A STUDY TO DETERMINE THE RELATIONSHIP OF ACT SCORES AND FIRST SEMESTER COLLEGE GRADE POINT AVERAGES AMONG CONDITIONALLY ADMITTED COLLEGE FRESHMEN

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A Field Study

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For the Degree of

Education Specialist

Shelby Lynette Taylor

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To the College of Graduate Studies:

We are submitting a field study written by Shelby Lynette Taylor entitled "A Study to Determine the Relationship of ACT Scores and First Semester College Grade Point Averages Among Conditionally Admitted College Freshmen." We have examined the final copy of this field study for form and content. We recommend that it be accepted in partial fulfillment of the requirements for the degree of Educational Specialist.

Research/Committee Advisor/Chair

Committee Member

Committee Member

Accepted for the council

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DEDICATION

This field study is dedicated to:

My son, Zachary Aaron Taylor

This Field Study is hereby dedicated to you Zachary Aaron Taylor for you have been my sunshine since the day you were born and the reason for me to continue my education. May you share a love for lifelong learning.

My mother, Shelby Draper

I hereby dedicate this Field Study to you my precious Mother, Shelby Draper, for the vision you helped me believe in to be more and do more and the example of a strong work ethic so that I may accomplish my life goals.

My sister, Tammy Cowan

I also dedicate this Field Study to you my Sister, Tammy Cowan, for being my encourager throughout my lifetime and being not only a sister by birth, but also of the heart.

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Abstract

SHELBY LYNETTE TAYLOR. The Relationship between ACT Scores and First Semester College GPA among Conditionally Admitted Freshmen (under the direction of Dr. Gary Stewart).

This study analyzed and evaluated the ACT scores of the freshmen cohorts of 2007-2008 and 2008-2009 at a midsize southeastern state university. The purpose of the study was to determine the relationship among variables and the effect on the first semester GPA of conditionally admitted college freshmen. A multinomial regression using backward step-wise selection was used to investigate the relationship among six variables. The variables were: 1) age, 2) gender, 3) ACT composite scores, 4) ethnicity, 5) academic deficiencies and 6) socioeconomic status. The study was conducted to test six null hypotheses at the .05 level of confidence.

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CHAPTER I

Introduction

Background of the Problem

Data on postsecondary education retention and graduation rates have been collected in the United States beginning in the early 1970s. In 1972 the National Center for Education Statistics developed and implemented what was to become a three generation longitudinal study on the academic success of three cohorts, 1972, 1982, and 1992. Each group was followed for 14, 13, and 12 years, respectively, with the last group receiving the most intense study. Results of this landmark study were published in 2004 with major topics identified as Demography and Geography, Postsecondary Attainment, Access and Participation, Attendance Patterns, Majors and Curriculum, Grades and Grading, and Remediation in Postsecondary Contexts (Adelman, 2004). For the purposes of this study, Grades and Grading and Remediation in Postsecondary Contexts will be analyzed through ACT composite scores and pre-college readiness factors.

Increasingly, with each decade from the 1970s to the present, the number of students with diverse backgrounds seeking college degrees has increased. With this growth many universities have faced the challenge of educating underprepared students who have not been groomed to enter the university. Many of these students are first generation, which presents numerous challenges including academic deficits upon college admission. Other students enter college from a disadvantaged socioeconomic status. Increasingly, students for whom English is a second language are seeking a higher education. Yet another group enters with sub entry-level college readiness skills as based

upon the state ACT statistics. Many of these students do not meet the traditional admission requirements of a university.

Universities and colleges require completion of academic deficiencies before a student may be fully admitted. Admission with conditions, also known as conditionally admitted or provisionally admitted, puts some students at-risk for dropping out (Gomez, 2009). The institution defines conditionally admitted students as:

> Traditional age students must meet all fourteen high school unit requirements and one of the following: 1) ACT composite of 19 or higher and proof of high school graduation, 2) SAT composite of 900 or higher and proof of high school graduation, 3) High school GPA of 2.75 or great and proof of high school graduation, 4) GED score of 450 with a passing notation and ACT composite of 20 or higher or SAT of 940 or greater. Traditional first-time freshmen must also have one of the following: more than one ACT sub score of 18 or less in English and Math, requiring enrollment in enhanced core mathematics and English. Nontraditional age students must complete the COMPASS assessment requiring placement in two or more enhanced core courses and one of the following: 1) Proof of high school graduation diploma and 2) GED score of 450 or greater with passing notation (45 prior to January 2002), (Austin Peay State University, 2011, p. 2-3).

Many universities have developed programs to address the needs of underprepared students entering higher education today. Retention of students has been given much attention, not only recently, but historically in higher

education. Retention has been shown to benefit, not only the university, but also student earning capacity and lifestyle, as well as community growth (McDaniel & Graham, 2001).

Retention of conditionally admitted students serves to increase the human capital of a community, therefore increasing not only the lifestyle of the student and family, but also increasing the community's wealth and opportunity. These students are most at risk of dropping out or stopping out. With all the programs for at-risk students currently offered throughout the United States, why are students not progressing at a greater rate? This study was conducted in order to investigate the effect of ACT scores and pre-college readiness factors on the first semester GPA of conditionally admitted students. This study examined the following pre-college readiness factors: gender, socioeconomic status, ethnicity, age, and academic deficiencies.

Statement of the Problem

Transitioning to university life may be difficult for conditionally admitted students. During this transition, many students are unsuccessful; however, others have been able to overcome the deficits. Admission requirements must be met for conditionally admitted students to remain enrolled past the first semester. Conditionally admitted students at this institution must attain a GPA of at least 1.5 in order to achieve unconditional admission status.

Efforts to retain these students have focused on specialized course instruction, student engagement activities, and cohort groups. Pre-college readiness factors as measured by the ACT may differ among conditionally admitted students. Those factors

which yield a higher GPA must be identified in order to provide academic programming to increase the retention rate of conditionally admitted freshmen.

Purpose of the Study

The purpose of this study will be to determine if there are differences in pre-college readiness factors among first time, full time freshmen who are conditionally admitted to the university. It was the goal of the researcher to identify the pre-college readiness factors which promoted successful completion of university admission requirements for conditionally admitted students.

Significance of the Study

Current trends in higher education identify the need to achieve a higher retention rate of freshmen in order to promote degree completion. This study sought to identify pre-college readiness factors of conditionally admitted freshmen who were retained from the first semester to the next semester. The benefit of the study may prove crucial and timely due to the current trends in higher education concerning retention and degree completion. This was an archival study comparing collected data from specific academic years, 2007-2009. More information may be useful in the form of student survey in the future.

Research Questions

1. Is there a significant difference in the first semester GPA of conditionally admitted freshmen based on ACT scores?

2. Is there a significant difference in the first semester GPA of conditionally admitted freshmen based on gender?

3. Is there a significant difference in the first semester GPA of conditionally admitted freshmen based on socioeconomic status?

4. Is there a significant difference in the first semester GPA of conditionally admitted freshmen based on ethnicity?

5. Is there a significant difference in the first semester GPA of conditionally admitted freshmen based on age?

6. Is there a significant difference in the first semester GPA of conditionally admitted freshmen based on academic deficiencies?

Hypotheses

1. There is no statistically significant difference between first semester GPA and ACT scores among conditionally admitted freshmen.

2. There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on gender.

3. There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on socioeconomic status.

4. There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on ethnicity.

5. There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on age.

6. There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on academic deficiencies.

Limitations

This field study was limited to first-time, full-time students whose freshmen class matriculated in the fall of 2007 and 2008 at a midsize southeastern state university.

The researcher did not have control over cohort grouping.

The results of this study may not be generalized to other higher education institutions due to the unique characteristics of the participants and institution.

Delimitations

This field study was delimited to conditionally admitted college freshmen. The study involved the collection of data from 2007-2008 and 2008-2009 cohorts.

Assumptions

All freshmen are first-time, full-time students having no more than six credit hours upon entering the university. All freshmen on conditionally admitted status have one or more academic deficits to satisfy. Data collection methods and results are correct.

Definition of terms

Academic deficiency: More than one ACT subscore of 18 or less in English and math, requiring enrollment in enhanced core mathematics and English.

ACT composite score: Admission requirement for conditionally admitted students at the institution of the study was a minimum score of 19 composite with more than one subscore of 18 in math and English.

Age: Categorized as traditional and nontraditional. Traditional age students were below twenty-one. Nontraditonal age students were twenty-one and above.

Conditionally admitted: Admission standards established by a university which are lower than the general admission requirements to increase access for more students, but which also come with conditions related to that admission status.

Ethnicity: Students were categorized in this study as minority which included black and Hispanic and nonminority which included white and all other groups.

Gender: Students were identified as male or female.

Pre-college characteristics: Academic characteristics related to college readiness as measured by the ACT and high school GPA.

First-time full-time freshmen: Students who enter the institution with fewer than twelve credit hours.

Student retention/Student success: The process of retaining a student who persists in degree completion.

Retained student: An institutional term for a student who studies full-time and enrolls each semester in order to graduate with a degree within six years.

Retention rate: A measure of the rate at which students persist at an institution of higher education.

Persistence: A characteristic for a student who continues enrollment from one semester to another and to graduation.

Dropout: A student who leaves college before graduating and never returns to any institution of higher education.

Cohort: A generational group as defined in demographics and academic characteristics.

Stopout: College dropouts who temporarily leave in order to address personal issues such as caring for a sick or aging relative or to gain experience in the job field.

Socioeconomic status: An individual's or group's position within a hierarchical social structure. Socioeconomic status depends on a combination of variables, including occupation, education, income, wealth, and place of residence. For the purpose of this study socioeconomic status was defined as having been awarded the Pell Grant or not having been awarded.

Financial aid status: Characteristics that define the socioeconomic status based upon financial aid awards such as Pell Grant.

First generation student: Undergraduates whose parents never enrolled in higher education.

Attrition: A reduction in student enrollment by dropout or stopout.

Traditional Age Freshman: First-time, full-time students under the age of twenty-one.

Nontraditional Age Freshman: First-time, full-time students age twenty-one and over.

CHAPTER II

Review of Literature

Introduction

The retention of students in higher education has become the focus of many research projects in the recent past. Kaiser (2005) sums up the importance of retention, "A high retention rate signifies strong campus morale, engagement, and financial well-being for the institution. Higher graduation rates and happy and engaged alumni are the ultimate goal for any university" (p. 3). As students have continued to have more access to higher education than ever before due to many programs of the federal and state governments, the diversity of that population has increased. Students, who had thought a college education was not possible due to financial constraints, now find the means through various programs and scholarships. Institutions of higher education have experienced enrollment in greater numbers, however, the rate of persistence to graduation has not mirrored that increase (Adelman, 2004). This trend has led universities and colleges to inquire as to the reasons why so many students begin an education beyond high school but do not continue. Students entering higher education with academic deficiencies or on conditionally admitted status face many challenges. Among those students, low socioeconomic status and under preparation for college appear to be two of the most prevalent reasons for discontinuing college. It was the purpose of this study to investigate the factors relevant to the success of conditionally admitted students.

Historical Perspective

Special admissions defined as conditionally or provisionally admitted for this study, appeared in the United States with the advent of the civil rights movement and

subsequent laws according to the Carnegie Foundation (Manning,Willingham & Breland, 1977). Admission programs at this time were designed to provide access to minority/poverty groups. The U.S. Office of Education began what has come to be known as the TRIO programs: Upward Bound, Student Support Services, and Education Opportunity Centers. These programs remain in existence today and continue to serve students in minority groups such as Hispanic and Black Americans, students with disabilities, and those among the lowest socioeconomic groups. Intervention programs during the 1960s and 1970s aimed to increase retention rates of "disadvantaged youth" by targeting motivation and academic skills (Sherman & Tinto, 1975).

Sherman and Tinto (1975) summarized the intervention strategies and intentions of the higher education institutions in their study by compiling categories which explained the rationale for the intervention. According to Sherman and Tinto (1975):

> Some see the problem of maintaining a "disadvantaged" student in college as a problem of finances. Thus the attempt is to provide this youngster with grants, loans, and part-time work. Other programs, however, may view the problem as one of academic preparation and the consequent need to provide remedial instruction and tutorial sessions. (p. 16)

Upon review of the literature, there is evidence the higher education system in the United States has a history of over forty years of programs and initiatives which focus on retention of students in some form or another (Sherman & Tinto, 1975). Despite the long history of research in this area, ACT, Inc (Habley & McClanahan, 2004) reported the following statistics:

> Only 48.7% of campuses have identified an individual responsible for coordinating retention strategies. Only 59.6% have established an improvement goal for retention of students from the first to second year and only 45.6% have established a goal for improved degree completion. (p. 6)

From this study, it is apparent more research and work will continue to be needed when institutions consider programs to increase retention and graduation.

Since 1959, the ACT has been collecting data (Habley & McClanahan, 2004) on student achievement not only on the secondary level but also the postsecondary. Over a thirty year span the ACT collected data on academic advising best practices in college as well as dropout and graduation rates. Publications focused on retention best practices which focused not only what worked but what did not work. ACT also investigated the student factor noting the academic and nonacademic influences on retention. Retention programs were reported to have increased greatly from the early 1980s when universities included in the study had twenty programs. By 2003 that number had increased to over one hundred. Clearly, retention programs have become an important part of the effort to keep students from leaving.

One of the most current reports, *The Condition of College and Career Readiness of 2010*, published by ACT, Inc. (2010), presents statistics for each state about the college readiness of students graduating from K-12 schools. Some student groups are more prepared than others from a review of the reported scores. Asian American/Pacific Islander and Caucasian students are more prepared than their peers in the Hispanic and African-American minority groups in the academic areas of College English Composition, Algebra, Social Sciences, and Biology. The ACT's *2009 National*

Curriculum Survey of both high school and college educators indicated a difference in beliefs on content and skills which should be offered in high school (ACT, 2010). This survey showed that college educators believe the core curriculum should reflect more rigorous coursework, not only cover content. High school educators, on the other hand, believe the numbers of core classes taken are the most important. This example of two different beliefs about college preparation may be one contributing factor to a lacking skill set upon entering college (ACT, 2010).

In the 1990s many studies were conducted to research the persistence, now known as retention, of college students. The National Institute of Independent Colleges and Universities found there were differences as well as similarities among public institutions of higher education and the independent sector (Porter, 1990). Degree completion was found to be lower than anticipated at 41% for students who completed a bachelor's degree within six years. The overall completion rate for independent colleges and universities was 54.2% as compared to 42% of public institutions. As has been previously noted by many researchers, Porter (1990) also found completion rates of Hispanic and African-American students to be repressed when compared to Asian-American and Caucasian students. Findings did indicate that the independent sector universities had higher graduation rates among all minority groups. Similarities included the attrition rate of freshmen within the first year showing that almost 20% dropped out. Asian-Americans were more likely to continue while African-Americans were the most likely group to leave the university especially in the public institutions where more than 25% left by the third semester. Both socioeconomic status and academic ability were shown to increase persistence in both the private and public sector schools. Financial aid was noted to

increase retention indicating that 90% of freshmen who received grants the first semester returned and remained enrolled as compared to a 75% rate for those students without grants. This study concluded that the persistence rate for independent universities was higher than that of public institutions. A study by Ishtani (2006) supported this finding as students at private four year universities were twice as likely to graduate as peers at public universities (p. 863). Students with a greater resource base such as high socioeconomic status and financial aid which supports them throughout college were also identified as having higher completion rates. The need for further research in the area of individual student characteristics, financial support, and academic ability were noted.

Tinto and the Theory of Student Departure/Studies on College Retention

The most widely published researcher who has become known as an authority on student retention, Vincent Tinto of Syracuse University, began studying this area in the late 1960s (Sherman & Tinto, 1975). His work on at-risk students in higher education and secondary programs which promote college preparation among students with low socioeconomic status has been extensive and exhaustive (Syracuse University Faculty Website, 2010). In 1993, his theory on social and academic integration became the hallmark by which programs for freshmen have come to be widely measured (Potts & Shultz, 2008). Tinto's Interactionalist Theory and his research were among the first to address student retention (Kaiser, 2005).

Tinto based his Ineractionalist Theory of dropout rates in higher education on two theories of human behavior; the Theory of Cost-Benefit Analysis and Durkheim's Sociological Theory of Suicide. The reasoning behind using these theories was two-fold. First, Tinto used Durkheim's theory as it relates to breaking one's ties with society due to

the lack of interaction within the common life of society (Sherman & Tinto, 1975). The Sociological Theory of Suicide (Sherman & Tinto, 1975) proposes the likelihood of complete withdrawal (suicide) when two types of interaction were lacking; "insufficient moral (value) integration and insufficient collective affiliation through person-person interactions (structural)" (p. 37). The analogy of suicide is being related to dropping out of college in that there is a social system with its own value set. When a student separates, social and academic "suicide" has been committed because the student will no longer have interaction with that society (Sherman & Tinto, 1975). According to Sherman and Tinto (1975), the Cost-Benefit Theory is much simpler and is applied to the student dropout rate based upon the perception that "individuals direct their activities toward those areas of endeavor which...maximize the ratio of benefits to cost" (p. 39).

Both theories were used to construct Tinto's Interactionalist Theory, which has become the most widely respected student retention theory in higher education to date. He also integrated the characteristics of the individual student as a factor in attrition. Tinto developed a conceptual schema for dropout rates in college which included the academic system, social system, and individual characteristics of students as well as the characteristics of the university (Sherman & Tinto, 1975). The end result from studies compiled by Sherman and Tinto (1975) was that the decision to remain in college and graduate was, ultimately, the individual student's level of commitment to attaining a degree.

The National Center for Education Statistics (2010) has many resources of longitudinal studies which support Tinto's theory and even list his work in report findings. The surveys conducted of parents, teachers, and high school principals that

address social integration and college readiness have been used and are currently available to continue research for the retention of college students (Adelman, 2004).

Most recently, Tinto's work has focused on the increasing diversity among college freshmen and increased access to higher education. In a paper addressing access, Engstrom and Tinto (January/February, 2008) present findings highlighting the struggle of college freshmen facing obstacles related to under preparation and lack of support upon entering higher education as two of the most significant factors affecting retention. The longitudinal four year study on thirteen institutions throughout the United States, with Tennessee among them, researched the characteristics of each institution that promoted retention. The findings indicated each of these institutions as having effective developmental learning communities. As a result, the students surveyed indicated a sense of belonging and faculty buy-in as being an important factor in matriculation. The work of Tinto and his many colleagues has become the standard by which retention of first generation, low income student programs has come to be measured. The continued commitment to studying this demographic group has produced standards of best practices among institutions of higher education. When Tinto began researching in the late 1960s, he was truly one of the pioneers in the field of student retention and attrition. When predicting the future dropout rates in 1975, Tinto quoted another pioneer, Astin (as cited in Tinto & Cullen, 1973), who aptly summarized the outcome research has borne out over time:

> To begin with, there seems to be little question that the continuing expansion of educational opportunities, as represented by trends such as open admissions and

> special admissions and special programs for disadvantaged students will result in much larger numbers of dropout prone students entering the higher education system...Consequently, unless special accommodations for these 'new' students are made...there seems to be little question that the national dropout rates will increase simply as a result of these changes in the entering student population. (p. 33)

Student Engagement and Belonging

Student engagement and belonging has been shown to promote retention but much of the research indicated the individual institution had more influence than any other factor (Engstrom & Tinto, 2008; Horwedel, 2008; Williams, 1998). Each university has a particular influence on retention as it promotes involvement in the university community. Cragg (2007) researched matching institution characteristics with student characteristics in order to identify characteristics which influenced probability for graduation. Cragg (2007) identified results that reflected past literature. She found that:

> Different variables influence different groups of students in unequal ways based upon a student's relative position to the institution's average admission requirements and cost of attendance. As such, administrators, faculty and staff need to develop a good understanding of their student population. (p. 66)

Potts and Schultz (2008) found that when students connected to faculty within a specific major the sense of belonging increased. Not only was belonging increased but retention was significantly increased when students were placed in cohort groups and attended a first-year experience course. Williams (1998) also found that by increasing student learning, a sense of direction developed within students and they were more

likely to persist. When success, learning, and satisfaction are met, students are more likely to be retained. Much of the literature and research that has been conducted on student retention in higher education over the past thirty years suggests the need for further research to identify matriculation trends internally (Cragg, 2007; Kaiser, 2005; Summerville, 2009; Tinto & Cullen, 1973; Williams, 1998). By identifying student demographics and institution trends, it is hoped that specific variables may be found which influence retention rates on each campus.

In the study of *Principal Indicators of Student Academic Histories 1974-2000*, (Adelman, 2004), the major topics of demography and geography, postsecondary attainment, access, and participation, attendance patterns, majors and curriculum, grades and grading, and remedial courses were addressed. Three major significant findings among at-risk students were found. The first was the higher the number of grades of W on the students' transcripts, the lower the percentage of students who earned bachelor's degrees. Secondly, the highest percentage of course failures was dominated by remedial courses in English and math and lower division distribution courses such as general psychology and U.S. History surveys. Lastly, the study found that the proportion of students requiring remedial reading who earned no postsecondary credentials rose from 57 to 70 percent from 1982 to 1992.

These findings illustrate the challenges faced by many freshmen today. In higher education the success of institutions can be directly related to the retention of students. This study not only investigated the retention of students over a thirty year period, but also compared the attainment rate of college students from 1972-1992. The incidence rate of degree completion was studied and revealed those students with academic

deficiencies, minority groups, and those from the lowest socioeconomic groups were most at-risk. The quality of retention, or persistence, was also shown to be reflective of degree attainment. The total number of course credits earned was used to measure the quality of retention from year to year. When a student earned higher course credits, the likelihood of continuing in college increased, thereby increasing degree completion (Adelman, 2004). *Principal Indicators of Student Academic Histories 1974-2000* (Adelman, 2004) included implications for further research as well as major findings concerning college freshmen. Notably, the access rate of entering college has increased by 50 percent in the past three decades but the degree completion rates for traditional-age students has remained stable. This leads to questions as to why so many students are entering college but are not finishing with a degree thus supporting the need for further research.

First Generation

Deciding to be the first person in your family to ever go to college can be a daunting task. Your support system has no knowledge of what it takes to complete a degree and may be ill equipped to handle the many aspects of a college education. Many first generation students were not groomed nor expected to attend college while in high school and the level of academic preparation in many first generation students is not up to par with those students who began preparation to attend college many years before high school graduation. Once students graduate from high school and look toward future careers, many decide it would be beneficial to obtain a degree. According to research conducted by Engle, Bermeo and O'Brien (2006), raising aspirations for college depended upon the extent to which students connected college to career interests, became

informed about college and the financial aid to pay for tuition, began perceiving themselves as "college material", and being persistent about college. Ishtani (2006) pointed out that not only do students benefit from a college degree but the community and nation do also. The 2000 Census report stated the annual differential in income would allow both federal and state governments to increase their tax revenues as the number of college educated citizens increase (Ishtani, 2006).

According to the National Center for Education Statistics (NCES) (1998), first generation students tend to be more likely to be older, female, have lower incomes, be married and have dependents as compared to their traditional age peers. There is an equal likelihood they will have academic deficits as compared to other freshman. This group was less likely to be retained and complete a degree program. The NCES (1998) also reported that while controlling for characteristics distinguishing students as first-generation, such as low socioeconomic status, there was still a negative impact on persistence.

Fast forward a decade to discover similar statistics found in the NCES (2010) study, which reported the findings of the Integrated Postsecondary Education Data System (IPEDS) (2008). The 2008 IPEDS report supported the 1998 NCES study in that the reported graduation rates with women comprising the majority of the group overall. Women of Asian descent had the highest graduation rate among public universities with White, Hispanic, and African-American students following respectively.

The National Education Longitudinal Study of 1988 (as cited by Adelman, 2004) reported that first generation students are twice as likely to leave college as are students coming from homes where both parents have a college education. The findings of this

study are consistent with previous research indicating these students are at a much greater disadvantage than their peers when completing a degree. Student demographics often play an important role in matriculation. First generation students are more often women, non-traditional age, from a minority group, and lower socioeconomic status. Another challenge facing this subgroup of conditionally admitted students has been the selection of an institution. Because many have academic deficiencies or weaknesses the choice may often be a university with lower admission requirements (Summerville, 2009). This may contribute to transition difficulties for many if the chosen school is not a good fit and vice versa.

Many students in this group often point to unsupportive family and friends as a deterrent in completing a degree. Students have chosen to embark upon new territory and many times they experience loss of support system or even have experienced discrimination concerning their ability to not only attend a university but to graduate. Nunez, Cuccaro-Alamin and Carroll (1998) reported that first generation students were more likely to stay in school and graduate based on parental education level. The higher the education level of the parents, the more likely students were to not only persist but also graduate.

Engle et al. (2006) surveyed first generation students in Texas which focused on retention and graduation in higher education. One of the common problems these students faced in college was the transition from high school to the university. Offering programs to address academic deficiencies prior to college such as tutoring and enrichment programs were offered by some universities in the high schools and even middle and elementary. Results have been good and more students now are attending

college because of the impact. Some universities offered summer bridge programs which allowed students to begin early when fewer students were on campus. This allowed staff and faculty a greater opportunity to work with students on a smaller teacher to student ratio. Another advantage was having time to get to know the physical layout of the campus and where commonly used services were located. Programs that offer students a support group for the first year were seen as being crucial by students who were surveyed.

Many of these students have low confidence levels until academic success has been achieved. Facing not only the transition from high school to college, they face cultural and class barriers the majority of students in higher education have never encountered. College was only a dream to most first generation students because of either socioeconomic status or few role models who have attended college. One student surveyed by Nunez et al. (2006) recalls the day when college became a possibility:

> They had a panel of college students and graduate students that came out of [the program] do presentations. They kind of give you a model of how it is possible for you to go on with your life, and become whatever you dreamed of even though you've come from an atmosphere where college is not even an option. (p. 21)

According to Nunez et al. (2006), many students believe they are not only earning a degree in order to improve a low socioeconomic status but also as a way to give back to their family and community. "I am part of a chain. If you stop, you also affect the other generations, the ones that came before and the ones that come after" (p. 22).

At-Risk Demographics

The profile of freshmen at the institution reflects the NELS and NCES reports. According to Smyth (2009), in a report from the Institutional Research and Effectiveness Office:

> Freshmen were 54% academically deficient, 50% more likely to have been conditionally admitted, 38% more likely to procrastinate in registration, 22% more likely to be first-generation, and 13% more likely to live off campus. They were just as likely to have a Pell Grant but 9% less likely to have lottery scholarships. With 54% of freshmen entering with academic deficiencies, that alone sets them apart as at-risk and they are 50% more likely to be admitted on a conditional basis. (p. 1)

The Pell Institute has sponsored many scholars and researchers in the field of student retention, particularly in the area of low socioeconomic status. One of the most prevalent findings has been the struggle of overcoming limited financial resources (Engstrom & Tinto, 2008). Pell also reported that even though access to higher education has increased over the past three decades to include under represented populations, the rate of degree completion has not (NCES, 2010). St. John (as cited by Engstrom & Tinto, 2008) revealed:

> Twenty-eight percent of the 30-year decline in enrollment in four year institutions among Pell Grant recipients occurred in just a recent three year period. Notably, this period has coincided with economic recession, large job losses, and state cutbacks in financial support for higher education, large tuition increases, and frozen Pell Grant maximum awards. (p. 6)

The Pell Institute has conducted many studies on the success of students who are at-risk of dropping out of college. Many of these studies focused on first-generation students, those from low socioeconomic status, and minority groups. Many students fit into all categories which places them at even greater risk of dropping out. Findings by the Pell researchers repeatedly pointed to socioeconomic status, a relationship between staff, faculty, and student as well as the amount of financial aid received as being the best predictors or retention (Engle et al., 2006; Engle & Tinto, 2008).

In the study of *Principal Indicators of Student Academic Histories 1974-200* ,(Adelman, 2004), the major topics of demography and geography, postsecondary attainment, access, and participation, attendance patterns, majors and curriculum, grades and grading, and remedial courses were addressed. Three significant findings among at-risk students were found. The first was the higher the number of grades of W on the students' transcripts, the lower the percentage of students who earned bachelor's degrees. Secondly, the highest percentage of course failures was dominated by remedial courses in English and Math as well as lower division distribution courses such as General Psychology and U.S. History. Lastly, the study found that the proportion of students requiring remedial Reading who earned no postsecondary credentials rose from 57 to 70 percent from 1982-1992.

These finding illustrate the challenges faced by many freshmen today. In higher education, the success of institutions can be directly related to the retention of students. The Adelman (2004) study not only investigated the retention of students over a thirty year period, but also compared the attainment rate of college students from 1972-1992. The incidence rate of degree completion was studied and revealed those students with

academic deficiencies, minority groups, and those from the lowest socioeconomic groups were most at-risk. The quality of retention, or persistence, was also shown to be reflective of degree attainment. The total number of course credits earned was used to measure the quality of retention from year to year. When a student earned higher education credits, the likelihood of continuing college increased, thereby increasing degree completion. This longitudinal study includes implications for further research as well as major findings concerning college freshmen. Notably, the access rate of entering college has increased by 50 percent in the past three decades but the degree completion rates for traditional-age students has remained stable. Adelman's study (2004) supports the need for further research as to why such great numbers of college students do not continue to degree completion.

According to Horwedel (2008), as minority groups continue to grow, universities are experiencing a 'majority minority' (p. 10). As reported in Putting First Generation Students First (Horwedel, 2008), minority groups now comprise up to 80% of the student body on campuses throughout the United States. Many of these students are also first-generation. Horwedel (2008) noted studies which indicated today's students have been arriving underprepared for college as compared to students a decade ago. This has been supported in other studies such as the McDaniel and Graham (2001) study on *Student Retention in an Historically Black Institution.*

Both studies found that minority students had significantly lower levels of pre-college preparation and less well-developed study habits.

First Year Experience Programs

As a result of much research on retention of freshmen, many universities developed programs targeted to improve the number of returning students each semester, particularly the freshmen year as studies have shown this is a crucial year in determining persistence (Engstrom & Tinto, 2008; Gomez, 2009; Habley & McClanahan, 2004; Potts & Schultz, 2008). Students entering the university have identified a sense of belonging as being an important part of the first year of college (Potts & Schultz, 2008). First year experience programs have been developed to increase this sense of belonging and offer support to students who may be at-risk (Barefoot, 2000). The findings by Potts and Schultz (2008) identified an active residence life program as contributing to a strong sense of belonging as well as faculty-student interaction and advising. This study also reported two other significant variables which increased student belonging and retention. Those variables were participation in a first-year experience seminar and scheduling an academic cohort for the first year courses.

First-year experience programs often reflect the unique needs of a specific university. While there are many similarities in programs throughout the United States, it has become important to address the changing demographics of student populations on each campus. The findings from the Habley and McClanahan (2004) study indicated that high-performing universities have more extensive first-year programs than those who are lower-performing. Some of the differences included increased advising staff and individualized advising based upon specific student characteristics. Providing a summer bridge program and comprehensive courses for freshmen as a cohort also ranked high on the list of differences. Academic support and advising for students with difficulty or

deficiencies and on-campus residence life programs also were present at high-performing schools as compared to low-performing schools. The surveys collected which identified the top three campus retention practices having the greatest impact were: freshmen seminar (20.2%), learning communities (18.4%), and advising interventions (12.3%).

Habley and McClanahan (2004) recommended universities focus on specific retention efforts in order to improve overall campus performance. The development of a campus-wide team to focus on retaining students was of utmost importance. Student and university characteristics were identified as having a great impact on success. By identifying similarities and differences among these characteristics and conducting analyses, it was hoped to improve retention. The need for a comprehensive plan and goal was stressed as was developing a measureable evaluation process in order to continuously improve.

Summary

Many studies have been conducted on the retention and graduation rate of at-risk students. Overall, the data and literature report similar findings on the demographics and characteristics of these students. Many agencies such as The Pell Institute and the National Center for Education Statistics have followed the success rate throughout the past three decades. Each subsequent study supported the need for further research within individual institutions in order to better serve that specific demographic group of students. Due to such consistent agreement, this study was conducted in order to better understand the conditionally admitted freshmen of the institution.

Tinto and Sherman (1975) predicted over thirty years ago what researchers have been seeking to answer:

> All this leads us to suspect that one of the main constraints to greater program effectiveness lies within the very fabric of schools and colleges within which those programs are housed. Specifically, they may lie in the values and attitudes of faculty, administrators, students, and parents concerning the aiding of disadvantaged youth in education and in the institutional structure and organizational framework which reflect those values... suggested therefore is a need for programs to supplement their provision of additional educational inputs with policies designed to alter the perceptions of teachers and administrators regarding the disadvantaged youth in education. (p. 32)

Most certainly, many programs and initiatives have come and gone in higher education in order to retain students and, in turn, increase graduation rates. Many researchers have invested much time and effort in order to find the program which will yield the highest retention rate not only for the university, but also for the future of the students.

CHAPTER III

Methodology

Overview

The study on conditionally admitted students was chosen to shed light on the success rate of at-risk college freshmen. These at-risk students compose a diverse group which has as much to offer the university as the institution has to offer them. Because of the mutual benefits, more research is needed in order to assist these students in attaining a college degree. As Kaiser (2005) points out:

> Although retention has been studied extensively; the literature is only able to assist in understanding the problem of attrition in general terms. There is little benefit to individual institutions...by studies specifically designed for the unique specific population of other institutions. (p. 31)

This study focused on conditionally admitted freshmen at a mid-size public southeastern state university, referred to as the institution. This chapter includes descriptions of the research design, participant selection, procedures for data collection, statistical analyses, and the hypotheses tested.

Research Design

This field study is a descriptive study of the affect of ACT scores and pre-college readiness factors on the first semester GPA of conditionally admitted college freshmen.

Participants

Authorization and access was granted by the office of Institutional Research and Effectiveness at the institution to collect and analyze ACT scores, pre-college readiness factors and first semester GPA of the 2007 and 2008 cohort groups of first-time, full-time

freshmen. Statistics, obtained from archival data sources, were recorded after the first semester of college attendance. No record was made of the students' names. The size of the cohort groups was 2514 students. Conditionally admitted students in both cohort groups were 357. Missing data accounted for 66 students due to acceptance of GED scores in lieu of ACT composite scores by the institution. For the purposes of this study, GED scores were not researched which resulted in an adjusted sample of 291 students.

Instrument

The Cooperative Institutional Research Program (CIRP) Freshmen Survey, Transition to College Inventory (TCI) Survey, Integrated Postsecondary Education Data (IPEDS), and university data were used to collect the data in this study. Data collection was done by the Office of Institutional Research at the institution and shared with this researcher.

Procedure

An application was approved by the Institutional Review Board to proceed with the study in order to maintain safeguards to protect the study participants. Permission to conduct the study was granted by the Office of Institutional Research and Effectiveness at the institution. The data obtained from the Office of Institutional Research and Effectiveness was kept on a secure file share and password protected at all times. At the end of the study, following approval by the Institutional Review Board, the data will be destroyed.

Data Analysis Plan

The information gathered from the ACT scores, pre-college readiness factors, and first semester GPA was compiled and analyzed. Data was entered into a computer using

a statistical software application and statistical procedures were performed using PASW v18 software. A multinomial logistic regression model with backward stepwise analysis was used to test the null hypotheses at the .05 level of confidence for significant differences in the ACT scores, pre-college readiness factors, and first semester GPA of conditionally admitted freshmen who successfully completed admission requirements as compared with those who did not. "A multinomial logistic regression is used when classifying subjects based on values of a set of predictor variables" (PASW, 2010). In this study the predictor variables identified were: ACT Composite score, gender, socioeconomic status, academic deficiencies, ethnicity and age. By using these variables as predictors, the study showed the strength of influence upon the first semester GPA of conditionally admitted freshmen in the 2007-2008 and 2008-2009 cohorts. The backward stepwise analysis within the multinomial regression eliminated those variables which were not statistically significant. The model was checked for multicollinearity, missing data, and outliers which have an effect on predictability. All independent variables were below the threshold for multicollinearity.

The dependent variable was coded into a dichotomous variable. Dichotomous variables categorize the sample into two groups. In this study the groups were conditionally admitted freshmen with a first semester GPA of 1.5 or higher and conditionally admitted freshmen with a first semester GPA of less than 1.5. At the institution conditionally admitted freshmen must achieve a GPA of 1.5 or higher in order to achieve fully admitted status after completion of the first semester course work. The independent variables were coded based on age groups, ethnicity, gender, socioeconomic status, and academic deficiency.

The data were compiled by query to produce the sample population for this study. The Office of Institutional Research and Effectiveness compiled the sample based upon the 2007-2008 and 2008-2009 cohorts as requested by the author. The two cohorts were identified based upon the admission selection of the university during those two cohort admission years. Conditionally admitted requirements for those years was constant whereas admission requirements had changed over other cohort years. The data were coded as has been previously identified and inputted into PASW v18 using a multinomial logistic regression with backward stepwise selection.

CHAPTER IV

Presentation and Analysis of Findings

Introduction

This study was conducted to determine what effects, if any, the ACT composite scores and pre-college readiness factors had on the first semester GPA of conditionally admitted first-time, full-time freshmen at the institution. The focus was on the cohort groups of 2007-2008 and 2008-2009. There were 2514 freshmen with 357 being identified as conditionally admitted. During data analysis participants were further defined to remove missing values attributed to GED scores which were not researched in this study. This resulted in 291 participants who had ACT composite scores. Table 1 presents the demographic data for the study participants.

Table 1
Demographic Information of Participants

Category	N	Percentage
Ethnicity		
Minority: Black & Hispanic	141	39.5%
Nonminority: White, Pacific Islander/Asian American, American Indian/Alaskan Native, Unknown	216	60.5%
Gender		
Female	220	61.6%
Male	137	38.4%
Age		
Traditional: under 21	286	80.1%
Nontraditional: 21 and over	71	19.9%
Socioeconomic Status		
Pell Award	190	46.8%
No Pell Award	167	53.2%

Analysis of Findings

The study used multinomial logistic regression with stepwise backward selection. This method employs the backward elimination model, then alternates between forward stepwise and backward stepwise until all variables, which are not statistically significant are removed. The hypotheses were tested at the $\alpha = .05$ level. The variables identified by the Model as statistically significant were age and ACT composite score. Table 2 presents the intercept, defined in this study as a GPA of 1.5 or higher, and the factors found to be significant as the ACT composite score and age. The Wald was used as the removal test during the multinomial logistic regression.

Table 2
Variables of Significance in the Study

Variables	B	SE	Wald	df	Sig.	Exp(β)
Intercept	-1.948	.892	4.774	1	.029	
ACT Composite	-.865	.333	6.754	1	.009	.421
Age	1.531	.712	4.629	1	.031	4.623

$p < 05$
The intercept reference category is GPA 1.5 or greater

Table 3 shows the Naglekerke test results. Naglekerke is used to test the strength of the relationship among variables. The variables identified in Table 2 showed a weak relationship based on the Nagelkerke of .065.

Table 3
Strength of Relationship

Pseudo R-Square	Measurement
Naglekerke	.065

$p < 05$

Table 4 presents the Chi-Square model fitting method. Results indicated the model was significant at the $p < 0.001$ level. The researcher determined the model to be significant based upon these results.

Table 4
Model Fitting Method

Model Fitting Criteria and Likelihood Ratio Tests		
Chi-Square	df	Sig.
11.197	2	.004

$p < 0.001$

The dependent variable for this study was identified as the cumulative GPA of 1.5 or higher. The institution uses this as a measure of successful completion of conditionally admitted status. Table 5 shows that 68 participants earned a GPA of less than 1.5 while 282 participants earned a GPA of 1.5 or greater during the first semester at the institution. Missing values accounted for 7 participants.

Table 5
Dependent Variable

CUM GPA	N	Percentage
Less than 1.5	68	19.0%
1.5 or greater	282	79.0%
Missing Values	7	2.0%

Hypothesis 1

There is no statistically significant difference between first semester GPA and ACT composite scores among conditionally admitted freshmen.

Table 6 results showed that 119 participants earned an ACT composite score of 19 or higher, 172 participants earned a score of below 19, and 66

participants were coded as missing values due to GED scores. GED scores were not considered for this study and as such explain the missing values in the data.

Table 6
ACT Composite Scores

Score	N	Percentage
19 or higher	119	33.3%
Below 19	172	48.2%
Missing Values (GED)	66	18.5%

Listwise deletion was used deleting observations with at least one missing value. Cragg (2007) explained, "Only observations with complete data remain, which leads to a reduced sample size" (p. 28). In this study, use of listwise deletion resulted in a loss of 66 observations and yielded a sample size of 291. Table 2 showed conditionally admitted freshmen were .421 times more likely, based on ACT composite scores of 19 or higher, to earn a GPA of 1.5 or above.

The hypothesis that ACT composite scores had no affect on first-semester GPA is rejected. This variable revealed significance on the first-semester GPA.

Hypothesis 2

There is no statistically significant difference in first semester GPA among conditionally admitted students based on gender.

Table 7
Step Summary: Gender

Action	Effect	Model Fitting Criteria		
		AIC	BIC	-2 Log Likelihood
Removed	Female/Male	88.466	103.118	80.466

Stepwise Method: Backward Stepwise
Model contains all effects specified or implied in the MODEL subcommand.

The multinomial logistic regression removed gender as a significant factor in step 3 of the summary process displayed in Table 7. There is no significant relationship based upon the analysis results for gender.

Hypothesis 3

There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on socioeconomic status.

Socioeconomic status was removed as a significant factor in step 2 of the multinomial logistic regression. The results are displayed in Table 8. There is no significant relationship based on the analysis results for socioeconomic status.

Table 8
Step Summary: Socioeconomic Status

Action	Effect	Model Fitting Criteria		
		AIC	BIC	-2 Log Likelihood
Removed	SES	88.322	106.637	78.322

Stepwise Method: Backward Stepwise
Model contains all effects specified or implied in the MODEL subcommand.

Hypothesis 4

There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on ethnicity.

Table 9
Step Summary: Ethnicity

Action	Effect	Model Fitting Criteria		
		AIC	BIC	-2 Log Likelihood
Removed	Ethnicity	89.229	100.218	83.229

Stepwise Method: Backward Stepwise
Model contains all effects specified or implied in the MODEL subcommand.

Ethnicity was removed as a significant factor in step 4 of the multinomial logistic regression as reported in Table 9. There is no significant relationship based on the analysis results for ethnicity.

Hypothesis 5

There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on age.

In this study age was categorized as traditional and nontraditional. The institution categorizes traditional students as under age twenty-one and nontraditional students as age twenty-one and older. This study used those two categories for age and the results showed that traditional age students composed 80.1% of the two cohorts while the nontraditional age students composed 19.9% of the cohorts as reported in Table 1. The results in Table 2 showed, for traditional age students, earning a GPA of 1.5 or above was 4.623 times more likely.

The hypothesis that age has no affect on first semester GPA is rejected. This variable revealed significance on the GPA of first-time, full-time conditionally admitted freshmen.

Hypothesis 6

There is no statistically significant difference in first semester GPA among conditionally admitted freshmen based on academic deficiencies.

Academic deficiencies were removed as a significant factor in step 1 of the multinomial logistic regression. Results are reported in Table 10. There is no significant relationship based on the analysis results for academic deficiencies.

Table 10
Step Summary: Academic Deficiency

Action	Effect	Model Fitting Criteria		
		AIC	BIC	-2 Log Likelihood
Removed	AD	90.295	112.273	78.295

Stepwise Method: Backward Stepwise
Model contains all effects specified or implied in the MODEL subcommand.

Summary

The statistical method in this study was a multinomial logistic regression using a custom stepwise method with the Wald removal test. The dependent variable was first semester GPA coded into two categories: 1) GPA of 1.5 or greater and 2) GPA below 1.5. The independent variables of socioeconomic status, ethnicity, age, gender, and ACT composite scores were entered as factors in order to determine the estimation of logistic regression. The model fitting method of Chi-square was used to test whether the improvement in the model associated with additional variables was statistically significant. The Chi-square results reported in Table 4 were $p < 004$, so it can be concluded that there is a statistically significant relationship between the first semester GPA and the two factors of ACT composite scores and age of conditionally admitted first-time, full-time freshmen at the institution. The Nagelkerke results in Table 3 reported a weak relationship between the first semester GPA and the two factors of ACT composite score and age.

Based upon the analysis results, conditionally admitted first-time, full-time freshmen belonging to the cohorts of 2007-2008 and 2008-2009, traditionally aged freshmen were 4.623 times more likely to earn a GPA of 1.5 or greater. Earning a GPA of 1.5 or greater based on freshmen whose ACT composite score

was 19 or above was .421 times more likely. Table 5 reported the first semester GPA of the participants. 282 participants, 79%, earned a GPA of 1.5 or greater while 68, 19%, participants earned a GPA of less than 1.5. Missing values accounted for 7 participants or 2% of the cohort.

CHAPTER V

Conclusion and Recommendations

Summary of Findings

A multinomial logistic regression tests the relationship of factors within the model based upon those factors occurring at the same time. In this study, the predictor factors entered into the model were ACT composite score, gender, socioeconomic status, academic deficiencies, and age. The relationship of those factors was tested and the results revealed age and ACT composite score to be significant in earning a GPA of 1.5 or higher as presented in Table 2. This result is unique to the model in that it analyzed only those factors in relation to each other.

Based upon the results in Table 2, it may be concluded that traditional age students were 4.623 times more likely to earn a GPA of 1.5 or greater if the ACT composite score was 19 or above. Students with an ACT score of 19 or above were .421 times more likely to earn a GPA of 1.5 or higher. While the model showed ACT composite scores and age to be significant, the relationship was measured to be weak as reported in Table 3 on the Nagel Kerke.

In the research reviewed in Chapter I, ACT composite scores were found to be significant in predicting student persistence as found by Cragg (2009). The results of this study confirm this finding. Age was not a factor identified in the research as it was used for the purposes of this study.

Recommendations

There are five recommendations for future research on this topic. First, research which identifies GPA groups to include 1.5-4.0 would be beneficial in measuring the full range of student academic achievement for conditionally admitted students. A second area would be to investigate all the standardized test scores accepted by the institution to include the GED and SAT scores as well as the ACT composite. Third, develop a matching model for university characteristics as well as student characteristics to determine the over fit between the two to determine if any relationship exists as it relates to retention and graduation rates. Next, a national study to identify universities with similar characteristics and admission standards would be useful to measure programs and retention of at-risk students. Lastly, conduct more research on all traditional and nontraditional age students in the institution to determine if a relationship exists between age and GPA.

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Appendices

Appendix A

Austin Peay State University

Supervisor's Approval

Subject: FW: Field Study Data

From: Mulkeen, Patricia
Sent: Thursday, February 03, 2011 2:54 PM
To: Taylor, Lynette
Subject: RE: Field Study Data

Great news Lynette!

I'd like a copy of your APSU IRB proposal with the stamp on it and a copy of your research questions. I'll look those over & we'll probably need to meet to finalize things.

Patty

Patricia Mulkeen, Ph.D.
Director, Office of Institutional Research and Effectiveness
Austin Peay State University
PO Box 4675
Clarksville, TN 37044

mulkeenp@apsu.edu
Phone: 931-221-7025 Fax: 931-221-7614

From: Taylor, Lynette
Sent: Thursday, February 03, 2011 2:09 PM
To: Mulkeen, Patricia
Subject: Field Study Data

Patty,

I have finally gotten my advisor's approval for my field study. The IRB approved it in the fall. My study is based on the conditionally admitted freshmen cohorts of 2007, 2008, and 2009. Will it still be possible to have your permission to use the data and what do you need from me in order to have access?

Thanks,

Lynette Byard Taylor

Associate Director
Office of Disability Services
931-221-6230

Appendix B

Austin Peay State University

Institutional Review Board Approval

Oct. 8, 2010

Shelby Lynette Taylor
1271 Bagwell Drive
Clarksville, TN 37040

RE: Your application regarding study number 10-035: The academic differences between first-time, full-time freshmen at Austin Peay State University who successfully complete the conditionally admitted contract requirements compared to those who do not.

Dear Ms. Taylor,

Thank you for your recent submission. We appreciate your cooperation with the human research review process. I have reviewed your request for expedited approval of the new study listed above. This type of study qualifies for expedited review under FDA and NIH (Office for Protection from Research Risks) regulations.

Congratulations! This is to confirm that I have approved your application through one calendar year. This approval is subject to APSU Policies and Procedures governing human subject research. The full IRB will still review this protocol and reserves the right to withdraw expedited approval if unresolved issues are raised during their review.

You are granted permission to conduct your study as described in your application effective immediately. The study is subject to continuing review on or before Oct. 8, 2011, unless closed before that date. Enclosed please find the forms to report when your study has been completed and the form to request an annual review of a continuing study. Please submit the appropriate form prior to Oct 8, 2011.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. If you have any questions or require further information, you can contact me by phone (931-221-7231) or email (grahc@apsu.edu)

Again, thank you for your cooperation with the APSU IRB and the human research review process. Best wishes for a successful study!

Sincerely,

Charles R. Grah, Chair
Austin Peay Institutional Review Board

Cc: Dr. Gary Stewart , College of Education