempted to re-define a rigorous curriculum in a report titled \textit{Answers in the Toolbox} (Weiss, 2001). This report further delineated a rigorous curriculum as more than three years each of English and math (beyond Algebra II), a minimum of two years each of laboratory sciences, history, and foreign languages, and more than one Advanced Placement course. Finally, in 2001, a report issued by the federal government, titled \textit{High School Academic Curriculum and the Persistence Path Through College}, describes a rigorous curriculum as four years of English, three years of a foreign language, three years of social studies, four years of math (including pre-calculus or higher), three years of science and at least one AP course (Weiss, 2001).

Students who complete rigorous high school courses are better prepared for college work and experience lower drop-out rates than their non-AP counterparts. Susan Santoli referenced studies conducted at Yale, Duke, and Michigan, which revealed that AP students were not only a superior group prior to college entry, but also performed
better during their first year of college (2002). AP students do better in subsequent advanced courses than do students who take their introductory courses in college. Moreover, students who take a rigorous high school curriculum are more likely to finish college. The drop-out rate among AP students is 15%, while non-AP students experience a 25% drop-out rate.

The research material clearly revealed that Advanced Placement courses are an effective college preparatory tool, as reported by AP students via the Freshmen Success Survey. Derived from the subsequent empirical study, the researcher concluded that: (1) the course material is written at the college-level, (2) college textbooks are used in the high school course, (3) the course objectives and expectations closely mirror that of a postsecondary academic environment, (4) the teachers are often veterans and considered content masters, and (5) the course and national exam are standardized, leaving less room for subjectivity.

The survey instrument was designed by the researcher as a hybrid of two valid and reliable research instruments created by the Higher Education Research Institute. The first instrument, the “Cooperative Institutional Research Program,” known as the CIRP, covers a wide range of student characteristics, including parental income and education, ethnicity, and other demographic items; financial aid; secondary school achievement and activities; educational and career plans; and values, attitudes, beliefs, and self-concept. The second instrument, the “Your First College Year” survey (YFCY), was developed through a collaboration between HERI and the Policy Center on the First Year of College at Brevard College, and enables institutions to identify features of the
first year that encourage student learning, involvement, satisfaction, retention and success, thereby enhancing first-year programs and retention strategies at campuses across the country (Higher Education Research Institute, 2008). The researcher identified a total of twenty-one questions from these two survey instruments that were deemed appropriate for the study (See Appendix A). The researcher renamed the survey the “Freshmen Success Survey” (FSS).

Summary of Methodology

A survey research design was employed to carry out the bulk of the study. The researcher distributed surveys to one-hundred college freshmen at Peach State University. The independent variable measured which students completed Advanced Placement courses while in high school (subject Group A), while the dependent variable was the results of the survey instrument as compared to non-AP students. The researcher gathered the results of the FSS survey and divided them into two groups: one group of students who had taken AP classes and another of students who never completed a high school AP course. Next, a t-test of independent samples was implemented in order to test the null hypotheses. The null hypotheses asserted that there would be no dissimilarity between the completion of AP courses and college success, while the research hypotheses claimed the existence of such a disparity.

Donald Ary (2006), author of Introduction to Research in Education, states that experiments have three characteristics: (1) an independent variable that is manipulated; (2) all other variables that might affect the dependent variable are held constant; and (3) all other variables of the manipulation of the independent variable on the dependent
variable are observed. In this study, the independent variable was whether or not the high school graduate completed an AP course, while the dependent variable was the results of the survey instrument created from the CIRP and YFCY research instruments, products of the Higher Education Research Institute. Moreover, the researcher attempted to establish a cause-and-effect relationship within the experimental perspective. Causal comparative research is also called *ex post facto* research (Glatthorn, 2005). Donald Ary states that *ex post facto* research consists of five steps, all of which were carried out by the researcher throughout the course of this study: (1) state the research problem in a form of the question; (2) select the two groups to be compared; (3) choose the design study; (4) collect data on the independent and dependent variables; (5) analyze and interpret the data (2006).

Once the survey data was collected, the researcher further defined the results by empirically describing the successful characteristics of Advanced Placement graduates. According to Donald Ary, empirical research as part of a qualitative perspective is “a generic term for a variety of research approaches that study phenomena in their natural settings, without predetermined hypotheses” (2006, p.511). The two most important elements of an empirical approach are rigor in research and credibility of the study. This study contains both elements.

Maintaining rigor in research is a critical element of any study. In order to establish and maintain rigor in research, the researcher must answer the following six (6) questions: (1) Are the data based on your own observation or is it hearsay? (2) Is there corroboration by others of your observation? (3) In what circumstances was an
observation made or reported? (4) How reliable are the people providing data? (5) What motivations might have influenced a participant’s report? (6) What biases might have influenced how an observation was made or reported? (Ary, 2006)

In order to establish credibility the researcher employed two tools: peer review and respondent (member) checks. “Colleagues and peers are presented with the raw data along with the researcher’s interpretation or explanation. Discussions then determine whether the reviewer considers the interpretation to be reasonable, given the evidence” (Ary, 2006, p.506). “At the end of the data collection period, the researcher may ask participants to review and critique field notes or tape recordings for accuracy and meaning” (Ary, 2006, p.506).

Empirical research was developed as a way of studying and analyzing human behavior in a non-systematic fashion. In this study, the researcher utilized document analysis of an open-ended essay prompt. The participants of the study were 25 first-year college students who attended Peach State University.

The researcher closely followed the widely-used methodology of empirical research: (1) selecting an observable project, (2) asking appropriate questions, (3) collecting empirical data, (4) making an empirical record, (5) analyzing the data, and (6) writing the empirical summary (Ary, 2006). The empirical approach yielded credible data for this research study. The study took place at a suburban state university in Georgia. The researcher selected one hundred first-year college freshmen from a PSU 1101 – Freshmen Seminar course offered at Peach State University.
The researcher constructed a 21-question survey to determine whether college freshmen possessed a greater sense of confidence in their success, based upon the completion of high school AP classes. The survey was administered to the experimental group of one-hundred subjects, and documents were completed and returned. Next, the researcher created an open-ended empirical questionnaire and administered it to 25 AP graduates. The narrative information was coded and reported. The empirical data further amplified the suggested research hypotheses.

Summary of Findings

The researcher secured the grade point averages (GPA’s) of the students in the two research groups. The mean GPA for the Advanced Placement (AP) group was 3.5225, while the mean for the non-AP group was 3.015. A right tailed $t$-test based on independent samples revealed a significant difference between the two groups [$t(67)=8.08, p=.000$]. The researcher also collected the data via the Freshman Success Survey (FSS). The mean scores for the AP and non-AP groups were 221.32 and 208.28 respectively. A second right tailed $t$-test based on independent samples resulted in a significant difference between the means of the groups [$t(67)=1.95, p=.029$]. The divergence in scores between Groups A and B answers both of the research questions. These questions ask whether there will be a significant difference in academic success between students who completed Advanced Placement courses and those who did not, as indicated by (1) the grade point average (GPA) at the end of the first semester of college by the students in the two groups, and (2) the stated results of the FSS. According to the
groups’ GPA’s and the FSS, Advanced Placement high school graduates are more academically successful than their non-AP counterparts during the first year of college.

In order to further substantiate the findings, the researcher considered additional elements produced from the FSS. For Group A, the standard deviation(s) for the sample was 20.5, which demonstrated how concentrated each of the respondents’ values was in comparison to the mean of 221.3. The variance ($s^2$) for the sample in Group A was 421.9. The minimum value for the sample was 155, and the maximum value was 253. The median value was 223. For Group B, the standard deviation(s) for the sample was 31.5, and the variance ($s^2$) was 994.8. The minimum value in Group B was 63, while the maximum value was 237. The median value was 216 and the degrees of freedom were 67. Moreover, the self-reported SAT scores in the AP group (1128) were significantly higher than those of the non-AP group (1055). Finally, the coded responses of the empirical open-ended questionnaire further distinguished the role of Advanced Placement courses in the success of first-year college students.

In addition to the survey perspective, the researcher conducted an empirical study to further discern how Advanced Placement courses better prepare first-year college students for the academic rigors of a secondary learning environment. The empirical questionnaire identified seven elements of success that the subjects associated with completing AP classes while enrolled in high school. These elements included: (1) time management, (2) self-confidence, (3) organization, (4) writing skills, (5) test preparation, (6) critical thinking, and (7) critical reading skills (See Appendix E). The element of
time management was the most reoccurring of the listed traits and was ranked as the most critical by 11 of the 25 participants.

**Conclusion**

Preparing high school students for the academic rigors of a college environment has been a challenge since the days of Horace Mann and the groundbreaking ceremony of our nation’s first college, Harvard University. Current research, college drop-out rates, and freshmen course failures indicate that many high school graduates are not prepared for the academic rigors of a college environment although the high school students have passed their academic courses, navigated the treacherous waters of standardized tests, and completed lengthy college admissions applications.

The purpose of this research study is to explore what effect Advanced Placement (AP) classes have on college success. Many research studies have identified a problem with recent high school graduates who are not adequately prepared for the academic rigors of a college environment. This study sought to answer the question of whether AP courses enhance the preparation of a high school graduate for the academic environment of a post-secondary institution of learning. The researcher attempted to substantiate the research hypotheses, which states that there will be a significant difference in academic success between students who completed Advanced Placement courses and those who did not, as indicated by the grade point average (GPA) at the end of the first semester of college by the students in the two groups. Such an examination was the focus of this study.
This study followed the guidelines of a survey research approach and utilized an analysis of a subsequent empirical study. According to Donald Ary, survey research, as a component of the quantitative perspective “originated in positivism, which believes that general principles or laws govern the social world as they do the physical world and researchers can discover these general principles and then apply them to predict human behavior” (2006, p.449). Furthermore, Ary claims that empirical research is a generic term for a variety of research approaches that study phenomena in their natural settings, without predetermined hypotheses (2006). The two most important elements of an empirical study are rigor in research and credibility of the study. This study contains both elements. In order to ensure validity, the researcher employed a random selection of subjects, established two null hypotheses, and implemented a $t$-test for independent samples to confirm the research hypotheses to be true and accurate.

*Implications*

While a single case study cannot provide a definitive solution to the issue of college success, this study would suggest that Advanced Placement courses develop successful high school graduates who are more prepared for the academic rigors of a college environment, thus potentially producing more successful and academically prepared first-year college students. The students who did not enroll in high school AP courses indicated, via the survey instrument, the Freshmen Success Survey, and the subsequent empirical study, that they did not feel that they were adequately prepared for the rigors of a college environment compared to those students who successfully completed at least one AP course. Moreover, students who completed two or more AP
courses experienced a higher level of success during their first year of college. This survey discovery further promulgates the notion that Advanced Placement courses provide a more effective and secure academic foundation upon which a student can continue to build academic success in a post-secondary learning environment. On this topic, the researcher offered the following commentary:

1. Advanced Placement courses are taught either on, or just shy of, a college-level course; therefore, AP graduates have a head start with regard to college expectations.

2. The rigorous nature of Advanced Placement courses is more synonymous with college-level courses than non-AP classes. Therefore, first-year college classes are not totally “foreign” to AP students.

3. Veteran teachers are often assigned to teach AP classes; therefore, they are more likely to effectively challenge their students to a greater degree in the areas of time management and critical thinking, two skills all college freshmen need to possess.

This study also illuminated the reasons for the significant increase in AP course enrollment. School leaders, teachers, students, and parents are beginning to see that Advanced Placement courses may yield dividends once the student begins life on a college campus. As a result of the increase in enrollment, schools have begun to provide more AP course offerings, and more teachers are pursuing AP certification, thus honing their individual teaching methods (some of which may be used in non-AP courses).
Additionally, high school graduates who have completed AP courses are more likely to find success within their undergraduate academic pursuits, as well as with graduate studies in the future.

The current enrollment demographic of AP courses across the nation is changing. Advanced Placement classes may now include students who may be considered “on level” or “average.” When Advanced Placement courses were first developed, they were designed for the best and the brightest students—those who were ready to complete college-level coursework prior to high school graduation. Over the past decade, non-traditional AP students have joined the ranks of those who are aspiring to take challenging courses. This new AP population may have a bearing on this study and may cause one to ask, “Would the mean score of Group A (AP graduates) be significantly higher if the population of AP students was comprised only of the traditional best and brightest students?” In other words, the mean score for Group A was 221.3, which clearly included students, due to the current trend in AP enrollment, who would normally not be considered the traditional Advanced Placement pupil.

Finally, the research conducted during the course of this study may provide more information about the nature of Advanced Placement courses. Parents and students can consult the college success factor when considering enrollment in an AP class while attending high school. This research study clearly identified the completion of at least one AP course as a significant factor in the academic success of first-year college students, often considered the most challenging of all the college years. Research also indicates that students who have taken AP classes have lower drop-out and failure rates,
and often perform better than their non-AP counterparts on college-level tests and assignments.

Additional research is needed in the discipline of the Advanced Placement class and/or the type of college degree pursued. For example, students who successfully complete a high school AP class in United States Government may be better equipped to navigate the challenges of a college humanities or political science course. This same student may be no more prepared in a chemistry class than a fellow classmate who did not enroll in an AP class while attending high school. There is no consistent evidence to support the idea that a single Advanced Placement class will cure the problem of being prepared for college; however, exposure to a college-level high school course is beneficial only to the student who accepts the challenge of taking an AP course.

Applications

Public and private schools across the nation may be interested in the information presented in this study. Many schools are searching for ways to help students prepare for college. Parents, postsecondary schools, and employers expect high school graduates to be ready to succeed at the college-level when students enter college as a freshman. This study will hopefully encourage students to enroll in and complete AP classes in order to increase their chances of college success.

This study may also encourage school leaders to insist that their regular education courses and honors courses borrow elements from the Advanced Placement program. Not every child will be successful in a full-year AP course, but most would certainly
benefit from some of the critical thinking applications, time management, and course organization requirements that are commonly found in AP classes. This study outlines a marked contrast between the successes of first-year college students who have completed AP courses prior to high school graduation versus their non-AP counterparts. Therefore, educational leaders should encourage the teachers of “on-level” classes to utilize some of the best practices from AP courses that may attribute to college success. An entire high school of college preparatory students may find they do not need to enroll in courses such as PSU’s Freshmen Seminar because they have participated in and found success in an AP course.

The research indicates that colleges and universities acknowledge that high schools are not adequately preparing graduates for the academic rigors of a post-secondary environment. Many institutions have implemented freshmen seminars and other required general education courses to better develop the skills and strategies needed to succeed at the college-level. All incoming freshman at Peach State University are required to complete the “Freshmen Seminar” course as part of their general graduation requirement. The course textbook, authored by the faculty of Peach State University, clearly outlines the skills and strategies needed to be successful in college. The introduction of the text offers insight into the goal of the course: “As you progress through your college experience, you will be challenged. However, it is our intent to provide you with the tools you will need to meet those challenges. We will provide you with tips for effective time management and stress reduction. Your [college] assignments will develop analytical and critical thinking skills that will serve you well in [your current
and] subsequent courses” (Rascati, 2007, p.vii). This course might not be necessary if high schools adequately prepared their graduates for the academic rigors of college.

By all accounts, the freshmen drop-out rate is extremely high. Research indicates that 51.4% of our nation’s first-year college students will not continue on to their sophomore year (Rascati, 2007, p.vii). Many colleges are beginning to give AP courses official weight when considering an application for matriculation. It is evident that college admissions officials clearly view AP courses as a means of college preparation. The research-based information found in this study supports this claim and recommends the expansion of AP programs within public and private schools across the country.

The Advanced Placement course audit began in 2007 and requires that all AP courses must now be approved by the College Board. The audit demands credit uniformity in the course syllabus, teacher credentials, course organization, subject themes, primary source readings, and assessments. Inevitably, individual courses at particular schools across the country will not pass the audit and will no longer be able to stamp Advanced Placement on their high school transcripts. As a result, genuine AP courses will hopefully replace them and may help to produce successful first-year college students.

Recommendations for further study:

1. Research should be conducted which accounts for students who have completed multiple AP courses while enrolled in high school; this study only focused on students who have taken at least one AP course. Would the mean
score of Group A (the AP graduates) increase in relation to the number of AP courses students completed?

2. This study focused merely on students who completed at least one AP course while enrolled in high school. It did not account for the alpha-numeric grade (A, B, or C) the student earned in the course. Would the mean score for Group A also increase if the study used only AP graduates who had earned an “A” in one or more AP courses?

3. A future study might attempt to link SAT and/or ACT scores among Advanced Placement graduates. Are students who take AP courses scoring better than students who did not take AP courses on these standardized exams? If so, does this mean that these students are more prepared for college since the SAT and ACT exams are essentially used to gauge one’s potential for college success?

4. The College Board, the creators of the Advanced Placement program, recently implemented an audit of all AP courses nationwide. The College Board will certify those courses that fit the academic model of rigor and intensity, while strengthening those that fall short. In essence, the audit is allowing schools to officially stamp “AP” on the courses that successfully meet the AP standard. A study such as this should be conducted after the audit is complete. It would benefit from the uniformity among AP courses, as colleges would know that the AP classes on a student’s college transcript had been officially approved by the College Board.
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Appendix A

“Freshmen Success Survey” (FSS)
9. Since entering this college, have you:
   (Mark Yes or No)  
   - Decided to pursue a different major .................................. Yes No
   - Remained undecided about a major .................................... Yes No
   - Changed your career choice .............................................. Yes No
   - Participated in student government ................................... Yes No
   - Made at least a "B" average ............................................... Yes No
   - Needed extra time to complete your degree requirements .......... Yes No
   - Socialized with someone of another racial/ethnic group ............. Yes No
   - Worked full-time while attending school ............................... Yes No
   - Joined a social fraternity or sorority ................................... Yes No
   - Played varsity/intercollegiate athletics ................................ Yes No
   - Participated in student protests or demonstrations .................. Yes No
   - Participated in volunteer or community service work ............... Yes No
   - Participated in student clubs/groups ................................... Yes No
   - Sought personal counseling ............................................. Yes No
   - Strengthened your religious beliefs/convictions ....................... Yes No
   - Failed one or more courses ............................................. Yes No
   - Participated in leadership training ..................................... Yes No
   - Communicated regularly with your professors ......................... Yes No
   - Enrolled in an honors or advanced course ............................. Yes No
   - Enrolled in a remedial or developmental course ....................... Yes No
   - Transferred from another institution ................................... Yes No
   - Been satisfied with this college overall ............................... Yes No
   - Enrolled in a formal program where your peer group takes two or more courses together (e.g., FIG, learning cluster, learning community, linked courses) ................................. Yes No
   - Taken a course or first-year seminar designed to help first-year students adjust to college ........................................ Yes No
   - Participated in an academic support program .......................... Yes No

10. Since entering this college, indicate how often you: (Mark one for each item)
   (Mark one for each item)  
   - Turned in course assignment(s) late ................................... Frequency Report Card
   - Spoke up in class ............................................................ Frequency Report Card
   - Discussed course content with students outside of class ............ Frequency Report Card
   - Skipped class ................................................................... Frequency Report Card
   - Worked on a professor's research project ................................ Frequency Report Card
   - Turned in course assignments that did not reflect your best work ................................ Frequency Report Card
   - Participated in intramural sports ............................................ Frequency Report Card
   - Had difficulty getting along with your roommate(s)/housemate(s) ................................ Frequency Report Card
   - Received advice or guidance about your educational program ....... Frequency Report Card
   - Received emotional support or encouragement ........................ Frequency Report Card
   - Witnessed academic dishonesty/cheating ................................ Frequency Report Card
   - Went home for the weekend .................................................. Frequency Report Card
   - Worked with an academic advisor to select your courses ............ Frequency Report Card
   - Received advice/counseling from another student ..................... Frequency Report Card
   - Fell asleep in class ............................................................. Frequency Report Card
   - Had difficulty enrolling in the courses you need ........................ Frequency Report Card

11. If you could make your college choice over, would you still choose to enroll at your current (or most recent) college? (Mark one)
    - Definitely yes
    - Definitely not
    - Probably yes
    - Not sure yet
    - Probably not

12. What do you think you will be doing in Fall 2009? (Mark one)
    - Attending your current (or most recent) institution
    - Attending another institution
    - Don't know/have not decided yet
    - Not attending any institution

13. Are you currently a full-time or part-time student?
    - Full-time
    - Part-time
    - Not enrolled

14. What year did you first enter: (Mark one in each column)
    - This College
    - Your 1st College
    - 2009 or earlier
    - 2008
    - 2007
    - 2006
    - 2005
    - 2004
    - 2003
    - 2002 or earlier

15. Your sex:
    - Male
    - Female

16. Is English your native language?
    - Yes
    - No

17. Are you: (Mark all that apply)
    - White/Caucasian
    - African American/Black
    - American Indian/Alaska Native
    - Asian American/Asian
    - Native Hawaiian/Pacific Islander
    - Mexican American/Chicano
    - Puerto Rican
    - Other Latino
    - Other
1.6. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one for each item)

<table>
<thead>
<tr>
<th>Trait</th>
<th>High</th>
<th>Average</th>
<th>Low</th>
<th>Below Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artistic ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperativeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive to achieve</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematical ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public speaking ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religiousness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-confidence (Intellectual)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-confidence (Social)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-understanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirituality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding of others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.9. Since entering this college, how much time have you spent during a typical week doing the following activities? (Mark one for each item)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending classes/ labs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studying/ homework</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socializing with friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercising or sports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partying</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working (for pay) on campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working (for pay) off campus</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Student clubs and groups</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Watching TV</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household chores dates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading for pleasure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing video/computer games</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Praying/ meditation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commuting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online social networks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(MySpace, Facebook, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.0. Please rate your satisfaction with this institution on each of the aspects of college life listed below. (Mark one for each item)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of contact with faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Racial/ethnic diversity of faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Racial/ethnic diversity of student body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction with other students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance of coursework to everyday life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance of coursework to future career plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall quality of instruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respect for the expression of diverse beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of campus social activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your social life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall sense of community among students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall college experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.1. What is your overall grade average (as of your most recently completed academic term)? (Mark one)

- A (3.75 - 4.0)
- A- (3.26 - 3.74)
- B+ (2.75 - 3.24)
- B- (2.25 - 2.74)
- C+ (1.75 - 2.24)
- C (1.25 - 1.74)
- C- or less (below 1.25)
- I do not receive grades in my courses
Appendix B

The Freshmen Success Survey – demographic information card

Name:_____________________________________ Age:_______

Self-reported High School GPA:__________ (on a 4.0 scale)

Self-reported SAT or ACT Score:__________________

How many, if any, Advanced Placement (AP) courses did you complete in high school?__________
Appendix C

Information Sheet for Participation in Doctoral Study

Thank you for agreeing to participate in a doctoral study. This study is designed to measure the completion of advanced placement courses as an indicator of academic success in first-year college freshmen at your university. Participation is completely voluntary and will be kept in a confidential manner. The survey instrument is designed to measure how successful you believe you have been during the first year of college.

If you have any questions after completing the survey, please consult the researcher before leaving the testing room.

Best Wishes,

Sean M. Preston
Appendix D

Empirical Study – College Success Open-Ended Essay Prompt

Dear Student,

Thank you for agreeing to help me create an appropriate survey of college success. Your responses will be the basis for an empirical study used in a doctoral dissertation. As the respondent you will have complete anonymity; your name will not be used in any way. Please be candid and brief in your statement and do not use the specific name of the course or instructor. The focus of the study is based upon the research question: “What is the association between Advanced Placement classes and college success, as measured by an empirical analysis of a study of first year freshmen at Peach State University?”

Your task: In one paragraph, please write how your high school Advanced Placement classes prepared you for the academic rigors of college curriculum. Moreover, identify which elements were the most helpful to you in college by ranking them in descending order. For example, if you believe reading was the most helpful college skill you gleaned from AP courses, then list that as your #1 element.

Please construct this essay in a Word document and email it to me at:

seanpreston94@yahoo.com

Best Wishes and Continued Success,

Sean M. Preston, Ed.S.
Appendix E

Results from 25 Respondent Empirical Study

<table>
<thead>
<tr>
<th>Empirical Elements from Coded Responses</th>
<th>Number of Respondents Who Included these Elements in their Response</th>
<th>Number of Respondents Who Identified this Element as their First Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Management</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>Self-confidence</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Organization</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Writing Skills</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Test Preparation</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Critical Reading Skills</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix F

Member Checks

The researcher conducted member checks in order to achieve validity of research. Of the twenty-five students who completed the open-ended questionnaire, five students were randomly selected to participate in member checks. Via telephone, the researcher contacted these five participants and read back to them the researcher’s interpretation of their narrative response. This afforded the participant an opportunity to verify the results of the open-ended questionnaire prior to its use in the research study. The results were as follows:

Participant #1: Claimed that the researcher’s interpretation of her response was accurate and stated well.

Participant #2: Stated that the research presented was a true and accurate account of his statements in regards to the open-ended questionnaire.

Participant #3: Claimed that the researcher’s interpretation of the narrative response did not need any further clarification.

Participant #4: Confirmed that her statements were represented as a true and accurate account of her narrative responses.

Participant #5: Affirmed the researcher’s interpretations were correct.
Appendix G

Interview of High School Counselors:

Interview #1 – Private High School Counselor

1. In your opinion, do Advanced Placement courses help prepare students for the first year of college?  Yes.

2. If so, in what ways?  Course rigor and work load.  These students are often inundated with outside readings, test and quiz preparation, and lengthy papers and essays.  AP classes require a lot of time studying and preparing for lectures, so time management becomes a much-needed skill.  In my opinion, AP classes ease the transition into college because of the high expectations AP teachers have for their students.

3. In your experience, do many colleges and universities give more weight or credit to incoming freshmen?  Yes.  The University of Georgia and Auburn University just to name two popular schools for our students.  These schools add a half of a point to GPA calculation for incoming freshmen.  Private universities and colleges usually use a full weighted GPA, similar to the one calculated in high school.

4. If so, what rationale supports this position?  Admissions counselors understand that AP courses are standardized across the nation.  A score of a 3 on an AP United States History exam in Tennessee is a 3 in the state of Alaska.  The test is purely objective because individual AP teachers do not make the test.  The new AP audit has also standardized the actual course.  An instructor’s syllabus must meet national standards based on examples provided by the College Board.

5. What is the difference between AP classes and regular education classes in terms of college preparatory elements?  Off the bat, the tests are not standardized.  An honors class can be “difficult” in one school and relatively “easy” in another.  The whole thing is subjective.  The depth of material covered in vastly less than an AP course.  Most on-level teachers do not require lengthy reading and writing assignments.  Unfortunately the expectations are often a little lower than in an AP room.
Interview #2 – Private High School Counselor

1. In your opinion, do Advanced Placement courses help prepare students for the first year of college? Yes.

2. If so, in what ways? *It forces the student to become more independent and complete out-of-class assignments; both of which mirror college expectations. More specifically, AP encourages organization, study habits, and time management, all of which will certainly help a first-year students succeed.*

3. In your opinion, do many colleges and universities give more weight or credit to incoming freshmen? Yes. *The University of Georgia comes to mind.*

4. If so, what rationale supports this position? *Colleges look at the overall rigor of the high school course offerings and how many AP courses the applicant completed. Now that the College Board has instituted the AP audit, all AP course are more standardized and colleges and universities can better evaluate the “worth” of a specific school’s AP class. Colleges look at AP because they are the top notch students. In my opinion AP is an indicator of college preparedness and colleges and universities know the student is here to stay and will more than likely complete a degree in four years. In addition, Advanced Placement classes demonstrate academic integrity and encourage students to love learning for the sake of learning.*

5. What is the difference between AP classes and regular education classes in terms of college preparatory elements? *The regular classes do not set college-like expectations, allow students to turn in homework late, do not require them to take high-level class notes, and do not have the fear of the national exam spurring them onward. They do not enter college with the same skill set as AP students. They usually do not understand how to take notes, critique a textbook, or value the importance of class attendance.*
Interview #3 – Public High School Counselor

1. In your opinion, do Advanced Placement courses help prepare students for the first year of college? Yes.

2. If so, in what ways? They experience the rigor of a college environment. They quickly learn or hone their critical thinking skills, become more organized, prioritize their assignments, and develop a strong work ethic.

3. In your opinion, do many colleges and universities give more weight or credit to incoming freshmen? The University of Georgia. I am glad they do. It would be unfair to weight AP courses and non-AP courses the same.

4. If so, what rationale supports this position? AP classes are more difficult and require much more attention and energy. They should be rewarded.

5. What is the difference between AP classes and regular education classes in terms of college preparatory elements? AP classes are not for everyone. Those who choose to take on the extra burden of outside readings, more test preparation, and higher expectations should be rewarded with the AP delineation on their transcripts. This tells colleges that this student worked harder in high school than a majority of his counterparts.
Appendix H

A table of statistical data generated by the Freshmen Success Survey.

C1: AP Group

C2: Non-AP Group

**Group #1 (AP)**

**Descriptive Statistics: Group #1 (AP)**

<table>
<thead>
<tr>
<th>N</th>
<th>N*</th>
<th>Mean</th>
<th>SE Mean</th>
<th>StDev</th>
<th>Minimum</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>0</td>
<td>221.32</td>
<td>3.25</td>
<td>20.54</td>
<td>155.00</td>
<td>208.50</td>
<td>223.00</td>
<td>239.75</td>
<td>253.00</td>
</tr>
</tbody>
</table>
Group #2 (Non-AP)

Descriptive Statistics: Group #2 (Non-AP)

<table>
<thead>
<tr>
<th>N</th>
<th>N*</th>
<th>Mean</th>
<th>SE Mean</th>
<th>StDev</th>
<th>Minimum</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>0</td>
<td>208.28</td>
<td>5.86</td>
<td>31.54</td>
<td>63.00</td>
<td>206.00</td>
<td>216.00</td>
<td>222.00</td>
<td>237.00</td>
</tr>
</tbody>
</table>
Two-Sample F-Test for determining Equal Variances for AP Group vs. Non-AP Group

Test statistic = 0.42, \( p\)-value = 0.014

Because the \( p\)-value < 0.05, then we can conclude that the variances are unequal.

Two-Sample T-Test for Unequal Variances and 95\% Confidence Interval (CI) for AP Group vs. Non-AP Group

Null Hypothesis: \( \mu \) (AP Group) – \( \mu \) (Non-AP Group) = 0
Alternative Hypothesis: \( \mu \) (AP Group) > \( \mu \) (Non-AP Group)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>SE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>40</td>
<td>221.3</td>
<td>20.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Non-AP</td>
<td>29</td>
<td>208.3</td>
<td>31.5</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Difference = \( \mu \) (AP Group) – \( \mu \) (Non-AP Group)

Estimate for difference: 13.05

95\% CI lower bound for difference: 1.80

T-Test of difference = 0 (vs >): T-Value = 1.95

\[ df = 67 \]

\[ P\text{-Value} = 0.029 \]

Because the \( P\)-Value is equal to 0.029, we can reject the null hypothesis at the level of \( \alpha = 0.05 \) (because the \( p\)-value < 0.05). This finding indicates that we can be 95\% confident that the true population mean for the AP Group would be greater than the true population mean for the Non-AP Group.
Appendix I

A table of statistical data generated by the student Grade Point Averages at the end of the first semester.

C1: AP Group

C2: Non-AP Group

**Descriptive Statistics: C1 (AP Group)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>N*</th>
<th>Mean</th>
<th>SE Mean</th>
<th>StDev</th>
<th>Minimum</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>40</td>
<td>0</td>
<td>3.5225</td>
<td>0.0350</td>
<td>0.2213</td>
<td>3.0000</td>
<td>3.3000</td>
<td>3.5000</td>
<td>3.7000</td>
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</table>

Variable Maximum

C1 4.0000

**Summary for C1**

<table>
<thead>
<tr>
<th>Anderson-Darling Normality Test</th>
</tr>
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<tbody>
<tr>
<td>A-Squared</td>
</tr>
<tr>
<td>P-Value &lt;</td>
</tr>
</tbody>
</table>

Mean 3.5225
StDev 0.2213
Variance 0.0490
Skewness 0.552058
Kurtosis 0.670409
N 40

Minimum 3.0000
1st Quartile 3.3000
Median 3.5000
3rd Quartile 3.7000
Maximum 4.0000

95% Confidence Interval for Mean 3.4517 3.5933
95% Confidence Interval for Median 3.5000 3.5000
95% Confidence Interval for StDev 0.1813 0.2841
# Descriptive Statistics: C2 (Non-AP Group)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>N*</th>
<th>Mean</th>
<th>SE Mean</th>
<th>StDev</th>
<th>Minimum</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
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<tbody>
<tr>
<td>C2</td>
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<td>0</td>
<td>3.0517</td>
<td>0.0485</td>
<td>0.2613</td>
<td>2.5000</td>
<td>3.000</td>
<td>3.000</td>
<td>3.300</td>
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<tr>
<td>Variable</td>
<td>Maximum</td>
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<td>3.5000</td>
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## Summary for C2

<table>
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<td>1.69</td>
<td>&lt; 0.005</td>
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<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
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<td>Mean</td>
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<tr>
<td>StDev</td>
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<tr>
<td>Variance</td>
<td>0.0683</td>
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<tr>
<td>Skewness</td>
<td>-0.356236</td>
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<tr>
<td>Kurtosis</td>
<td>-0.100866</td>
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<tr>
<td>N</td>
<td>29</td>
</tr>
<tr>
<td>Minimum</td>
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<tr>
<td>1st Quartile</td>
<td>3.0000</td>
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<tr>
<td>Median</td>
<td>3.0000</td>
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<tr>
<td>3rd Quartile</td>
<td>3.3000</td>
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<tr>
<td>Maximum</td>
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</table>

95% Confidence Intervals

<table>
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<tr>
<th>Statistic</th>
<th>Lower</th>
<th>Upper</th>
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<tbody>
<tr>
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<td>2.9523</td>
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<tr>
<td>Median</td>
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</tr>
<tr>
<td>StDev</td>
<td>0.2074</td>
<td>0.3535</td>
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</tbody>
</table>
Two-Sample F-Test for determining Equal Variances for AP Group vs. Non-AP Group for a 95% Confidence Interval

(at the $\alpha = .05$ level)

Test statistic = 0.72, p-value = 0.333

Since the p-value > 0.05, then we can conclude that the variances are equal.
Two-Sample T-Test for Equal Variances and 95% Confidence Interval for AP Group GPAs vs. Non-AP Group GPAs

Null Hypothesis: \( \mu \) (AP Group) - \( \mu \) (Non-AP Group) = 0

Alternative Hypothesis: \( \mu \) (AP Group GPAs) > \( \mu \) (Non-AP Group GPAs)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>SE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>40</td>
<td>3.523</td>
<td>0.221</td>
<td>0.035</td>
</tr>
<tr>
<td>C2</td>
<td>29</td>
<td>3.052</td>
<td>0.261</td>
<td>0.049</td>
</tr>
</tbody>
</table>

Difference = \( \mu \) (C1) - \( \mu \) (C2)

Estimate for difference: 0.4708

95% lower bound for difference: 0.3736

T-Test of difference = 0 (vs >): T-Value = 8.08

df = 67

Both used Pooled StDev = 0.2388

P-Value = 0.000

Because the P-Value is equal to 0.000, we can reject the null hypothesis at the level of \( \alpha = 0.05 \) (because the p-value < 0.05). This finding indicates that we can be 95% confident that the true population mean for the AP Group GPAs would be greater than the true population mean for the Non-AP Group GPAs.
Appendix J

Results of the Cronbach alpha test for internal reliability

**Question #4**  
*Item Analysis of C1, C3, C5, C7, C9, C11, C13, C15, C17*

Cronbach's Alpha = 0.7533

*Item Analysis of C2, C4, C6, C8, C10, C12, C14, C16, C18*

Cronbach's Alpha = 0.7586

**Question #5**  
*Item Analysis of C1, C3, C5, C7, C9, C11, C13, C15, C17, C19*

Cronbach's Alpha = 0.7281

*Item Analysis of C2, C4, C6, C8, C10, C12, C14, C16, C18, C20*

Cronbach's Alpha = 0.7055

**Question #18**  
*Item Analysis of C1, C3, C5, C7, C9, C11, C13, C15, C17, C19, C21, C23, C25, C27, C29, C31, C33, C35*

Cronbach's Alpha = 0.7021

*Item Analysis of C2, C4, C6, C8, C10, C12, C14, C16, C18, C20, C22, C24, C26, C28, C30, C32, C34, C36*

Cronbach's Alpha = 0.7827

**Question #19**  
*Item Analysis of C1, C3, C5, C7, C9, C11, C13, C15, C17, C19, C21, C23, C25, C27, C29*

Cronbach's Alpha = 0.6754

*Item Analysis of C2, C4, C6, C8, C10, C12, C14, C16, C18, C20, C22, C24, C26, C28, C30*

Cronbach's Alpha = 0.6387