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Factors Influencing College Attendance of Appalachian Kentucky Students Participating in a Federal Educational Talent Search Program

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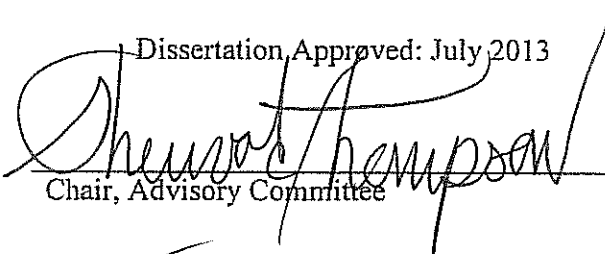
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FACTORS INFLUENCING COLLEGE ATTENDANCE OF APPALACHIAN
KENTUCKY STUDENTS PARTICIPATING IN A FEDERAL EDUCATIONAL
TALENT SEARCH PROGRAM

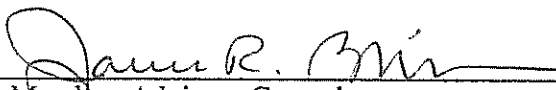
By

William D. Bowling

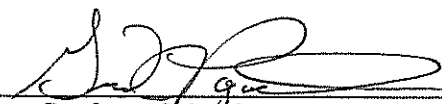
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FACTORS INFLUENCING COLLEGE ATTENDANCE OF APPALACHIAN
KENTUCKY STUDENTS PARTICIPATING IN A FEDERAL EDUCATIONAL
TALENT SEARCH PROGRAM

By

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in partial fulfillment of the requirements
for the degree of
DOCTOR OF EDUCATION
August, 2013

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DEDICATION

This dissertation is dedicated to anyone who has feared failure and overcame it and to those that someday will. To every student that ever dared to believe that they could be more than someone told them. To every teacher who took an extra moment to further my understanding of a subject or to encourage my growth. To each professor who motivated me to push forward and who had faith in me even when I didn't. To my mother for her tireless support, even without understanding the process, she always knew exactly what I needed to hear. Last, but not least, to Barbara, for showing me the light in my own darkness.

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I would like to thank Dr. Charles Hausman for his direction in helping me to conceptualize this research, though any errors in this regard are my own. I would also like to thank my other committee members for providing me not only their professional support, but also the motivation to succeed by witnessing their humility despite their own great success. Further, I'd like to thank them for not only tolerating but encouraging the strenuous timeline on which this work was completed. I am also truly appreciative of my friends, notably Corey and Kyle, who have kept me grounded and motivated and have never hesitated to offer productive advice or to just spend a few moments listening to me vent. Also, I would like to thank Barbara who showed me that, despite what hand life may deal you, there is always more to cherish than to resent.

ABSTRACT

Postsecondary education is quickly becoming a requirement for many growing careers. Because of this, an increased focus on postsecondary enrollment and attainment has been seen in the education community, particularly in the K-12 systems. To that end a large number of programs and organizations have begun to provide assistance to these students in the form of academic advising, college coaching, and personal enrichment. Since the enactment of the Economic Opportunity Act of 1964, there has been a burgeoning population of such programs like the TRIO family.

The purpose of this study was three-fold. The first objective was to determine the demographic characteristics of the students participating in the Educational Talent Search program located at a regional University in south-central Kentucky. Part of this objective, with regards to the demographic characteristics, was to determine if any trends emerged during the analysis of the data collected. The second purpose was to ascertain if there was a relationship of significance between the students' academic performance, participation in ETS activities, and their decision to attend college. Finally, the third objective was to determine if there were any significant relationships between a student's demographic characteristics, academic performance, and his or her participation in ETS activities.

Analysis of the data set yielded no significant relationships between program variables and academic performance or program variables and college enrollment at standardly accepted levels. This hints that the effect of the ETS program on student postsecondary enrollment is either negligible or hidden by the effects of other variables that were not measured in this study. Post-hoc analyses suggested that the effects of the

program may be more strongly evidenced in the individual relationships that are built with each student through outside contacts. Several pertinent research questions were provided to address these issues with future studies. Suggestions for policy were provided and include an increased focus on minority populations, more remote counties, and a stronger focus on academic preparation in line with the academic metrics measured in this study.

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CHAPTER 1

INTRODUCTION

The Research Problem

Given the growing need and opportunities for educated individuals in this country, and the stark educational inequalities too often bearing on Appalachian America, educators are desperately seeking means to ameliorate these conditions and increase the percentage of college graduates (ACT, 2010; Bozick & Lauff, 2007; Carnevale & Rose, 2001). The purpose of this study is to improve the knowledge and understanding of identifying demographic information of Appalachian Educational Talent Search students who are attending college as well as to examine and evaluate which academic metrics predict college attendance in such students. Further, given the presence of many federal programs (such as TRIO) in our secondary and postsecondary institutions, researchers are obligated to examine the effects that participation in such programs may have on a student's decision to attend college.

First-generation college students are considered a population at-risk for academic underachievement (Hand & Payne, 2008). As such, they are typically in need of greater support and guidance than a student who would receive such support from their college-graduate parents. This is where the Educational Talent Search (ETS) program, which is part of the Federal TRIO system (see Appendix A) and is housed at a regional University in south-central Kentucky, comes into play. Serving 765 students in six counties throughout Appalachia, the ETS program provides additional support, resources, and

information to students from first-generation and low-income families in an attempt to raise the number of college-educated Appalachians. One of the main problems facing students from such families is a lack of knowledge, on the part of families, in regards to college access, financial literacy, and academic support (Ali & Saunders, 2006; Hand & Payne, 2008; Perna, 2008).

The ETS program provides support in all of these areas. Starting in the 6th grade, students are exposed to various career and interest inventories, opportunities to visit and learn about Kentucky's postsecondary institutions, and a plethora of information about the available avenues for financial aid as well as the pitfalls of too much student loan debt. Students also receive individual guidance and counseling to bolster personal self-efficacy and to break pre-conceived notions about that lack of Appalachian educational success. Parents are not excluded from this support, and many attend field trips, participate in financial aid workshops, and attend informational sessions provided by both ETS and the host University concerning enrollment and student life. Further, the overwhelming majority of the students served by ETS are part of the school free lunch program, a demographic that is considered at risk for not attending college (Johnson, 2008). In addition, given the predictive power of socio-economic status (SES) and the academic attainment (AA) of parents over a child's matriculation into college, it is imperative that attention be focused on this population; yet again an area where ETS serves students (Bozick and Lauff, 2007; Nunez & Cuccaro-Alamin, 1998).

By examining the demographic data of Appalachian students in the ETS program, the regions of Appalachia which require more attention and assistance with college planning can be determined. A focus on academic metrics will allow for more devotion to

the strongest predictors of college attendance. Finally, by inspecting the role of ETS participation in college attendance, it is possible that such programs can be justified as would their expansion and future funding.

Overview of Education in Appalachia

Many of Appalachia's sociological problems can be traced back to a lack of emphasis on school attendance, low completion rates, poor funding, and the general politics of education (Branscome, 1972; Mulkey & Henry, 1988).

The remote status of Appalachia further complicated these problems and prevented the establishment of schools in some regions of the area (Whisnant, 1983). The schools that were established suffered from lower completion rates than their counterparts in the rest of the country due in large part to disagreements between educational professionals and the community as to what content was important for study (DeYoung, 1991; Stuart, 1950; Tyack, 1974). This resulted in local officials directing the content of many of the schools' curriculums, and much of the directives of the state were poorly implemented; sometimes not at all (Hartford, 1977). Given these circumstances, it is easy to understand that the academic material of instruction at the time was of little consequence, even to many of its participants (DeYoung & Lawrence, 1995; Trow, 1961; Walters, 1986).

The implementation of the Smith-Hughes Act of 1917 and its promotion of agricultural and vocational programs prompted an increased focus on the development of secondary education in America after such programs proved to be successful (Kliebard, 1986). However, this did nothing to quell the arguments among educational constituents who favored the implementation of more industrial-based vocational programs versus the

traditional “classical” education needed for college preparation (Hollingshead, 1949; Peshkin, 1978).

Leading up to the 1960’s education reforms, rural secondary school attainment still fell short of benchmarks set by their urban counterparts (Swanson, 1988). This was a time when the paradigm shift of schools towards becoming “mass preparatory” institutions for students began as researchers argued that even basic vocational professions required the kind of education that was being provided in the postsecondary world (Schultz, 1981; Trow, 1961).

After the 1983 *A Nation at Risk* report (which highlighted factors such as declining test scores of students and made recommendations to increase both performance and accountability of the schools), public attention turned toward school funding (Brint, 1998; Spring, 2002). This change ushered in nationwide educational goals in many of the Appalachian regions as well as across the United States. Additionally, the No Child Left Behind Act of 2001 (which created mandatory testing requirements and created funding paradigms that are based on student’s performance on state-wide exams) instituted regulations designed to increase learner attendance and school accountability through the proposed limitation or cancellation of funding for school programs based on their performance (Guskey, 1994).

The beginning of the 21st century found Appalachia still lagging behind the United States in average attainment of postsecondary education. Appalachia showed a 17.7% attainment rate while the United States, as a whole, showed a 24.4% attainment rate – a 6.7% difference which was worse than the 5% difference found in 1980 (Haaga, 2004; Schwartz, 2004; Shaw, DeYoung & Rademacher, 2004).

Education continues to be a goal that many children and teens in the United States aspire to; so much so that approximately 90% of 2002 high school sophomores reported the desire to obtain a college education with over 70% expecting to do so with the completion of a four-year degree. However, only 62% of this group actually enrolled in college and nearly 50% were lost to attrition before their second year (Snyder, Tan, & Hoffman, 2004). This sentiment was echoed by the Kentucky Council on Postsecondary Education's (2011) comprehensive database on sophomore retention which showed that only 63.3% of college students enrolled in 2009 returned the following year.

Even more disheartening is the abysmal college readiness percentages present for Kentucky as recently as 2012. Only 16% of Kentucky high school graduates met all four of ACT's college readiness benchmarks, and an incredible 40% met no benchmarks at all (ACT, 2012). Further, out of the 46,249 ACT-tested students who graduated in 2010, only 59% were enrolled in college that fall (ACT, 2012). Echoing the earlier statistics on retention, only 66% of the ACT graduating class of 2010, who entered college in 2010, returned to school in 2011. Finally, and perhaps most alarming, is a report by the Appalachian Regional Commission (2012) showing that from 2006-2010 only 12.8% of Appalachian Kentuckians 25 and older possessed a bachelor's degree (Pollard & Jacobsen, 2012). This is in sharp contrast to the 19.8% national average of those 25 and older with bachelor's degrees (U.S. Census, 2013).

Challenges Facing Education in Appalachia

Teacher Turnover/Attrition

Currently there is a shortage of qualified teachers in the region. The Shortage can be attributed in part to challenges of attracting younger, recent college graduates based on

a lack of amenities desired by young adults, it has become increasingly more difficult to secure the kind of well-educated and motivated teachers necessary to push forward academically (Herzog & Pittman, 1999). This is further complicated by the ability of wealthier school districts to attract recent graduates with attractive benefits such as sign-on bonuses (Proffit, Sale, Alexander, & Andrews, 2004).

Stigma

A fundamental difference between Appalachia and the United States at large is the culture gap. Appalachia possesses a dialect of its own, and because of this her people have been increasingly marginalized in comparison with the rest of the country. This marginalization leads to a sense of stigma that has been associated with a lack of self-efficacy and an increased dropout rate (Porter, 2001). This inferiority complex is compounded by the liberal use of slurs in academia and the mainstream media regarding the social standing, intellect, genealogy, and potential of rural Appalachians (Bauer & Growick, 2003; Heilman, 2004; Mahaney, 2003; Sizemore, 2005).

First Generation

As mentioned previously, first-generation students are a population considered at risk for academic underachievement (Hand & Payne, 2008). Not surprisingly, a student's decision to attend college is fundamentally impacted by the academic achievement of his or her parents (Balz & Esten, 1998; Nunez & Cuccaro-Alamin, 1998). The already small number of Central Appalachians over the age of 25 who have attended college (24%) pales in comparison to the national average of over 50% (Carrier, et al, 2010). Consequently, these youth also have lower graduation rates than non-first-generation students, are often underprepared in high school, and many have to work to help pay for

their education (Chenoweth & Galliher, 2004; Choy, 2001; Engle, 2007; Engle & Tinto, 2008; Jehangir, Williams, & Pete, 2011; Stebleton & Soria, 2012). These students are also nearly four times more likely to drop out of higher education in comparison with their non-first generation colleagues (Engle & Tinto, 2008).

Low Income

Low-income students face a wide disparity in access to postsecondary education – a challenge they share with other minority groups (ACT, 2010; Bozick & Lauff, 2007). Approximately 40% of low-income students choose to attend college in comparison with 84% of non-low income (Bozick & Lauff, 2007; Engberg & Allen, 2011). Currently, about 57% of Kentucky's students fit the government criteria for low-income status (U.S. Department of Education, 2012). Students from low-income families are also less likely to have access to intellectually stimulating material and/or access to materials that make college access easier (Massey, Charles, Lundy, & Fischer, 2003).

Further, even if these students possess the academic skills to succeed in higher education, they may lack the financial resources to enter into college (Kane, 1995, 1999; McPherson and Schapiro, 1991, 1997; St. John, 2003). High levels of poverty and unemployment, like what are present in Appalachia, are also linked to populations without a college education (Eckholm, 2010). Attempts to increase a student's possibility of college enrollment, through outside means and the illustration of long term-financial benefits, are limited by the student's personal resources based on his or her socio-economic status (Becker, 1993; Paulsen, 2001). Additionally, low-income students have difficulty finding and understanding information pertaining to the financial aid process (Bell, Rowan-Kenyon, & Perna, 2009; Luna de la Rosa, 2006).

Poverty conditions cause many students, as early as the 7th grade, to develop expectations for their future based on their SES which consequently leads to lower expectations about their educational future and leads to fewer of these low-SES students taking college entrance examinations (Fitzgerald & Delaney, 2002; Terenzini, Cabrera, & Bernal, 2001). Finally, the escalating cost of education and the delineation of students based on SES leave many low-income students with little hope of attending college (Terenzini, Cabrera, & Bernal, 2001).

Educational Initiatives in Appalachia

Currently, several initiatives are in place to curb the downward trends in the education and performance of these at-risk populations. These initiatives include tutorials and counseling programs aimed at curbing the 25% dropout rate (Brodinsky, 1989). The main function of these programs is to provide academic support to struggling students or to assist students in building self-efficacy (White & Edmondson, 1998). Other initiatives include plans to provide students with incentives to persist in school and earn good grades, reassessing the role and function of remedial courses, and creating stronger advising and student support services (Brock, 2010). Bragg, Kim, & Barnett (2006) put forth the idea that there are many options for assisting underserved students such as advanced placement classes, dual-credit/virtual high schools, middle college high schools, and tech/college prep programs.

The Appalachian Higher Education Initiative (2012) utilizes a “model” approach where students are provided occupational interest surveys, parent engagement, financial aid training, college and worksite visits, career fairs, curriculum alignment discussions

between high school and college faculty, opportunities to research and discuss various postsecondary options, and an exploration of non-degree professions.

The Appalachian Regional Commission (2010) states in its 2011-2016 strategic plan that solving the problem of their “Strategic Objective 2.4: Increase Educational Attainment Achievement” would include providing greater local and regional support to programs focused on better preparing students for college, assisting out-of-school youths and adults for PSE, and supporting dropout prevention programs (p. 11-12).

Last, but not least, are federal TRIO programs which, like the subject of this study, seek to assist low-income and/or first-generation students in achieving their academic goals. The stories of students’ successes as a result of the influence of these programs are far and wide including more personalized stories such as those of LaKresha Graham, a participant of three national TRIO programs (Graham, 2011; Herman, 1998).

The Significance of the Study

This study has four audiences: academic researchers interested in knowing what effect such programs have on students, affiliates of such programs including volunteers and employees, academic institutions that may be interested in establishing such programs, and federal officials who determine funding for such educational programs.

Academic Researchers

This study will add to the literature concerning the effects of Federal Educational Programs on the postsecondary attendance of students in Appalachian Kentucky.

Although there is a great deal of information concerning academics and predictors of college success, there is very little specifically focused on Appalachia and even less on specific populations like the students in this study. Given the recent trend of budget cuts

in education, and the continuing recession in the American economy, it is important for dedicated academics to have an understanding of the values and implications that programs such as Educational Talent Search can have on the student population they serve.

ETS Program Affiliates

For those individuals who are a more direct part of the 2,800 such programs and the 800,000 students they serve (Council for Opportunity in Education, 2013) evidence of effectiveness can be a source of continued justification and pride. Given the current trends in American educational attainment, it is not uncommon for individuals to question the efficacy of their work in education (particularly in grant-funded programs). As such, having evidence that there are fruits of their labor can be a key aspect of motivation for employees of programs like ETS. Further, for graduates of such programs to be aware that a program that assisted them is also providing support to many others can be beneficial to their advocacy work and/or their desire to donate and volunteer.

Academic Institutions

Although there are many K-12 schools and postsecondary institutions that utilize the 2,800 national TRIO programs that utilize or host ETS programs, there are many that do not (COE, 2013). If the benefits of participation are shown, then it will be much easier for individuals within educational institutions to justify the implementation of such programs as well as the inclusion of these programs in K-12 schools. For programs that are already established, having data on their beneficial effects will be a strong tool to justify the continued existence of such programs as well as function as good publicity for the institutions that they serve.

Federal Officials

Perhaps the most important audience is the federal officials who must weigh budgets and decide on the future of educational funding in this country. With the previously mentioned decline in funding for education as a whole, it is no surprise that many grant-funded programs are closing their doors and the benefits of such programs are fading (The Education Trust, 2009). By providing strong evidence of the efficacy of these programs, it will be far easier for federal officials to justify continuing funding and avoiding cuts to such programs. This data will also provide a framework for officials to structure new educational programs and initiatives to increase education attainment across the country.

Research Purpose and Questions

The purpose of this study is three-fold. The first objective is to determine what the demographic characteristics are of the students participating in Federal TRIO programs based in Appalachian Kentucky, such as Educational Talent Search, and if any trends emerge during the analysis of the data collected. For the purpose of this study, the variables associated with demographics include gender, ethnicity, county in which the student attends school and receives ETS services, low-income status (per federal guidelines), and potential first-generation students (per federal guidelines). The second purpose is to ascertain if there is a relationship of significance between students' academic performance, participation in ETS activities, and their decision to attend college. For this study, academic metrics will include a student's un-weighted GPA at the time of high school graduation, highest composite ACT score, completion of the pre-college/rigorous curriculum K-12 course requirements, participation in K-12 Advanced

Placement classes, and participation in K-12 dual-credit courses through a local postsecondary institution. Participation in ETS activities is defined as attendance at scheduled ETS workshops during school hours, attendance of optional ETS-sponsored day trips/field trips to postsecondary institutions, attendance of optional ETS summer camps, outside contacts such as individual meetings or phone calls to parents, and family events such as the annual Career and Family Day or other TRIO or university events. Finally, the third objective is to determine significant relationships (if any) among a student's demographic characteristics, academic performance, and participation in ETS activities.

Research Questions

The following research questions are herein addressed with regard to Appalachian high-school students in Kentucky:

1. What were the demographic characteristics of Educational Talent Search (ETS) students who graduated in 2012?
2. What is the relationship, if any, between their high school academic performance and their college enrollment?
3. How strongly does participation in specific ETS activities predict their college enrollment?
4. What is the relationship between the demographic characteristics of ETS students and their high school academic performance?
5. What is the relationship, if any, between students' participation in specific ETS activities and their high school academic performance?

6. What is the relationship, if any, between students' demographic characteristics and their participation in specific ETS activities?

Overview of Methods

Demographic data were gleaned from self-report fields on ETS's standard application for students and was compiled by reviewing the hard copies of each student's files. Data was compared against ETS's locally maintained database for consistency and accuracy. All academic metrics were obtained via students' final transcripts which were provided by the six high schools served by the ETS program and by directly contacting school personnel to determine accuracy and consistency of the records. The numerical data concerning the students participation in ETS activities was obtained by consulting ETS's locally maintained database, the students' end-of-year activity report summaries as well as confirming the numbers by tallying signatures on relevant event sign-in sheets for all events that were used as variables in the study.

Delimitations

This study is limited to Educational Talent Search programs funded under the Federal TRIO program umbrella. Specifically, it pertains to the intended results of programs with models similar to the one examined in this study. Individual programs can vary on the specific details of their curriculum as long as they follow the general requirements outlined by their federal correspondent located in Washington, DC.

Operational Definitions of Key Terms

ACT Score – The student's highest composite score on the ACT college entrance examination. This is an interval variable with a range of 1-36.

AP Class – The student’s completion of an advanced placement course meant to expose him or her to postsecondary level academic rigor. This is a nominal variable with 0=no and 1=yes.

County – The county where the student attends secondary school and receives their ETS services. This is a nominal variable with 1= Clay County, 2=Jackson County, 3=Lincoln County, 4=Garrard County, 5=Madison County, 6=Estill County.

Dual-Credit Course – A class that is taken through, or in partnership with, a postsecondary institution and results in credit both as a high school requirement as well as applicable credit toward college graduation requirements. This is a nominal variable with 0=no and 1=yes.

Enrolled in PSE – A student’s status regarding college enrollment per verification by the National Clearinghouse or an applicable postsecondary institution’s admissions office. This is a nominal variable with 0=no and 1=yes.

Ethnicity – The self-reported category ascribed to the student’s racial or ethnic heritage as either non-white or white. This is a nominal variable with 0=no response, 1= American Indian or Alaska Native, non-Hispanic/ Latino, 2=Asian, non-Hispanic/Latino, 3= black or African American, non-Hispanic/Latino, 4=Hispanic/Latino of any race, 5=white, non-Hispanic/Latino, 6= native Hawaiian or other pacific islander, non-Hispanic Latino, 7=two or more races, non-Hispanic/Latino, and 8=race or ethnicity unknown.

Family Events – Anything that involves the student and their legal guardians participating in an ETS sponsored event. More specifically, this includes the program’s annual Career and Family Day, TRIO days hosted by other postsecondary institutions, and/or

recruitment/informational events sponsored by the program. This is a ratio variable with no set range.

Field Trip – Any activity that is designed to expose students to educational or career opportunities and is offered both during regular school hours and as part of non-school related camps or activities. This is a ratio variable with no set range.

First-Generation – A student whose biological or adoptive parents do not possess a college degree; this applies to any combination of biological and adoptive parents although step-parents who have not legally adopted a child do not count toward this metric. This is a nominal variable with 0=no and 1=yes.

Gender – The way a student's self-reported sex is categorized as being either male or female. This is a nominal variable with 0=female, 1=male.

GPA – The student's un-weighted grade point average calculated on a ratio of their earned grades versus their earned credits. This is a ratio variable on a 0.00-4.00 scale.

Low-Income – A formulaic distinction based on the ratio of a student's family income compared to the size of their household. This is a nominal variable with 0=no and 1=yes.

Outside Contact – Any contact or service provided to the student or their family outside of normal workshops such as individual meetings, parent contacts and phone calls, or small groups meetings. This is a ratio variable with no set range.

Postsecondary Education – Any training, education, or certification program that a student graduating from an ETS program chooses to attend. It is not merely limited to two and four-year institutions, but also trade schools and the like. This is a nominal variable with 0=no and 1=yes.

Rigorous Curriculum – refers to a student completing a prescribed set of courses in line with the Pre-College Curriculum requirements outlined by the Kentucky Department of education meant to prepare a student for college (see Appendix E). This is a nominal variable with 0=no and 1=yes.

Summer Camp – The Educational Talent Search’s two overnight summer programs that students can attend beginning in the eighth grade. This is a ratio variable, with no set range.

Workshop – A scheduled educational activity offered during normal school hours that students in the program are expected to attend. These workshops focus on a variety of topics covered earlier. This is a ratio variable with no set range.

Dissertation Organization

This dissertation is organized into five chapters: Chapter 1 Introduction, Chapter 2 Literature Review, Chapter 3 Methods, Chapter 4 Results, and Chapter 5 Discussion. The literature review begins with an examination of the history of educational attainment in Appalachia. It highlights the various challenges posed by individuals seeking education in this area and ends with a synopsis of the current state of education in Appalachian Kentucky and initiatives seeking to improve it. Chapter 3 discusses the research design for the study, sampling, and population and includes a discussion on the collection and analyses of the data for the study. Chapter 4 provides a breakdown of the results of the analyses while Chapter 5 details the implications for practice, limitations, and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

This literature review provides a framework for the methodology of this study. It begins by providing a general overview of education in Appalachia, as well, as the many pitfalls that have been negotiated by educators in the region throughout its history. The review then proceeds to an examination of the current status of education in the region including both academic achievement and performance statistics relating to Appalachian students. Following this is a breakdown of the crucial issues relevant to the region and those that serve as hindrances to the academic performance, academic achievement, and financial security of Appalachia and its residents. Lastly, the review will examine various educational initiatives present in the region that are attempting to ameliorate these low trends of academic achievement.

Overview of Education in Appalachia

The modern image of school seems so familiar and understandable to individuals in the 21st century. Without the National Common School movement, however, education would most likely have stayed in the hands of religious institutions who felt that academic subjects like reading were only meant for those interested in accepting the Protestant God in order to receive salvation (Perkinson, 1995). Even the first urban schools were created to provide former rural children with spiritual and moral guidance believed unavailable to them on the frontier (Tyack & Hansot, 1982). These beliefs were further vindicated by the tendency of rural Appalachian communities to view the family

and the church as the primary institutions for instruction and were not content to simply hand these responsibilities over to the schools (DeYoung, 1995; Hartford, 1977).

Many Appalachian sociological problems can be traced back to a lack of emphasis on school attendance, low completion rates, poor funding, and the general politics of education (Branscome, 1972; Mulkey & Henry, 1988). Despite the current frenzied focus on education in rural America and the implications of education for economic development, a human capital approach to problems in Appalachian Kentucky is fairly new (Schultz, 1981).

The remoteness of certain Appalachian communities complicates these problems and might have delayed or even prevented the establishment of public schools in some regions of the area (Whisnant, 1983). This remoteness remains a source of educational, financial, and societal stress for the region (Pollard, 2003). The schools that were established suffered from lower completion rates than their counterparts in the rest of the country due in large part to disagreements between educational professionals and the community as to what content was important for study (DeYoung, 1991; Stuart, 1950; Tyack, 1974). This resulted in local officials directing the content of many of the schools' curriculums and too much of the directives of the state being poorly implemented; sometimes not at all (Hartford, 1977). Given these circumstances, it is easy to understand that the academic material of instruction at the time was of little consequence, even to many of its participants (DeYoung & Lawrence, 1995; Trow, 1961; Walters, 1986).

The implementation of the Smith-Hughes Act of 1917 and its promotion of agricultural and vocational programs prompted an increased focus on the development of secondary education in America (Kliebard, 1986). However, the advent of such programs

did little to quell arguments among educational constituents who favored the implementation of more industrial-based vocational programs versus the traditional “classical” education (Hollingshead, 1949; Peshkin, 1978).

These programs met with new hurdles as the demand for specialized vocational training was undercut by the burgeoning mining industry that required little training (Billings, 1988). As most educational reform was at the local level and funded by local taxes, many of the efforts to bring educational and vocational training programs to Appalachia made less of an impact than was hoped (Rice, 1985).

Leading up to the 1960’s education reforms, rural secondary school attainment still fell short of benchmarks set by their urban counterparts (Swanson, 1988). This was a time when the paradigm shift of schools towards becoming “mass preparatory” institutions for students began as researchers argued that even basic vocational professions required the kind of education that was being provided in the postsecondary world (Schultz, 1981; Trow, 1961).

This was also an era where the desire of many students to leave school, coupled with a high drop-out rate, was a combative issue for researchers seeking ways to bring such students back into the fold of education and put them on the track toward career preparation. This was a cornerstone of the war on poverty in the 1960s and 1970s in which Lyndon B. Johnson designated Appalachia as “battleground” (Bradshaw, 1992).

Exacerbating this problem were the groups attempting to shift the blame for poor regional academic achievement onto the students without considering the impact outside economic control had on both school performance and the low-availability of gainful employment for students (Clark, 1978). In addition, many attempts to institute reforms at

the secondary school level were defeated by the nepotism of educational leaders who reallocated educational funds into their personal wealth (Clark, 1978).

For many students, the opportunity to receive a quality education became a means to egress out of Appalachia and find a future elsewhere outside of the meager offerings in their communities (Perkinson, 1995). These educational opportunities gave many of these students access to cultural experiences outside of their norms and allowed not only for academic growth, but also a way for these students to penetrate the mainstream society of America (DeYoung, 1995; Schwarzweller & Brown, 1962). However, despite the many new opportunities available for talented students, more were constrained by the community dependence on extractive mining industries for employment, and in turn the educational aspirations and subsequent attainment were hindered (Bickel, 1989; DeYoung, 1995; Herzog & Pittman, 1995). As a result, the lowest percentages of academic achievement are found in these areas (Haaga, 2004).

After the 1983 *A Nation at Risk* report, there was an increased focus on school accountability and an increase of funding for school use (Brint, 1998; Spring, 2002). This movement led to the implementation of nationwide educational goals in many of the Appalachian regions as well as across the United States. Additionally, the No Child Left Behind Act of 2001 promoted regulations designed to increase learner attendance and school accountability through the proposed limitation or cancellation of funding for school programs based on their performance (Guskey, 1994).

The beginning of the 21st century found Appalachia still lagging behind the United States in students' educational attainment. High school diploma achievement continued to lag by approximately 4 percent (78.6% vs. 80.4%) which was a 50+% gain

over the 9.2% difference present in 1980. The primary counties lagging in high school degree completion comprised the most-central areas of Appalachia (Haaga, 2004). College degree completion or higher also showed disparities with 17.7% in Appalachia versus 24.4% in the United States – a 6.7% difference, worse than the 5% difference present in 1980 despite the increases Appalachia had achieved (Haaga, 2004; Schwartz, 2004; Shaw, DeYoung, & Rademacher, 2004). For reference, it should be noted that the regions in Appalachia that have experienced the most educational growth are those nearest to metropolitan areas or academic institutions (Haaga, 2004).

Education continues to be a goal that many children and teens in this country seek; so much so that approximately 90% of 2002 high school sophomores reported the desire to obtain a college education with over 70% expecting to do so with the completion of a four-year degree. However, only 62% of this group enrolled in college and nearly 50% were lost to attrition before their second year (Snyder, Tan, & Hoffman, 2004). This sentiment was echoed by the Kentucky Council on Postsecondary Education's (2011) comprehensive database on sophomore retention which showed that only 63.3% of college students enrolled in 2009 returned the following year.

It is also necessary to examine the state of high school completion. In the United States, 1 in 4 students don't complete their high school diploma in four years (The Education Trust, 2007). In comparison, between 2005 and 2009 the average rate for high school graduation gradually rose from 82.9% in 2005 to 84.5% in 2008, and then dropped slightly to 83.9% in 2009 (KYA, 2011). From 2006 to 2009, the dropout rate for Kentucky students fell from 3% in the 2006 fiscal year to 2.8% in the 2007 fiscal year, and then back up to 2.9% as of the 2008 fiscal year (FindTheData, 2012). While the rates

of high school completion and the lower drop-out rate are an upturn for Appalachia and Kentucky specifically, the abysmal college readiness percentages present for Kentucky as recently as 2012, in which only 16% of Kentucky high school graduates met all four of ACT's college readiness benchmarks and an incredible 40% met no benchmarks at all, represent a fundamental and potentially disastrous lack of preparation for our students (ACT, 2012). Further, out of the 46,249 ACT-tested students who graduated in 2010, only 59% were enrolled in college that fall (ACT, 2012). Echoing the earlier statistics on retention, only 66% of the ACT graduating class of 2010, who entered college in 2010, returned to school in 2011. Finally, and perhaps most alarming, is a report by the Appalachian Regional Commission (2012) showing that from 2006-2010 only 12.8% of Appalachian Kentuckians 25 and older possessed a bachelor's degree (Pollard & Jacobsen, 2012). This is in sharp contrast to the 19.8% national average of those 25 and older with bachelor's degrees (U.S. Census, 2013). Fradella (2010) found that an average of 59-63% of U.S. jobs required some form of postsecondary education. As a result of Kentucky's levels, which are 11-14% lower than the U.S. average, the Appalachian region is noticeably less attractive to outside companies that seek to expand their industries or business operations, further lowering the economic potential and the quality of living in the region (De Sousa & Gebremedhin, 1999; Haaga, 2004). Several studies (Eckholm, 2010; Wood & Bischak, 2000) found that high levels of poverty and unemployment, like are present in Appalachia, are also linked to populations without a college education. This problem is compounded by the drain high-school dropouts have on the economy as they have been shown to have higher levels of reliance on public assistance and community resources (De Sousa & Gebremedhin, 1999). As a result,

portions of Appalachia remain hindered by poverty related to poor economic development (Black, Mather, & Sanders, 2007).

Challenges Facing Education in Appalachia

Teacher Turnover/Attrition

There has been a short supply of qualified teachers in America for quite some time, and the problem is only exacerbated in the remote regions and vistas of Appalachia (Freitas, 1992; Tell, 1999). Despite teaching being one of the few professional career opportunities available to its residents, the region has shown an inability to attract younger, recent college graduates based on a lack of amenities desired by this population (Herzog & Pittman, 1995). It is becoming increasingly more difficult to secure the kind of well-educated and motivated teachers necessary to push forward academically, and this is further complicated by the ability of wealthier school districts to attract recent graduates with attractive benefits such as sign-on bonuses (Herzog & Pittman, 1999; Proffit, Sale, Alexander, & Andrews, 2004). Additionally, teacher turn-over, defined by Boe, Cook & Sunderland (2008) as major changes in the teachers assignment which can include changes in subject areas taught, migration to a different school, or leaving the school entirely (teacher attrition) further exacerbates the problem. A study by Grant (2006) suggests that a key aspect of teacher turn-over is a lack of self-efficacy in their teaching ability which could be tied to the lower performance of students in rural schools (Auwarter & Aruguete, 2008; Carter, Thompson, & Warren, 2004; Rollins, 2003). Greiner & Smith (2009) found that many factors of interest (standardized reading proficiency test scores, undergraduate grade point average, gender, and ethnicity) were not predictors of teaching attrition, suggesting other causes. As mentioned above, teacher

compensation is an issue for many with a review of the literature by Lynch (2012) indicating a strong emphasis on compensation and benefits being a motivator for retention.

Research shows that fewer than 6% of graduating students express an interest in teaching in an area with a high percentage of low-income students (Abbate-Vaughn, 2006). Similar percentages are reported in the realm of school counseling (Bryan & Holcomb-McCoy, 2006; Holcomb-McCoy & Johnston, 2008).

Students typically low performing backgrounds (low-income & first-generation) are being underserved in terms of teacher quality (Goldhaber 2008; Peske & Haycock, 2006.). Statistically, it is now a common occurrence for schools with a large proportion of low-income students to have representatively low amounts of resources and/or teachers with the kind of expertise one would find in more economically successful communities (Bailey, Getch, & Chen-Hayes, 2007; Carroll, Reichardt, & Guarino, 2000; Clotfelter, Ladd, Vigdor, & Wheeler, 2006; Gordon, Kane, & Staiger, 2006; Lankford, Loeb, & Wyckoff, 2002; Presley, White, & Gong, 2005;The Education Trust 2008; Warren, 2002). The National Center for Educational Evaluation and Regional Assistance (2011) found that, when examining the distribution of qualified teachers (based on performance and not teacher credentials), first-generation and low-income students were still underserved in comparison to their peers. Additionally, studies have shown that teacher qualification may not be directly related to quality teacher performance (Buddin & Zamarro, 2008; Gordon, Kane, & Staiger, 2006; Rivkin, Hanushek, & Kain, 2005; Rockoff, Jacob, Kane, & Staiger, 2008.)

Several studies (Clotfelter, Ladd, & Vigdor, 2007; Darling-Hammond, Holzman, Gatlin, & Heilig, 2005) found a strong correlation between student achievement and teacher certification showing that, in areas where teacher certification and experience were lower, there tended to be lower academic achievement among students (Klecker, 2008). Further, Sleeter and Grant (1999) stated that, oftentimes, the problem with the education of Appalachian students is the difficulty of the educator adapting to the differences in culturally relevant material between the Appalachian population and other groups. DeCastro-Ambrosetti and Cho (2005) and Boykin, Tyler, and Miller (2005) found that undertrained or culturally insensitive teachers are not prepared to work with students from low-income rural families and may feel discouraged when students perform poorly.

School counselors, (who are often teachers in these rural communities), also tend to have less confidence and expectations for Appalachian students and may guide students in a path away from college as well as provide them with less support (Auwarter & Aruguete, 2008; Baum & Ma, 2007; Carter, Thompson, & Warren, 2004; Engle, 2007; Hart & Jacobi, 1992; Rollins, 2003; Vargas, 2004; Voinovich School of Leadership and Public Affairs, 2009). In review, the data suggests that the lack of certified/qualified and/or culturally competent teachers is a factor in the educational problems facing students in Appalachia.

Stigma

Appalachia, despite some economic and metropolitan growth, is still a distinct yet heterogeneous region separate from mainstream America. One fundamental difference between Appalachia and the United States at large is the culture gap. Although dialects

have been considered linguistically sound since the 1960s, their use can have the unfortunate side effect of leading listeners to believe the speaker lacks intelligence or is otherwise culturally impaired (Labov, 1969; Newton, 1966). Further, dialectal differences between instructors and students have been shown to negatively impact instruction (Sleeter & Grant, 1999). Sleeter and Grant stated that “Appalachia has a rich culture which the dominant society stereotypes as ‘hillbilly;’ [however,] studying that culture reveals the existence of great strength and creativity in mountain people” (p. 133). Several studies (Hand & Payne, 2008; Wallace & Diekroger, 2000) highlight the strong internal locus of control present in the people of Appalachia even though they have been increasingly marginalized in comparison with the rest of the country. This marginalization leads to a sense of stigma that has been associated with a lack of self-efficacy and an increased dropout rate (Porter, 2001). This inferiority complex is compounded by the liberal use of slurs in academia and the mainstream media regarding the social standing, intellect, genealogy, and potential of rural Appalachians (Bauer & Growick, 2003; Heilman, 2004; Mahaney, 2003; Sizemore, 2005).

Sibley (1995) found that the process of marginalization is a result of an attempt to distance oneself from a group that is negatively represented. Appalachia is characteristically represented as a region that is comfortable with a lifestyle of low to no economic growth and an embracing/enabling economic dependency on government programs (Billings, 2001; Foster & Hummel, 1997). Further, the general opinion is that the chronic state of poverty in Appalachia is a result of the inaction of its people instead of the competing political and economic interests of outside parties (Billings & Blee, 2000; Eller, 1982; Lewis, 1998; Salstrom, 1994; Williams, 2003).

These outside interests have also been a source and enabler of these stigmas (Towers, 2005). Waller (1988) found that, throughout history, the portrayal of Appalachians as destitute feuding communities was used as a way to lessen the concern over the land-grabs and economic power plays that were taking advantage of the region's people. Many groups, such as the coal barons and even society at large, used these same images of a dependent and helpless Appalachia as a way to not only justify their involvement and denigration in and of the region, but also as a way to glorify it and create an image of beneficence (Batteau, 1990; Campbell, 1921).

Research has shown that the stereotypes often employed in reference to Appalachian residents and their culture is far off the mark from the truth (Knight, Knight, & Quickenton, 1997). Sadly, this stigma extends to teachers and counselors who have low expectations for students from Appalachia and tend to see these students as unfit for college, subsequently providing them with less support (Auwarter & Aruguete, 2008; Baum & Ma, 2007; Carter, Thompson, & Warren, 2004; Engle, 2007; Hart & Jacobi, 1992; Rollins, 2003; Vargas, 2004; Voinovich School of Leadership and Public Affairs, 2009). Despite the support of counselors being crucial for first-generation students, in many cases counselors intentionally guide the students into courses not designed for college preparation (Cabrera & LaNasa, 2000; Institute for College Access & Success, 2008). Several studies suggest that the more educated and informed a student is about college (such as through counselor interaction) the more likely they are to attend which further compounds the problem (Bell, Rowan-Kenyon, & Perna, 2009; Berkner & Chavez, 1997; Hossler, Braxton & Coopersmith, 1989; Hossler, Schmit & Vesper, 1999; King, 2004; Perna, 2004; Plank & Jordan, 2001).

Since a strong and rigorous high school education has been linked to higher college enrollment rates, it is no surprise that this lack of, or perceived lack of, academic preparation is negatively linked to college attendance rates among students (Adelman, 1999; Chenoweth & Galliher, 2004; Engberg & Wolniak, 2009; Pitre, 2006). Advanced math courses, in particular, have a strong correlation with PSE enrollment, increasing their chances by more than 200% (Adelman, 2006; Choy, 2001; Engberg & Wolniak, 2009; Horn & Nunez, 2000; King, 1996). Stigmatized students typically enter college with few of these courses, and a sample of students in Appalachia (as early as 7th grade) showed that less than 50% of these students intended to take such courses (Chen, 2005; Meehan, Cowley, Chadwick, & Whittaker, 2001; Thayer, 2000; Warburton, Bugarin, & Nunez, 2001).

Such negative perceptions and messages, in society and in school, have strong negative influences on students' behavior, self-esteem, and academics (Howard & Solberg, 2006). Further discouraging bright Appalachian students is the fear of being seen as the overly educated outsiders that are the source of the type of stigmatic language mentioned above (Merullo, 2002). This is in sharp contrast to the feelings of transition and success experienced by their non-first generation peers (Tinto, 1975). First-generation students also report receiving less support for attending college from their peers (Nunez & Carroll, 1998; Poole & More, 2001). As a result, it is difficult for politicians to effect significant change in the region because of a lack of understanding of both the culture and the region's history (DeYoung & McKenzie, 1992).

First Generation

As mentioned previously, first-generation students are considered an at-risk population (Hand & Payne, 2008). Approximately 25% of all high school graduates and 45% of all college undergraduates are first-generation students (Arredondo, 1999; Warburton, Bugarin, & Nunez, 2001). Even with all other factors controlled, first-generation students are statistically less likely to persist in or finish a postsecondary education, and if they do attend, are more likely to attend a 2-year college as opposed to a 4-year (Engle, 2007; Engle, Bermeo, & O'Brien, 2006; Nunez & Carroll, 1998; Warburton, Bugarin, & Nunez, 2001). Not surprisingly, a student's decision to attend college is fundamentally impacted by the academic achievement of his or her parents (Balz & Esten, 1998; Nunez & Cuccaro-Alamin, 1998). The already small number of Central Appalachians over the age of 25 who have attended college (24%) pales in comparison with the national average of over 50% (Carrier, et. al, 2010). This is representative of the lack of a cultural focus on education as a worthwhile endeavor (Shaw, De Young, & Rademacher, 2004). Consequently, these youth also have lower college enrollment and graduation rates than non-first generation students (Chenoweth & Galliher, 2004; Choy, 2001; Engle, 2007; Engle & Tinto, 2008; Jehangir, Williams & Pete, 2001; Nunez & Carroll, 1998; Stebleton & Soria, 2012).

Choy (2001) found that, in 1999, students with parents holding at least a bachelor's degree had a college entrance rate of 82% whereas first-generation students (particularly those who did finish high school) enrolled at a rate of 54%. A national study found that, of the 7,400 1992 high school graduates who enrolled in college between 1992 and 2000, only 24% of first-generation students had completed a degree as opposed

to 68% of their peers (Chen, 2005). Even students that do complete a bachelor's degree are statistically less likely to matriculate into graduate school than their non-first-generation peers (Choy, 2001; Engle, 2007; Nunez & Carroll, 1998).

These students are often underprepared in high school with only 9% of first-generation students completing a rigorous high school curriculum, and many have to work to help pay for their education – both factors that create barriers to entry and success in college (Adelman, 1999; Hsiao, 1992; Jehangir, Williams, & Pete, 2011; Mitchell, 1997; Stebleton & Soria, 2012; Thayer, 2000). A 2007 study by Engle found that more than 20% of first-generation students reported not having access to rigorous courses like Algebra. A 2009 study by Johnson, Rochkind, Ott, and DuPont found that 62% of the students who had to pay for their own education felt like they were not adequately assisted by school staff.

Further, many studies (Bureau of Labor Statistics—Employment by Major Occupational Group, 1999; Lacey & Wright, 2009; Zumeta & Evans, 2010) found there is an increasing number of emerging jobs, possibly as high as 90%, that will require training beyond the high school level, and as such, it will be difficult for many Appalachian Kentucky first-generation students to achieve financial stability or job security without such training (U.S. Department of Education, 2006). Individuals with a PSE are estimated to earn nearly twice as much and have an unemployment rate 5.2% less than a high school graduate (Baum et al., 2010; U.S. Department of Education, 2006).

First-generation students are half as likely as their non-first-generation peers to complete a rigorous high school curriculum, and only 8% of first-generation students

take AP classes as opposed to 22% of their peers (Warburton, Bugarin, & Nunez, 2001). These students are also nearly four times more likely than their non-first generation colleagues to drop out of higher education (Engle & Tinto, 2008; Warburton, Bugarin, & Nunez, 2001). These problems are often a direct result of outside influences common to first-generation students such as ties to their home community, low family involvement, and a diminished ability to become part of their campus community outside of the classroom (Billson & Terry, 1982).

Desforges and Abouchaar (2003) discovered that, even when all other factors are controlled, family involvement is a decisive factor in the educational attainment of a student. Other studies (Brooks et al., 1997; Siraj-Blatchford, 2010; Yan & Lin, 2005) have found a link between parental behaviors (such as reading or providing access to reading materials) and academic success – behaviors that are seen less in first-generation families.

First-generation students are also statistically more likely to come from low-income homes and possess the same low-expectations for academic achievement as is seen with the low-income population (Pratt & Skaggs, 1989; Terenzini, Springer, Yeager, Pascarella, & Nora, 1996.) Statistically, 23% of students from first-generation families come from the lowest income quartile as opposed to only 5% of non-first-generation students (Nunez & Carroll, 1998). Tying low-income to first-generation status and achievement, Goodman and Gregg (2010) found that factors such as a low parental educational attainment and attitudes about education as well as large family size and ethnicity were seen more commonly in low-income families, and as such, the achievements of the students in these families were directly impacted.

Statistically, first-generation students are less likely to receive financial aid for education from their parents (Engle & Tinto, 2008). However, if a parent has at least a bachelor's level education, they have a higher likelihood of assisting with the cost of their child's education and also report a larger base of information with which to plan and act upon it (Lippman, Guzman, Keith, Kinukawa, & Shwalb, 2008). Many students overestimate the cost of college by a large degree (Choy, 2001; Horn, Chen, & Chapman, 2003; Institute for the Local Government Administration and Rural Development, 1992; Long 2004). This factor further disheartens students' attitudes toward attending college (Goldrick-Rab, 2006). Low-income and parents of possible first-generation college students are also more likely to lack information about college expenses and overestimate the cost much like their children (Choy, 2001; Grodsky & Jones, 2004; Horn, Chen, & Chapman, 2003).

Additionally, parenting styles are often different among low-income/first-generation families. A higher percentage of hostile and non-supportive behaviors are prevalent in the low-income/first-generation family, and these behaviors produce lower academic achievement in students than more authoritarian parenting styles (Brown & Iyengar, 2008; Hill, 2001; Sektnan et al., 2010; Terry, 2008). Further, Nuijens et al., (2000) found that, by the 10th grade, academic performance was strongly correlated with the parent/student relationship which in turn was a factor that was strongly influenced by the parents' educational history, SES, and behaviors.

First-generation students also lack knowledge concerning the college application and/or financial aid process (The Education Resources Institute, 1997). Arredondo (1999) found that this knowledge is a correlate of college success. Many parents who did

not attend college cannot provide support in terms of preparation for standardized tests like the SAT or ACT, or assist their children in making curriculum choices that fit their postsecondary plans (Bell, Rowan-Kenyon & Perna, 2009; Choy, 2001). Many studies (Bell et al., 2009; Berkner & Chavez, 1997; Hossler, Braxton, & Coopersmith, 1989; Hossler, Schmit, & Vesper, 1999; King, 2004; Perna, 2004; Plank & Jordan, 2001) also found that, statistically, the more a student knows about the college process, the more likely he or she is to attend college.

First-generation students tend to look to guidance counselors and school staff as resources concerning PSE (Cabrera & LaNasa, 2001). These meetings have a strong positive effect on first-year college students despite staff typically having a lower opinion of them because of their often low-income status (Auwarter & Aruguete, 2008; Carter, Thompson, & Warren, 2004; Hudley, Moshetti, Gonzalez, Cho, Barry, & Kelly, 2009; Rollins, 2003). A lack of expectation on the part of the staff may come from an unintentional distinction they make about which students are college bound and which are not (College Board, 2007; Hart & Jacobi, 1992; Vargas, 2004; Voinovich School of Leadership and Public Affairs, 2009). As a result, the students they assume are not college bound are encouraged to take less rigorous high school courses (Institute for College Access & Success, 2008).

Self-efficacy has been found to be a strong predictor of college and career aspirations (Ali & Saunders, 2006). First-generation students lack the confidence of their peers with only 30- 40% of first-generation students considering themselves “above average” as compared to 60% of their peers (Arredondo, 1999; Institute for the Local Government Administration and Rural Development, 1992). A few studies (Engle, 2007;

Poole & More, 2001; Striplin, 1999) found that first-generation students are plagued by feelings of doubt and inadequacy even when they are just as prepared academically as their non-first-generation peers.

Further, these first-generation students are more like to do remedial coursework than their peers (21% vs. 10%) (Warburton, Bugarin, & Nunez, 2001). As a result, these students typically have fewer credits, less study time, and a less positive view of faculty engagement than their peers (Terenzini et al., 1996). On the social side, students without a college education provide less revenue to state governments and create a greater draw on social programs required to support them (Baum et al., 2010).

In summary, first-generation students face disadvantages in areas such as academic aspirations, family support/involvement as well as college preparation and planning (Nunez & Cuccaro-Alamin, 1998; Pascarella, Pierson, Wolniak, & Terenzini, 2004).

Low Income

Socio-economic status is a statistically significant predictor in academic success and a barrier for entry into college (Caldas & Bankston, 1997; College Board, 2007; Engberg & Wolniak, 2009; Fowler & Walberg, 1991; Jaggia & Tuerck, 2000; Lamdin, 1999; Toutkoushian & Curtis, 2005). Yearly, approximately 400,000 of these students don't attend a 4-year university and nearly half those numbers attend no postsecondary education at all (Ficklen & Stone, 2002). Perna & Titus (2004) found that nearly 50% of low-income high school graduates do not enroll in PSE compared to only 7% of their peers. Of those that do choose to enroll, only 6% finish their education as opposed to 40% of their peers (Advisory Committee on Student Financial Assistance, 2001). Chenoweth

and Galliher (2004) found that the financial status of a community has a powerful influence on both the expectations and aspirations of life quality for those that live in that community which further limits the opportunities available to low-income students and increases the stigma for attempting postsecondary education.

Much like first-Generation students, low-income students are less likely to receive financial aid from their parents, and both they and their parents are typically less informed about college, the financial aid process, and the overall costs of college (Choy, 2001, Engle & Tinto, 2008; Grodsky & Jones, 2004; Horn, Chen, & Chapman, 2003; Institute for the Local Government Administration and Rural Development, 1992; Long 2004). King (1996) found that students who expected to receive some form of aid from their parents were more likely to attend college.

As the cost of college and the availability of financial aid becomes more of a concern for parents, some may go so far as suggesting their children not attend college (Grodsky & Jones, 2004). This phenomenon results in fewer students attending 4-year institutions (Engberg & Wolniak, 2009). Almost 50% of 7th grade parents in Appalachia believed that their child would be able to afford college while only 20% didn't think it possible (Meehan, et al., 2001).

Several studies (Bennett, 2007; The Education Trust, 2009) have found that approximately 42% of students in the U.S. qualify for free lunch (a common indicator of low-income status). This is a 15% increase in the number of eligible students in the span of 2000-2007 (Bailey, Getch, & Chen-Hayes, 2007; Douglas-Hall & Chau, 2009). Currently, nearly 57% of Kentucky's students fit the government criteria for low-income status (U.S. Department of Education, 2011). Low-income has been shown to be a better

predictor of PSE attendance than high test scores (Advisory Committee on Student Financial Assistance, 2001). When parents of high scoring students were questioned as to why their child didn't apply to postsecondary education, it became clear that both the parent and the student lacked knowledge about the admittance process (Akerhielm, Berger, Hooker, & Wise, 1998). Statistically, when a student and his or her parents are properly educated and informed on the college and financial aid process, they are just as likely to enroll in PSE as their peers (Cabrera & La Nasa, 2001).

Low-income students face a wide disparity in access to quality educational opportunities including postsecondary educational opportunities – a challenge they share with other minority groups (ACT, 2010; Bozick and Lauff, 2007; Erford, House, & Martin, 2007; Gordon 2006; Stone & Dahir, 2007). They are also met with the lower expectations of their teachers and counselors than other students (Auwarter & Arugete, 2008; Carter, Thompson, & Warren, 2004; Rollins, 2003). Additionally, these students also have a higher chance of facing discrimination and oppression in educational systems that are used to dealing with middle-class whites (Cholewa & West-Olatunji, 2008; Fass & Carthen, 2008; Grothaus, Crum, & James, 2010).

Low-income students are disproportionally misrepresented in both special education programs (overrepresented) and gifted student programs (underrepresented) in comparison with their peers (Ford, Moore, & Whiting, 2006; Gollnick & Chinn, 2006; Ponterotto, Utsey, & Pedersen, 2006). Low-income students also typically have less access to digital resources (such as the internet and computers) outside of school, and the gap is widening (Del Val & Normore, 2008). Further, low-income students have less

access to school services, and those they do have access are typically of lower quality (Bryan, Holcomb-McCoy, Moore-Thomas, & Day-Vines, 2009).

Approximately 40% of low-income students choose to attend college in comparison with 84% of non-low income students (Bozick and Lauff, 2007; Engberg & Allen, 2011). In addition, students from low-income families are less likely to have access to intellectually stimulating material and/or access to materials that make college access easier (Massey et al., 2003).

Families of low-income students are also less likely to take an active role in their child's education (Henderson & Mapp, 2002). Though many school personnel mistakenly assume that low-income parents have no interest in their children's education, in reality many are very interested (Carter et al., 2004; Epstein & Sheldon, 2006). However, these families may choose not to become involved for a number of reasons including financial struggles, employment obligations, a lack of confidence in assisting their children, problems at home, cultural differences with the school environment, uncertainty on how to get involved or help with the school, and prior negative personal experiences with school systems (Cholewa & West-Olatunji, 2008; Christenson & Sheridan, 2001; Davis, 2005; Thompson, 2002; Van Velsor & Orozco, 2007).

As many as 18% of high school seniors choose to delay their entrance into postsecondary education, and many of these students fall into both the low SES and first-generation category (Wells & Lynch, 2012). Statistically, students from low-income families are less likely to succeed in education and more likely to delay entrance into college, and research has shown that students who delay entrance into college are 64% less likely to finish (Bozick & DeLuca, 2005; Goldrick-Rab & Han, 2011; Rowan-

Kenyon, 2007; Skokut, 2010). Completion rates drop even further as students get older and begin to experience the demands of life such as marriage, jobs, and general family concerns (Bozick & DeLuca, 2005; Rowan-Kenyon, 2007; Turner, 2004). Even students that possess the academic skills to succeed in higher education may lack the financial resources to enter into college (Kane, 1995, 1999; McPherson and Schapiro, 1991, 1997; St. John, 2003). Additionally, attempts to increase a student's possibility of college enrollment, through outside means and the illustration of long term-financial benefits, are limited by the student's personal resources based on his or her socio-economic status (Becker, 1993; Paulsen, 2001). Low-income students also have difficulties finding and understanding information pertaining to the financial aid process (Bell, Rowan-Kenyon, & Perna, 2009; Luna de la Rosa, 2006).

Family background leads many students, as early as the 7th grade, to develop expectations for their future based on their SES which consequently led to lower expectations about their educational future and to fewer of these low-SES students taking college entrance examinations (Fitzgerald & Delaney, 2002; Terenzini, Cabrera, & Bernal, 2001). Additionally, low-income students are plagued by feelings of helplessness, hopelessness, a lack of confidence/self-efficacy, lower academic expectations, and difficulty in school work (Brown, 2009; Goodman and Gregg, 2010).

Many low-income students are drastically unprepared during secondary school; they are typically two years behind in terms of academic understanding than their peers, and upon graduation from high school these students often display a reading level similar to an 8th grader (Kahlenberg, 2006; New American Alliance, 2009). Further, approximately 50% of 8th grade low-income students test below proficiency level in

comparison to 25% of students from middle class families (Day-Vines & Day-Hairston, 2005). Not surprisingly, low-income students make up only 9% of freshman students at Tier 1 universities (New American Alliance, 2009).

Low-income students are more likely to deal with physical, emotional, and educational problems and are more likely to have a higher instance of unmet medical needs and malnutrition (Wadsworth, Raviv, Reinhard, Wolff, Santiago, & Einhorn, 2008). The escalating cost of education and the delineation of students based on SES leave many low-income students with little hope of college attendance (Terenzini, Cabrera, & Bernal, 2001).

In summary, most low-income students face academic problems, lower college attendance and completion rates, and have higher high school dropout rates than their non-low-income peers (Barton & Coley, 2009; Schaeffer, Akos, & Barrow, 2010).

Educational Initiatives in Appalachia

Currently, there are several initiatives being pursued to try and curb the downward trends in education and the performance of these at-risk populations. These initiatives include tutorial and counseling programs aimed at curbing the 25% dropout rate (Brodinsky, 1989). The main function of these programs is to provide academic support to struggling students or to assist students in building self-efficacy (White & Edmondson, 1998). Despite availability of resources, the number of rural students enrolled in such assistance programs is lower than urban schools by seven to twelve percent (Ford, Harrison, Mokher, Franceschini, & Zoblotsky, 2012).

Other initiatives include plans to provide students with incentives to persist in school and earn good grades, reassessing the role and function of remedial courses, and

creating stronger advising and student support services (Brock, 2010). Bragg, Kim, & Barnett (2006) put forth the idea that there are many options for assisting underserved students such as advanced placement classes, dual-credit/virtual high schools, middle college high schools, and tech/college prep programs.

Bergerson (2009) highlights several TRIO programs such as Upward Bound, Student Support Services, and the Ronald E. McNair (added in the 1980's). Each of these programs is designed to serve a specific population designated as being in-need or underserved in terms of academic or personal resources.

The Appalachian Higher Education Initiative (2012) utilizes a “model” approach where students are provided occupational interest surveys, parent engagement, financial aid training, college and worksite visits, career fairs, curriculum alignment discussions between high school and college faculty, opportunities to research and discuss various postsecondary options, and an exploration of non-degree professions.

Programs such as GEAR-UP (Trivette, Wilson-Kearse, Dunst & Hamby, 2012) focus on the same population as many of the other programs mentioned in this section (first-generation or low-income); however, a key component of the GEAR-UP program is the insistence on partnerships between students, parents, school, administrators, and the community being served to ensure student success.

The McAuliffe Project (Nielson, 1993) was a program designed to determine the needs and attitudes of 130 students who attended the Summer Institute for Gifted Children at Lincoln Memorial University in Harrogate, Tennessee. The camp provided an opportunity for many students to engage in learning and social activities that were previously unavailable because of the limitations of their location or SES.

The Appalachian Regional Commission (2010) states in its 2011-2016 strategic plan that solving the problem of their “Strategic Objective 2.4: Increase Educational Attainment Achievement” includes providing greater local and regional support to programs focused on better preparing students for college, assisting out-of-school youths and adults for PSE, and supporting dropout prevention programs (p. 11-12).

Last, but not least, are Talent Search programs which, like the subject of this study, seek to assist low-income and/or first-generation students in achieving their academic goals. The stories of students’ successes, as a result of the influence of these programs, are far and wide including more personalized stories such as those of LaKresha Graham, a participant of three national TRIO programs (Graham, 2011; Herman, 1998).

Educational Talent Search

The Educational Talent Search program was founded in 1985 and is located at a regional University in south-central Kentucky. The program is designed to serve 765 students in six counties throughout the state of Kentucky Clay, Estill, Garrard, Jackson, Lincoln, and Southern-Madison). The focus of the program is serving low-income and/or first-generation youth in an effort to increase the college admission rate, retention, and postsecondary graduation rates in Appalachian areas of Kentucky. The impact of the program’s services can be seen in the standardized test scores of its students after being exposed to program material as well as increased student confidence, financial aid knowledge, high school graduation rate, and college matriculation rates.

ETS accomplishes this through a combination of in-school and out-of-school activities. The primary means of educating the program’s students are the monthly in-school workshops that provide instruction in a wide variety of areas from study skills and

assertiveness to essay writing and high school course selection. Each grade is served with a different age/grade appropriate workshop every month from September through May with the exception of November and March in which field trips are provided.

Evening financial aid workshops are provided every winter to educate seniors and their families about the FAFSA process. Hands-on assistance is provided and outside resources, such as agents of the Kentucky Higher Education Assistance Authority (KHEAA), are brought in to ensure that the most accurate and up-to-date information is provided to students. These workshops are done as a partnership with each counties respective high school to promote inter-agency assistance and student success.

ETS provides a yearly field trip for each of its six counties (three in November and three in May). These field trips are to in-state universities and colleges, both public and private; are held during the school day; and are designed to give the students (many of whom are from culturally-isolated regions) a chance to visit various campuses to get an idea of where they might want to pursue their postsecondary education. Each visit usually involves a tour of the respective campus, a Q&A with the admissions staff, and local cultural events and experiences whenever possible.

The summer component of the ETS program consists of two different camps based on the student's grade level. Both offer similar content in terms of team building, self-efficacy, and providing postsecondary and financial information; however, the second of the two programs is aimed at better preparing high school students for standardized testing on the ACT and in college. Both programs are housed at the host University's campus where student's sleep, eat, and participate in activities with university staff.

In an effort to improve relationships with parents and to include them in their child's educational process, the ETS program hosts a wide variety of events catered towards parental education and involvement. ETS holds a yearly Career and Family Day where students and their families can come to the host University's campus and be exposed to thorough sessions on admissions and financial aid as well as be provided the opportunity to visit the various campus facilities and meet with the Host University's various academic departments.

The last facet of the ETS program is the individual attention provided to each student. Upon request, and at scheduled times throughout the year, each student has the opportunity to sit down with their coordinator to discuss academic, personal, and/or advising issues such as scheduling, peer conflicts, and/or the need for additional academic support. All of these services are provided in addition to the regularly scheduled monthly workshop as part of the requirement that each student receive at least two services from the program each month. This is just a brief overview of what the program offers. For a more complete look at how the program functions, its justifications, and its format see Appendix C.

This review of literature has served as an outline for the various contributing factors related to the sample population of this study. Despite a wide body of literature concerning these individual factors, there has yet to be any work focused on determining what the relationships, if any, exist between these particular factors and the students of Educational Talent Search. This study aims to fill this gap by providing data on the relationships between these variables as illustrated in Figure 2.1.

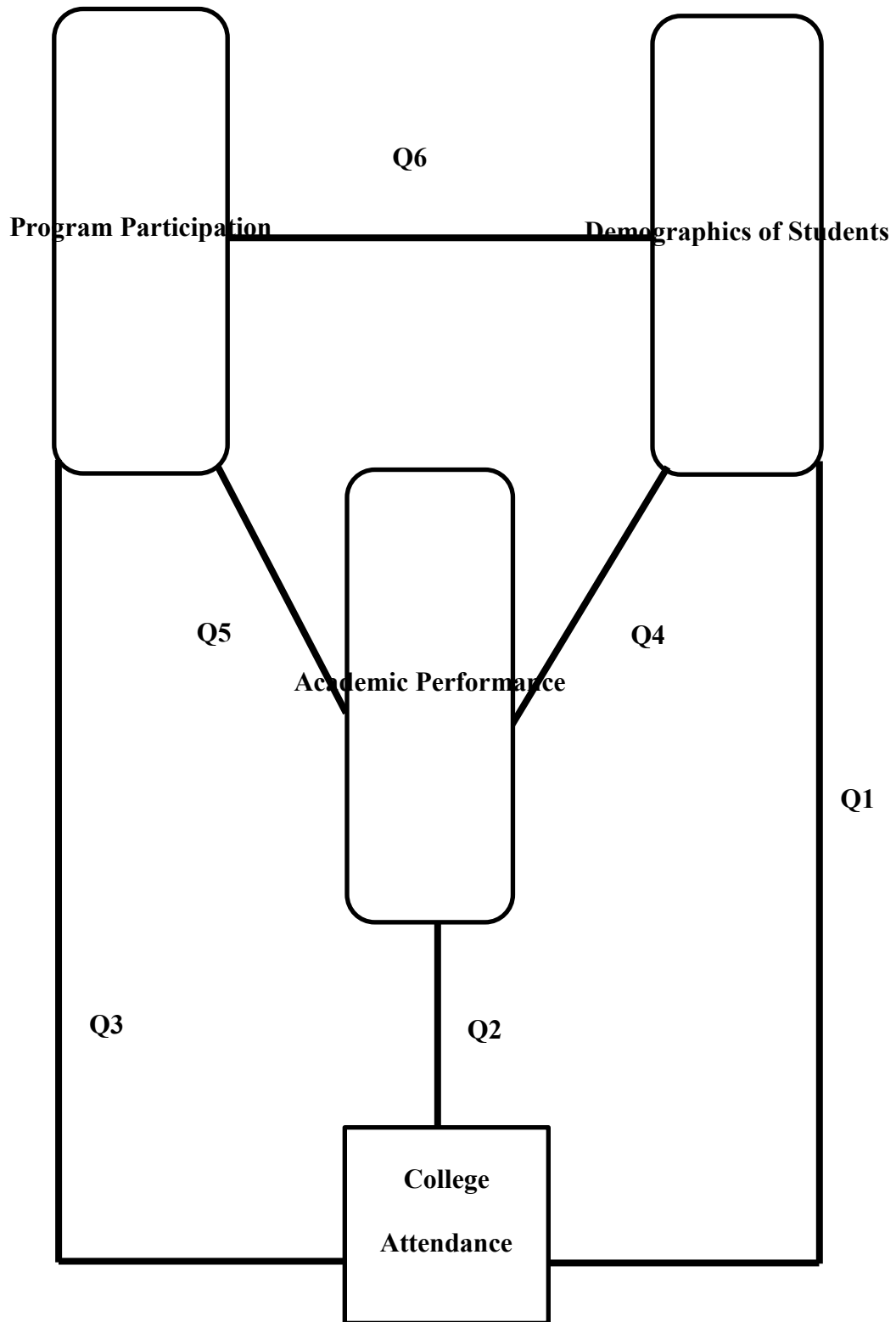


Figure 2.1. *Conceptual Map of the Relationship between Demographics, Academic Performance, and ETS Program Participation in Relation to College Attendance. Source:*

Trochim, M. K. & Cook, J. A. (1994). Using concept mapping to develop a conceptual framework of staff's views of a supported employment program for persons with severe mental illness. *Journal of Consulting and Clinical Psychology*, 62(4), 766-775.

- **Demographics of Students:** References the student's gender (male or female), ethnicity (white or non-white), county of origin (Clay, Estill, Garrard, Jackson, Lincoln, Madison), low-income (yes or no), first-generation (yes or no), and both first-generation and low-income (yes or no).
- **Academic Performance:** Represents the student's standing in regards to his or her grade point average (0.00-5.00), ACT score (0-36), completion of rigorous curriculum (yes or no), completion of AP courses (yes or no), and completion of dual-credit courses (yes or no).
- **Program Participation:** Symbolizes the student's attendance as a numerical value at various ETS activities such as workshops, field trips, summer camps, family events, and outside contacts.
- **College Attendance:** The dependent variable of the study; represents a student's choice to attend college based on information gathered from Clearinghouse or academic institutions (yes or no).

The enumerated Q's that are present in Figure 2.1 represent which research question is pertinent to that particular grouping of variables.

Additionally, the purpose and flow of the Educational Talent Search Program being studied is illustrated in Figure 2.2.

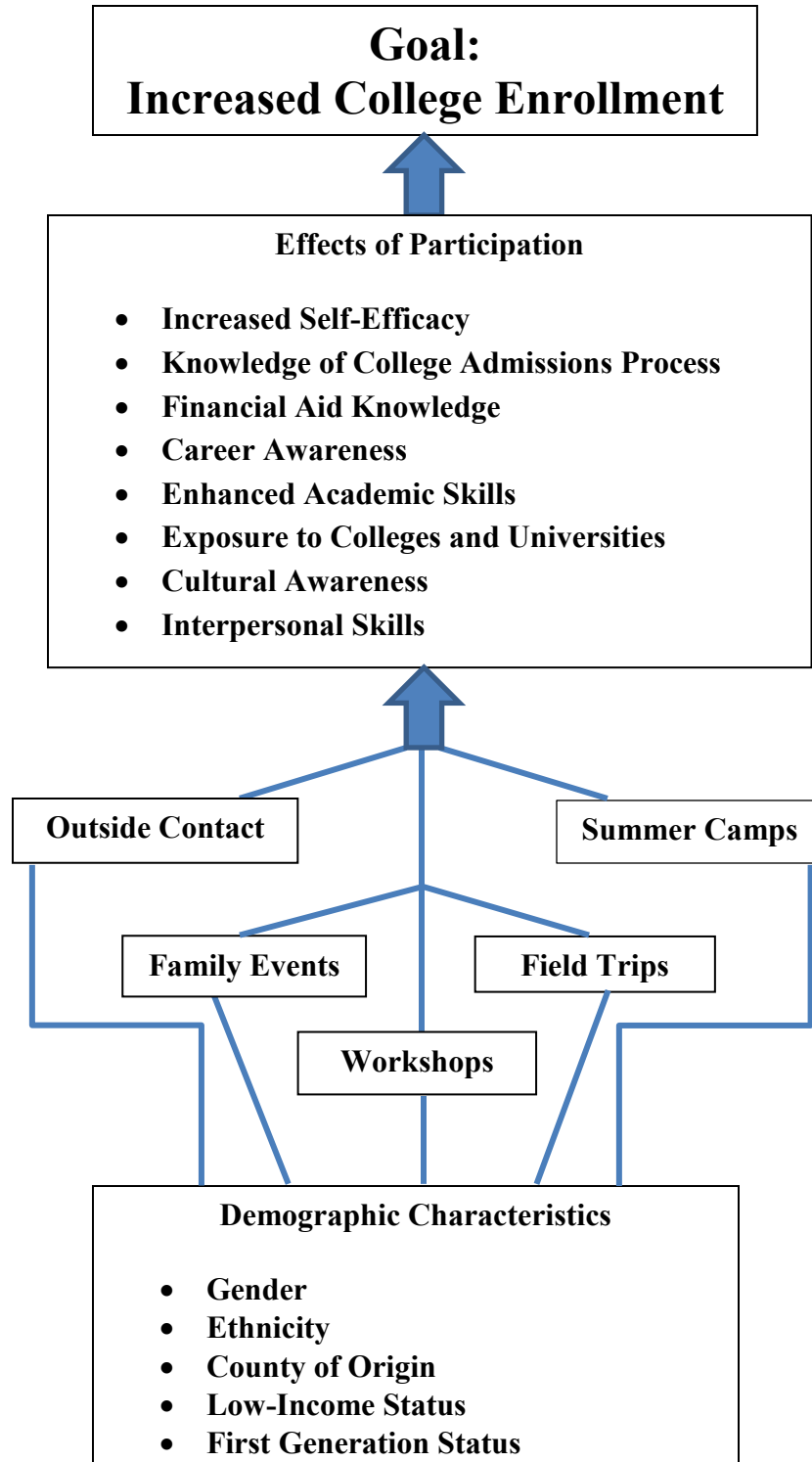


Figure 2.2. *Conceptual Map of the Flow of ETS Activities and Their Perceived Effect on Student Outcomes through K-12 Education and Student College Attendance. Source:*

Trochim, M. K. & Cook, J. A. (1994). Using concept mapping to develop a conceptual framework of staff's views of a supported employment program for persons with severe mental illness. *Journal of Consulting and Clinical Psychology*, 62(4), 766-775.

Figure 2.2 illustrates that, as stated previously, the end-state goal of the ETS program is to increase college enrollment for low-income and/or first-generation students. These factors, as well as others that are inherent to the student such as ethnicity, county of origin, and gender, are represented in the bottom box as factors that are outside the control of the program. These are the factors present when the program accepts the students in 6th or 7th grade (Clay County schools do not have the 6th grade in their middle school).

The five smaller boxes represent the five main components of the program as previously mentioned: workshops, field trips, summer camps, family events, and outside contacts. Each of these program facets are designed to work with and enhance the others to ensure that the students receive a comprehensive education on the postsecondary process as well as the skills necessary to survive and thrive in the educational and professional world. These skills include self-efficacy and study skills as well as essay writing, curriculum selection, resume writing skills, financial aid awareness, and others.

The next box highlights the perceived benefits of the program assuming the student participates in some or all of the above components (ideally culminating in higher PSE enrollment). These eight factors are considered key goals for each student in the program and are represented in the workshop and summer camp materials as well as the content that is shared during field trips.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

This chapter begins with a brief explanation of the purposes of this study and then transitions to the research methods and procedures used in the study. The following facets of the study will be examined: research design and questions, population and sample, data collection and sources, variables, and lastly, analyses of the data.

Research Purpose

The purpose of this study is three-fold. The first objective is to determine the demographic characteristics of students participating in a Federal TRIO Educational Talent Search program based at a Rural Appalachian University and to identify any trends emerge during the analysis of the data collected. For the purpose of this study, the variables associated with demographics include gender, ethnicity, county in which the student attends school and receives ETS services, low-income status (per federal guidelines), and potential first-generation students (per federal guidelines). The second purpose is to ascertain if there is a relationship of significance between students' academic performance, participation in ETS activities, and their decision to attend college. For this study academic metrics include un-weighted GPA at the time of high school graduation, highest composite ACT score, completion of the pre-college/rigorous curriculum K-12 course requirements, participation in K-12 Advanced Placement classes, and participation in K-12 dual-credit courses through a local postsecondary institution. Participation in ETS activities is defined as attendance at scheduled ETS workshops during school hours, attendance of optional ETS-sponsored day trips/field trips to

postsecondary institutions, attendance of optional ETS summer camps, outside contacts such as individual meetings or phone calls to parents, and family events such as the annual Career and Family Day or other TRIO or university events. The third objective is to determine if a relationship of significance exists between a student's demographic characteristics, academic performance, and participation in ETS activities.

Research Questions

The following research questions are addressed in this study:

1. What were the demographic characteristics of Educational Talent Search (ETS) students who graduated in 2012?
2. What is the relationship, if any, between their high school academic performance and their college enrollment?
3. How strongly does participation in specific ETS activities predict their college enrollment?
4. What is the relationship between the demographic characteristics of ETS students and their high school academic performance?
5. What is the relationship, if any, between students' participation in specific ETS activities and their high school academic performance?
6. What is the relationship, if any, between students' demographic characteristics and their participation in specific ETS activities?

The Educational Talent Search Program

Background and Purpose of the Program

The Educational Talent Search Program (ETS) housed at a regional University in south-central Kentucky has made promising changes in the lives of the individuals and in

the counties it has served during its 26 years of operation (founded in 1985). This ETS program is designed to serve 765 participants who are at least 11 years of age and in grades six through twelve as well as out of school (OOS) participants. A veteran, regardless of age, is eligible to participate in ETS if he or she satisfies the eligibility requirements other than the age requirement. ETS complies with all participant regulations per federal regulations. The target area for this ETS program encompasses 15 middle and high schools in the Central and Eastern portions of KY. The target area comprises portions of the 1st, 5th, and 6th Congressional Districts of KY. The 5th Congressional District is the second poorest in the nation (Herald Leader, 2010). The target counties include: Clay, Estill, Garrard, Jackson, Lincoln, and Madison. Schools served are: Clay County Middle and High School, Estill County Middle and High School, Garrard County Middle and High School, Jackson County Middle and High School, Lincoln County Middle and High School, Lincoln County McGuffey Sixth Grade Center, B. Michael Caudill Middle School, Clark-Moores Middle School, Madison Middle School, and Madison Central High School.

The service area of ETS mirrors the Appalachian economic system with a high number/percentage of low-income families – the target area has 16,710 low income families (KSDC, 2000). All target counties have a higher percentage of low-income families in residence than the national average (KSDC, 2000). Further, a 9/21/10 report by the Kentucky Department of Education showed 34% of all graduating students from Kentucky public high schools were not ready for college or careers (KDE, 2010).

An analysis, released 9/27/10 by three education advocacy groups, indicated that only six percent of Kentucky's high schools are at proficiency now or are on pace to

reach proficiency by 2014, and only four Kentucky high schools have reached proficiency level on the transition index (Herald Leader, 2010). The percentage of Kentucky high schools on track for proficiency fell with only 39% of middle schools having reached proficiency or will reach proficiency by 2014 if the current growth rate is continued, particularly middle and high schools (Herald Leader, 2010).

Another dilemma for the target schools is the student to counselor ratio (455/1 with around 10,473 students). In drastic contrast, the American School Counselor Association's preferred or recommended ratio is 250/1 (ASCA, 2009). The ratio in ETS's target schools range from 287/1 to a disastrously high 858/1. It is unreasonable and irrational to expect already overburdened school counselors to effectively serve each of their students and ensure their academic success as well as educating them about postsecondary education. Given the various functions served by school counselors (such as not only advising but teaching classes), additional duties effectively prevent the counselors from providing the kind of service they might otherwise be able to render to their students.

ETS Mission

The ETS mission is to identify eligible youth in the target area with postsecondary potential, encourage and support them to complete their secondary education, and then encourage and support them in matriculating into some form of PSE. ETS makes the application for student financial assistance available to persons who seek to pursue a postsecondary education and assists them with completion of the application. Further, ETS encourages persons who have not yet completed a secondary education program to

return and complete their secondary education as well as motivates them to pursue a postsecondary education.

ETS's goal is for at least 70% of the program's participants, who graduated with a regular secondary school diploma, to enroll in an institution of higher education by the fall term immediately following high school graduation or to have received notification by a postsecondary institution that they have been accepted for the following spring term. Additionally, ETS strives for 20% of program's participants, who successfully enrolled in a postsecondary education program immediately following their graduation (or were notified of their acceptance for the following spring), to complete some form of PSE within six years. Lastly, ETS strives for 90% of the program's non-senior student participants to complete their current year of secondary school study and then return as a continuing student during the next academic year at the appropriate grade level.

Program Methodology

ETS has a comprehensive and inclusive plan to relay information about the program's entrance requirements, goals, objectives, and services to the schools, parents, and students in its target areas. ETS's informational plan utilizes every available medium for communication such as newspapers, radio, referral networks, mailings, the ETS website, television commercials, and personal contacts. All material provided to the public (brochures, posters, student handbook, etc.) is branded with the Educational Talent Search logo and relevant information concerning the program's location at its host University. ETS maintains a strong relationship with the schools, communities, and residents of its target area. Further, it has a comprehensive working partnership with the

University community (especially with the administrative and academic departments to whom ETS reports and regular coordinates).

ETS has an accurate and specific plan for the identification, selection, and recruitment of participants eligible to participate in the program. All of these requirements meet all the guidelines set forth by the Department of Education General Education Provisions Act (GEPA). ETS also ensures participation without regard to race, color, national origin, gender, or disability.

The core model for identification, selection, and recruitment of potential ETS participants begins in target area schools and includes students who are in at least the sixth grade; who are at least 11 years old, but not more than 27 years old; and who have been in the secondary school system for a minimum of five years (as mentioned previously Clay County does not house a 6th grade at their middle school). Additionally, in compliance with federal regulations in regards to the usage of funds and overlap of services in target regions, there can be no competing TRIO programs in their region.

This ETS program serves out-of-school participants from Garrard and Madison counties, upon request, while ETS's other four counties are served by two currently-funded EOC's. ETS works to identify and select those individuals who have postsecondary potential, show a need for ETS services, and who meet the eligibility requirements of low-income and first generation status (low-income/first-generation) which comprises at least two-thirds of the total number of students served. All relevant groups, such as schools, community groups and agencies, and parents, are made aware of these requirements and are provided program materials upon request.

Based on the core model, ETS recruitment presentations are usually conducted in 6th grade classes as a means of identifying a pool of possible recruits. If students from this group are interested in the program's services, an application for the program is shared and the student is encouraged to speak to their parent/guardian about the program. The purpose of the application is to determine the potential eligibility of the student based on criteria such as: age, citizenship, and low-income/first generation criteria. If during the recruitment process a participant informs the program staff of a physical, learning, or emotional disability, the program makes every effort to ensure that the proper services and facilities are contacted and coordinated. All ETS applications are collected by relevant ETS staff members.

Following this initial process, the student and parent are mailed an income verification form and needs assessment (a document to ascertain what resources the student has or lack and/or extra services required for the student) per federal guidelines. All school contacts in the target area, usually comprising the principal and school counselors, have a thorough understanding of the requirements, services, and purpose of the program as well as the application process. ETS staff makes an effort to provide regular presentations at school faculty meetings and community events to further spread awareness about the program's availability and services. If a member of the school's personnel, such as principals, counselors, and/or teachers, determine that there is a student who not only meets the criteria for admission, but who would also benefit from the program, the staff member can make a referral to the ETS staff member serving that target area. These referrals, as well as the admissions process, are also available on the program's website.

ETS services are centered on school calendars, and are very thorough throughout the academic year. Because of the financial situations of the counties served by ETS, many ETS participants have no summer enrichment or educational activities available to them. ETS realized and acted upon the necessity for continued education and stimulation throughout the summer months; thus, services are provided year round including the summer months of June through August. With its focus on meeting the varying needs of ETS participants as well as ensuring the most comprehensive services possible, the ETS program is well suited to assisting its students in their academic endeavors.

Upon enrollment in the ETS program, students receive a student handbook that outlines the various areas of academic, career, personal development, student financial assistance, and postsecondary information provided by the program. Focused workshops that educate students about these subjects are provided each calendar month (November and March are field trip months) and summer camps are available to students in grades 8-12 with a focus on developing self-efficacy, reducing academic weaknesses, developing team-work, and developing a better understanding of the postsecondary system and federal/state financial aid.

Research Design

The research designs in this study are descriptive (Helgeson & Cohen, 1996) and correlational (Fitzgerald, Rumrill, Jr. & Schenker, 2004; Thompson, Diamond, McWilliam, Snyder & Snyder, 2005). A correlational design was chosen due to the exploratory nature of the study in an attempt to capture any relationships presents to avoid the possibility of a type II error, further given the data set and an inability to gather data outside of a cross-sectional view of the participants the correlational design was

deemed to be the most valid and feasible analysis. Several works (Brown, 1971; Campbell & Stanley, 1963; Gay, 1983; Mertens, 1998; Punch, 2009) have highlighted the benefits of using a correlational research design when working with similar research questions and data. All data used were pre-existing and in the possession and maintenance of the Educational Talent Search program at the host University. Data were gathered both from the programs locally maintained database and from locally held physical files. No contact was made with any of the participants because of the data being collected anonymously to protect privacy prior to collection. The data were formatted to comply with the federal guidelines that govern the function and organization of the ETS program housed at the host University. The data gathered includes the student's demographic characteristics, academic metrics, and measures of his or her participation in program activities.

The use of secondary data from the program was appropriate for several reasons. First, having pre-existing data ensures all information is compiled in a single location without concern about creating uniformity in materials from various sources and, in turn, helps avoid possible errors based on different record keeping practices. Next, using data gathered outside of the control of the researcher helps avoid many of the biases that can be present in primary research (such as qualitative or mixed-method studies) and also helps to ensure the validity of the results. Finally, the use of pre-existing data made it possible to complete a thorough analysis of the data far more quickly than if it had been gathered via interview, then coded and analyzed accordingly.

Population and Sample

A single level of data was gathered in this study specifically that of students graduating from a public high school under the guidance of ETS. All student-level data were originally gathered organically as a direct result of the student's participation in the ETS program. In the 2011-2012 academic year, ETS served six counties in Kentucky: Clay, Estill, Garrard, Jackson, Lincoln, and Madison. Each county has a single high school where all students in the county attend after completion of middle school. Out of all students in the six schools, there were 112 students who completed their K-12 requirements in four years and graduated concurrently with their participation in the ETS program. This finding was corroborated between the programs database and existing physical records of enrollment and participation.

Since this study is focused on a very specific population, all 112 graduating seniors in the population were considered for inclusion in the study. An exploration of the criteria to determine if a student would be included in the final analyses of the study will be discussed later in this paper. The Institutional Review Board (IRB) approved all procedures for collection of the data from the program's database and physical records (see Appendix B for copy of the IRB Approval).

Sampling Students

The criteria for including an ETS student in the sample were very broad. The decision rule was to include someone if the student graduated from one of the six served high schools and was a current participant of the Educational Talent Search program during the 2011-2012 academic year with an age of at least eighteen at the time of data collection. This decision rule also helped to maintain consistency across subjects,

although age was not a final factor in any of the analyses performed. There were no expectations about the composition of the sample size in terms of demographics, academic metrics, or level of participation in previously mentioned ETS activities. In total, all 112 students who graduated in the 2011-2012 academic year were used equating to 100% representation.

Sources Used in Data Collection

Although no data were gathered from the students specifically for the purposes of this study, it is important to highlight the data collection methods that were used for the generation of the database and physical files that were the sources of the analyzed data in this study.

Program Application

The student's demographic information (gender, ethnicity, county of origin, first-generation status, and low-income status) were obtained via the student's original program application. The first four categories involved nominal measures (selecting a category or yes/no) whereas the last is also nominal, but its determination is based on a ratio of income versus family size per federal regulations (See Appendix D).

Program Database

ETS is required to keep their data organized for federal audits, if necessary, and as such, this particular ETS program maintains their data in digital as well as physical format. All demographic data, participation data as well as the students ACT score and GPA were corroborated with this database to ensure accuracy.

Student Transcript

The students' academic metrics were all gathered from their final high school transcripts. Un-weighted GPA is a ratio measurement and ACT score is an interval with the final GPA and the highest ACT score included in this study. The students' participation in dual-credit, AP classes, and in the completion of a rigorous curriculum was assessed based on their final high school transcripts.

Student Activity Log

The students' participation in program activities was gauged by examining each respective student's end-of-year activity reports and totaling the number of attended activities for each year. All five measures: workshops, field trips, summer camps, outside contacts, and family events, were ratio in nature and ranged from as few as 0 to as many as forty-nine (see Appendix F).

National Clearinghouse

The student's enrollment status, which is the dependent variable in this study, was determined by utilizing the program's membership with the National Clearinghouse organization which can confirm a student's enrollment in participating postsecondary institutions.

Data Collection

The first step in the collection of data for this study was the identification of participants. As noted earlier, students were identified for inclusion in the study based on the corroboration of reports from the program's database as well as physical records of program enrollment maintained locally. All six of the high schools served by the ETS program housed at the University were included in this study as were all of their

graduating seniors. There was no exclusion based on gender, ethnicity, eligibility for services, academic metrics, or level of participation in the program. Eligibility was determined by utilizing a report generated by the program's database to return any students who were under the age of eighteen, which resulted in a return of zero; therefore, a total study population of 112 students from six different schools was used in this study. Given the small population size and the descriptive and correlational nature of the study, it was decided that utilizing the entire population would be the best way to get reliable answers to the research questions.

Demographics

Demographic information is a core part of the program's application and is used extensively in their yearly federal reports. Because of the information provided on the application being self-reported, physical files associated with each student, which included the application, were checked to ensure accuracy and corroboration of the participant's basic information with the digital records stored in the program's database. No discrepancies were found between the two sources. The data were then entered in the format discussed in the data analyses section.

Academic Metrics

Academic metric data were gathered via students' final high school transcripts. The ETS program regularly collects transcripts from the schools at set intervals, including the end of each year, and these are kept as part of the student's physical file as well as having some portions of it (ACT score and GPA) entered into the database. The student's graduating un-weighted GPA and highest ACT were pulled from his or her transcripts and corroborated with his or her information in the database for accuracy. No

discrepancies were found between the sources. In order to determine the students' status with AP or dual-credit courses, it was necessary to examine every class listed on each transcript and to code them based on the presence of such courses. Additionally, rigorous curriculum was determined by comparing the number and subject of the courses taken by the students during high school with the approved rigorous curriculum in KY (see Appendix E). Upon determining if the student met the criteria for graduating under the rigorous curriculum, the data were coded in the format discussed in the data analyses section.

Program Activities

Program participation data were gathered by consulting the student's end-of-year activity logs in his or her file and the student's digital activity log in the database and substantiating that with the requisite signature sheet associated with the activity in question. This was done to ensure the student had not received credit for attending an event which he or she was not present and vice-versa. It was necessary to tabulate by hand the number of activities that each student had attended in each category to ensure accuracy between the three sources. Once the number and type of activity had been determined, these were coded per the format discussed in the data analyses section below.

Data Storage and Confidentiality

All of the data collected for this study were considered to be, and protected as, confidential information. All records obtained from the program were examined and entered privately into a password-protected computer inside of a locked office. Digital files were accessed from a password-protected database and all physical files came from locked file cabinets inside of locked offices. At no time was any student data in view of

anyone other than the primary investigator, and upon completion of data entry, all files were returned to their respective storage locations and locked away. The original collection of this data is contained in an Excel spreadsheet that is maintained on a password-protected computer and on a password-protected flash drive inside of a locked office when not in direct use. Upon completion of the original data entry into Excel, the data was dummy coded to ensure anonymity, and from that point, only the anonymous version was used for the study. Following the procedures to ensure anonymity, the data were further coded as explained below and entered into SPSS 19. The SPSS file is also maintained on the same password-protected computer and thumb drive inside of the same locked office. All records will be maintained in accordance with IRB and University policy until the mandatory three-year period has expired. At that point, all digital data will be deleted and any physical records will be shredded.

Data Analyses

Several statistical techniques were used to analyze the data collected in this study. Descriptive statistics were used to measure the nominal measures of the demographic variables-frequencies and crosstabs. Correlations were used to determine the impact of the predictor variables (see below) on the dependent variable of college attendance as explained by Brown (1971), Campbell & Stanley (1963), Gay (1983), Mertens (1998), and Punch (2009). Linear regression and one-way ANOVA were used as needed to clarify or re-enforce results (Gay, 1983; Mertens, 1998; Punch; 2009).

Research Question 1

Question 1, “What were the demographic characteristics of Educational Talent Search (ETS) students who graduated in 2012?,” was answered using descriptive

statistics and crosstabs. Specifically, variable frequencies and range were gathered for all of the following variables: Gender, ethnicity, county of origin, first-generation status, and low-income status. Gender is a nominal variable coded as 0= female and 1=male. Classifying students in this category was determined by their self-reported gender on the program's application. Ethnicity is also a nominal variable coded with 0=no response, 1= American Indian or Alaska Native, non-Hispanic/ Latino, 2=Asian, non-Hispanic/Latino, 3= black or African American, non-Hispanic/Latino, 4=Hispanic/Latino of any race, 5=white, non-Hispanic/Latino, 6= native Hawaiian or other Pacific Islander, non-Hispanic Latino, 7=two or more races, non-Hispanic/Latino, and 8=race or ethnicity unknown.

County of origin is a nominal variable coded as 1= Clay County, 2=Jackson County, 3=Lincoln County, 4=Garrard County, 5=Madison County, 6=Estill County. This was classified using the students' self-reported county of origin on the primary program application. First-generation status is also nominally coded with 0=no and 1=yes. Lastly, low income status is nominal with 0=no and 1=yes. Both first-generation and low-income statuses were classified using the eligibility section on the programs application (see Appendix D).

Research Question 2

Demographic and inferential statistics were used to measure Question 2, "What is the relationship, if any, between their high school academic performance and their college enrollment?" Variable means, SD, and range were determined for high school GPA and ACT score. Frequencies were recorded for the student's completion of dual-credit courses, Advanced Placement (AP) courses, and Kentucky's rigorous curriculum

requirements were reported. Point bi-serial correlation (reported using Pearson r), linear regression, and phi correlation were used to determine the presence and strength of relationships between variables. ACT score is an interval scale variable coded on a 1-36 scale and represents the highest cumulative ACT score provided on the student's final high school transcript. High school GPA (un-weighted) is a ratio scale variable coded on a 0.0-4.0 scale to accommodate the lack of availability of AP classes in some counties and represents the students overall GPA per the student's final high school transcript. Dual-credit is a nominal scale variable and represents whether or not a student has completed dual-credit courses on his or her transcript, regardless of the number present with 0=none present and 1=1 or more present. AP courses is another nominal scale measurement that denotes completion of advanced placement courses on the student's final transcript regardless of volume with 0=none present and 1=1 or more present. Rigorous curriculum is a nominal variable which signifies that a student has completed the rigorous curriculum requirements outlined by the Kentucky Department of education (see Appendix E) and these are represented on his or her final transcript with 0=no and 1=yes. Given that AP course completion, dual-credit course completion, and rigorous curriculum course completion are nominal variables the results for all correlations involving those was reported using Φ , all other correlations are point bi-serial (reported with Pearson r).

Research Question 3

Descriptive and inferential statistics were used to analyze question 3, "How strongly does participation in specific ETS activities predict their college enrollment?" Variable mean, SD, and range were calculated for the sum total of the student's

participation (throughout entire time in the program) in each of the following activities: workshops, fieldtrips, summer camps, outside contacts, and family events attended. Point bi-serial correlation (represented as Pearson r) and linear regression were used to determine the presence and strength of any relationships. Each of these five variables is a ratio measurement with an absolute zero point representing no attendance at any event in that category. All of the figures used in answering this question were gathered from consulting each student's end of year activity reports (see Appendix F) and corroborating that with the numbers listed in the database and the sign in sheets from each event throughout the student's time in the program. The figures in this category have a range of 0-49.

Research Question 4

Inferential statistics were used to analyze question 4, "What is the relationship between the demographic characteristics of ETS students and their high school academic performance?" This question examines the relationship between the variables used in questions 1 and 2, and as such, all recording and reporting measures are the same. Point bi-serial correlation (reported as Pearson r), linear regression, and phi correlation were used to ascertain the presence and strength of any relationships between variables. Given that all five demographic variables and three of the academic metrics (AP class completion, dual-credit completion, and rigorous curriculum completion) are nominal, all results for correlations involving these variables are reported using Φ . All other correlations are reported using Pearson's r as a function of the point bi-serial correlation.

Research Question 5

Inferential statistics were used to analyze question 5, “What is the relationship, if any, between students’ participation in specific ETS activities and their high school academic performance?” This question examines the relationship between the variables presented in questions 2 and 3, and consequently, the format and framework of the data are preserved. Pearson correlations, point bi-serial correlation (reported using Pearson r), linear regression, and ANOVA were used to determine the presence and strength of any relationships.

Research Question 6

Inferential statistics were used to analyze question 6, “What is the relationship, if any, between a student’s demographic characteristics and their participation in specific ETS activities? This question examines the relationship between the variables present in questions 1 and 3; therefore, the structure of the information is as presented in those questions above. Point bi-serial correlation (reported as Pearson r) and linear regression were used also to detect the presence and strength of any relationships present between variables.

Reliability

Reliability, as used in the context of this study, is defined in similar terms to the work of Borg and Gall (1989), Campbell and Stanley (1963), and Gay (1983). In part, the reliability of research data depends on the uniformity of data collection. All data were compiled and tabulated exactly the same way for every single student in the sample. Each subject completed the same application and answered the same questions in the standard format for every facet of their demographic information. Low-income and/or first-

generation statuses were based on the systemic criteria detailed in a previous section. Academic metrics were collected using the same five measures for every student regardless of school or county. Given that some schools do not have advanced placement classes or dual-credit courses unweighted GPAs were collected to eliminate possible bias towards or against students who may or may not have participated in those classes. To further ensure reliability among the data every variable was crosschecked using multiple sources when available to confirm accuracy. For example, the researcher checked both original student applications and the operational database on which program administrators rely for the daily information.

Validity

Internal validity. Internal validity in this study is similar in form to the works of Borg and Gall (1989), Campbell and Stanley (1963), and Gay (1983). Internal validity is a possible concern for two reasons. First is the history of the participants. Since this is not a controlled study, it is difficult to determine what influences are present outside of the program. A student could have representatively low marks in most of the academic metric or participation categories, but still choose to attend college because of the encouragement of a family member or friend making it difficult to ensure that the effects seen in the analyses are attributable directly to the aspects of the program studied (Mertens, 1998). Next, because of the rolling admissions policy and strictly voluntary participation of the program, it is entirely possible for some students to enter the program the year they graduate and have drastically fewer services and contacts than a student who entered in sixth grade and has had seven years to accumulate knowledge, encouragement, and exposure to postsecondary life. It is also entirely possible to have a

student who participated in the program for years and left the program during his or her senior year because of moving to a county that is not served by the program. These factors leave a less than perfect representative model of a consistent progression for all students which can open the study up to questions about the validity of its findings (Mertens, 1998).

External validity. Threats to external validity are not as pronounced as those to internal validity, but still bear mentioning. Because of the research design and small non-random sample (essentially a group based single study) the researcher cannot generalize findings to groups outside the program being studied at other times. This in effect makes this study a form of case history study design (Kennedy, 2005; Punch, 2009). Findings that may appear statistically significant in this study may not be extrapolated to other groups due to the wide breadth and depth of services that may be provided as part of an Educational Talent Search program. Therefore regardless of any correlations found a causal relationship cannot be inferred from the results (Punch, 2009).

Limitations of the Study

Self-Reporting

Since the demographic data were gained by consulting the student's application and the program's database (which is built around the applications) there is the possibility of incorrect reporting. For various reasons such as social stigmas, desirability bias, and the fear for privacy variables like family size and/or income may not be accurately reported. These social pressures extend to the students county location as well and misrepresentations of ethnicity and gender identity are also possible and can lead to incorrect data. Lastly, misunderstandings about the nature of first-generation families can

often lead to students and their families not identifying themselves as such and this leads to concerns about validity.

Lack of Generalizability

As mentioned above, because of the specific nature of the study and its population, it is difficult to generalize any results to other programs or to say that one could get similar results even out of a similar program conducted elsewhere (Kennedy, 2005; Punch 2009). Given the grant writing aspect of independent TRIO programs, there can be mild differences in the execution of various educational outreach programs.

Although all programs follow similar guidelines, it would not be possible to compare any two programs on exactly the same measures. Given the wide variety of activities and workshops in the particular ETS program being studied, it is entirely possible that another program may focus on a different set of goals and objectives and provide work toward these in a fashion incongruent with this program model. Thus, to determine which particular subjects, workshops, or events held the most influence across all programs is not currently possible (Kennedy, 2005; Punch, 2009).

Population Size, Random Sampling, and Control

Given the relatively small sample size of $N=112$ the statistical power of the study is hampered and may not generalize well. Random sampling was not used in this study based on the aforementioned sample size, and as such, it could be said that there are inherent biases or trending that could have been eliminated by a larger population and random sampling of participants. The current study utilizes no control group; the current study looks at the possible effects of differences in student behavior within the sample of ETS students. Although the lack of a control group is a weakness in the research design

this within-group study can be just as informative as other between-group studies because ETS programs can be implemented in various ways in different places.

Lack of Uniformity in Enrollment

Since the ETS program is completely voluntary with rolling admission, there is a wide range in the number of years that the students have been in the program (1-7 years), so there are some instances where one student can have drastically more activities in a particular category than another. Given that this was not used as a variable in this study, it is expected that performance among different activities may be skewed depending on the duration of the students' enrollment in Educational Talent Search.

Differences Due to Location

Because students in the sample may have lived in any of six counties, they were subject to different high school curriculums even though an outside observer may have concluded that all participants were college preparation students. School culture may have substantial effects on the mindset and motivation of students. Further, students in the sample may have enjoyed varying access to AP and dual-credit courses meaning that some have none while others have a panoply which can lead to real differences in academic opportunities. Finally, since each county is served by a different ETS coordinator and this difference can also promote significant variations in academic opportunity and lack of consistent ETS program effects. Although it is not possible to track directly, such changes can have an impact on the results of the study.

CHAPTER 4

RESULTS

This chapter opens with a brief review of the research purpose and the research questions presented in this study. The findings include descriptive statistics on all variables as well as information concerning the direct and relative strength of the relationships between all variables. The alpha for this study was set at .05. Student-level data was collected from 112 students from the six counties serviced by the Educational Talent Search program examined here.

Research Purpose and Questions

The purpose of this study was three-fold. The first objective was to determine what the demographic characteristics are of the students participating in Federal TRIO programs based in Appalachian Kentucky, such as Educational Talent Search, and if any trends emerge during the analysis of the data collected. For the purpose of this study, the variables associated with demographics included gender, ethnicity, county in which the student attends school and receives ETS services, low-income status (per federal guidelines), and potential first-generation students (per federal guidelines). The second purpose was to ascertain if there is a relationship of significance between students' academic performance, participation in ETS activities, and their decision to attend college. Academic metrics included a student's un-weighted GPA at the time of high school graduation, highest composite ACT score, participation in K-12 dual-credit courses through a local postsecondary institution, participation in K-12 Advanced

Placement classes, and completion of the pre-college/rigorous curriculum K-12 course requirements. Participation in ETS activities was defined as attendance at scheduled ETS workshops during school hours, attendance of optional ETS-sponsored day trips/field trips to postsecondary institutions, attendance of optional ETS summer camps, outside contacts such as individual meetings or phone calls to parents, and family events such as the annual Career and Family Day or other TRIO or university events. The third objective was to determine if relationships of significance could be evidenced among a student's demographic characteristics, academic performance, and participation in ETS activities.

Research Questions

The following research questions were addressed with regard to Appalachian students in Kentucky:

1. What are the demographic characteristics of Educational Talent Search (ETS) students who graduated in 2012?
2. What is the relationship, if any, between ETS students' high school academic performance and their college enrollment?
3. How strongly does participation in specific ETS activities predict ETS students' college enrollment?
4. What is the relationship between the demographic characteristics of ETS students and their high school academic performance?
5. What is the relationship, if any, between students' participation in specific ETS activities and their high school academic performance?
6. What is the relationship, if any, between ETS students' demographic characteristics and their participation in specific ETS activities?

Research question 1. The first research question examines the demographic characteristics of the 112 students participating in the ETS program being studied. Specifically the question asks, “What are the demographic characteristics of Educational Talent Search (ETS) students who graduated in 2012?” The demographics of interest were gender, ethnicity, county in which the student attends school and receives ETS services, low-income status (per federal guidelines), and potential first-generation students (per federal guidelines).

Gender. Gender was unevenly distributed among the 112 participants in the ETS program. There were 72 female students representing 64.3% of the total participants sampled and 40 males representing 35.7% of the total participants sampled. The ETS program does not currently have guidelines in place to ensure the equal distribution of gender for participants in the program because the program’s focus is on students who meeting the admission’s criteria based on their low income and first-generation status.

County of origin. The ETS students’ county of origin was also unevenly distributed among the 112 program participants. Five of the six counties had percentages below 20%. Madison County was the only county exceeding that amount with 21.4%. Although not a requirement, the ETS program strives to keep a relative balance between counties not only to ensure adequate delivery of services to each county, but also to balance out the comparative workload allotted to each ETS coordinator serving those counties. Frequencies of participation by county are shown in Table 4.1.

Table 4.1

County of Origin Distribution for ETS Students

County	<i>N</i>	(%)
Clay	22	(19.6)
Jackson	15	(13.4)
Lincoln	14	(12.5)
Garrard	16	(14.3)
Madison	24	(21.4)
Estill	21	(18.8)
Total Student Population Sampled	112	(100.0)

Ethnicity. Ethnicity proved to be an uneven distribution. Ninety-four of the students self-identified as white, non-Hispanic/Latino representing 83.9% of the population sampled, and eleven of the students self-identified as Black or African American, non-Hispanic/Latino, representing 9.8% of the population sampled. There were three students who self-identified as Hispanic/Latino, representing 2.7% of the population sampled. There were three students who self-identified as Hispanic/Latino of any race, and three students who self-identified as Two or More Races, non-Hispanic/Latino, representing 2.7% of the population sampled. Additionally, there was one student who self-identified as American Indian or Alaskan Native, non-Hispanic/Latino representing 0.9% of the population sampled. No participants self-identified as Asian, non-Hispanic/Latino or Native Hawaiian or other pacific islander, non-Hispanic/Latino in the population sampled. Given the counties served there is little ethnic diversity present in the sample and in the ETS program as a whole.

Low income and first generation. Among the 112 participants in the ETS program sampled, 79.5% (89) met the criteria for low-income status while 20.5% (23) did not. Additionally, 90.2% (101) of the students met the criteria for first-generation status while only 9.8% (11) did not. The majority of students (72.3%) in the sample fit into both categories. Based on federal regulations pertaining to TRIO programs, 66.6% of all students in ETS programs must fit the criteria for low-income and first-generation status. The findings presented here echo that sentiment despite the study sample being only a cross-sectional examination of the total ETS student body.

Results. When correlated against one another, there were no statistically significant relationships between or among demographic variables. The only correlation to suggest any degree of relationships was between county and ethnicity ($p < .10$), but this probability of Type I error does not fall within the standard criteria of $p < .05$. This result simply means that sample counties were for the most part ethnically comparable if not homogenous. Table 4.2 provides specific details on the correlations between demographic variables.

Table 4.2

Correlations between Demographic Variables of ETS Students

Variables	Gender	County	Ethnicity	Low-Income	First-Generation
	Φ (sig)				
Gender	-	.04	-.01	.01	.05
County	.04	-	-.15	.01	-.39
Ethnicity	-.01	-.15	-	-.10	.06

Table 4.2 (continued)

Variables	Gender	County	Ethnicity	Low-Income	First-Generation
			Φ (sig)		
Low-Income	.01	.01	-.10	-	.05
First-Generation	.05	-.03	.06	.05	-

Research question 2. The second question examines the academic metrics of the 112 students participating in the study. The question asks, “What is the relationship, if any, between high school academic performance and college enrollment?” The academic metrics included the un-weighted GPA at the time of high school graduation, highest composite ACT score, participation in K-12 dual-credit courses through a local postsecondary institution, participation in K-12 Advanced Placement classes, and completion of the pre-college/rigorous curriculum K-12 course requirements.

GPA. The mean student GPA for the 112 students sampled was 3.23 with a range of 2.92 (N=112, SD=.73). The measurements were conducted using student’s unweighted GPAs which don’t take into account Advanced Placement or accelerated courses. The sample mean GPA is noticeably higher than the average national GPA of 3.00 in 2009 (NRP, 2009).

ACT. The mean composite ACT score for the 112 students sampled was 20.68 with a range of 19 (N=112, SD=4.62). The mean was calculated using the student’s highest reported ACT score to take into account progress that may have been made

during the program. The sample ACT composite score compares favorably with the 2012 national average of 21.1, falling short by just .42 (ACT, 2012).

Dual-credit courses. Participation in dual-credit courses was measured nominally based on a student's completion of at least one course. The overwhelming majority of the 112 students sampled (75%) did not participate in dual-credit courses. There is currently no requirement either by the governing bodies of TRIO or the ETS program, however, which dictates a student must partake of such classes. The data set did not include information on the availability of such courses at each high school attended by subjects in the sample.

Advanced placement classes. Advanced Placement classes were also measured based on a student's completion of at least one course. AP classes fared even worse with only 20.5% of the 112 students sampled completing at least one course. As with dual-credit courses, there is currently no requirement inside or outside of the program that dictates a student must take these classes.

Rigorous Curriculum. Rigorous curriculum was measured nominally based on a student's completion of the pre-college curriculum course requirements per Appendix E. In contrast to the number of students participating in AP and dual-credit classes, the majority of students in the sample (78.6%) completed a rigorous curriculum according to their graduating transcripts.

College enrollment. College enrollment for the sample was 75% (n=84) which outperforms the national average of 66.2% by almost 10% (Bureau of Labor Statistics, 2013). These data for ETS exclude students who are delaying entry or those who have been accepted for enrollment in a future semester. College enrollment was verified

through the National Student Clearinghouse and through direct confirmation from the institutions where students were enrolled.

Results.

Academic metrics and postsecondary enrollment. The point bi-serial correlation (reported as Pearson r) was used to ascertain the presence and strength of relationships between the previously discussed academic metrics and the postsecondary enrollment of the students sampled. For this sample (N=112), all recorded academic metrics demonstrated a significant ($p < .05$) positive relationship. Of the five academic metrics, only AP classes and dual-credit classes had significance higher than $p < .0$. All five metrics had a Pearson r correlation with PSE greater than .28 with the highest being GPA (.43). Table 4.3 highlights the correlation of academic metrics with the postsecondary enrollment of ETS students.

Table 4.3

Correlation of Academic Metrics with Post-Secondary Enrollment of ETS Students

Metric	r/ Φ (sig)
GPA	.43*
ACT score	.37*
Advanced Placement	.29*
Dual-Credit	.28*
Rigorous Curriculum	.45*

Note: * $p < .05$

The between variables correlations were also overwhelmingly significant with only four coefficients lacking significance at the $p < .05$ level. All significant results returned an r greater than .25, with the greatest being GPA x ACT (.64). Table 4.4

provides more details concerning the correlation of academic metrics between variables for ETS students.

Table 4.4

Correlation of Academic Metrics between Variables for ETS Students

Variables	GPA	ACT	AP	Dual-Credit	Rigorous Curriculum
	r/Φ (sig)				
GPA	-	.64*	.36*	.48*	.45*
ACT	.64*	-	.43*	.40*	.32*
AP	.36*	.43*	-	.06	.15
Dual Credit	.48*	.40*	.06	-	.25*
Rigorous Curriculum	.45*	.32*	.15	.25*	-

Note: *= $p < .05$

Research question 3. The third question examines the relationship between attendance of ETS program activities and postsecondary enrollment. Specifically the question asks, “How strongly does participation in specific ETS activities predict ETS students’ college enrollment?” Participation in ETS activities is defined as attendance at scheduled ETS workshops during school hours, attendance of optional ETS-sponsored day trips/field trips to postsecondary institutions, attendance of optional ETS summer camps, outside contacts such as individual meetings or phone calls to parents, and family events such as the annual Career and Family Day or other TRIO or university events.

Workshops. Program participation varied based on activity. Predictably, workshops had the highest mean participation with 29.51, and family events were the

lowest with .65. Formal workshops are offered through ETS six times per year, and in a seven-year period, a student has forty-two opportunities to attend. This indicated, based on the mean, that students, on average, attended over 50% of the workshops offered. However, students are able to attend workshops intended for other grades if the topic is of interest to them, if they are sharing information concerning their academic experience, or if they have questions related to the material being discussed. The maximum obtained value for workshops was forty-nine indicating that a student attended seven workshops above and beyond the provided number for their grade-level.

Field trips. Field trips were provided to ETS participants once a year per county for a total of seven opportunities throughout the course of the program. A mean of 3.57 indicated that, on average, students attended a little over 50% of the field trips provided by the program. The maximum recorded value was six indicating a student had attended all but one field trip.

Summer camps. Summer camps were offered yearly and are available to students in grades 8-12 (a camp for high school students was introduced in 2012). The data showed that 38.6% of the 2012 graduating seniors had taken part in a summer camp during their time in ETS. Though students had the opportunity to attend two camps during this time, no student attended more than one.

Outside contacts. Outside contacts encompassed any service outside of the four other services being measured. Such services can include mentoring, academic advising, personal counseling, and phone contacts with parents. The mean number of these activities was 2.39 with a maximum recorded value of 7. These contacts are not required

by federal or program regulations; however, as two visits are required by the program, it is often the case that some of these visits comprise the required two.

Family events. Family events are offered yearly and are hosted as part of a partnership with the host institution’s admissions department to provide students and their families with access to resources and information concerning college. Although a student has access to seven opportunities for such visits, the highest recorded value was two with a mean value of .65 indicating that, on average, students did not attend an event. Table 4.5 provides more information on descriptive statistics and frequencies for student participation in ETS program activities.

Table 4.5

Descriptive Statistics and Frequencies for Student Participation in ETS Activities

Activity	Mean	SD
Workshops	29.51	13.64
Field Trips	3.57	1.82
Outside Contacts	2.39	1.49
Family Events	0.65	0.73

Results.

Influence of participation on postsecondary enrollment. Correlational statistics indicate no statistically significant relationships between Educational Talent Search activities and enrollment in postsecondary education. Even when allowing for exploratory significance at the $p < .01$ level, there are no relationships indicating an influence in either direction. Table 4.6 contains specific data findings.

One-way ANOVA $F(1,110) = .11, p > .05$ indicated no ability to predict college enrollment based on the regression equation. Regression of PSE onto program activities

also revealed no significant relationship at the individual activity level with all significance levels $p > .05$. Please consult table 4.7 for specific data findings.

Table 4.6

Correlational Influence of Program Participation of ETS Students on Postsecondary Enrollment

Activity	r (sig)
Workshops	-.03 (p<.05)
Field Trips	-.04 (p<.05)
Summer Camps	.01 (p<.05)
Outside Contacts	.00 (p<.05)
Family Events	.00 (p<.05)

Table 4.7

Predictive Power of ETS Activities on ETS Students' Postsecondary Enrollment

Activity	β (sig)
Workshops	- .04 (p<.05)
Field Trips	- .11 (p<.05)
Summer Camps	.51 (p<.05)
Outside Contacts	.33 (p<.05)
Family Events	.59 (p<.05)

As with academic metrics, the ETS activity participation was strongly correlated between individual services. The only exception was summer camps x family events with a significance level of .51. These statistics, even with the barely insignificant relationship mentioned, indicated a substantial relationship of dependence between these factors.

Table 4.8 contains specific data on the correlation between ETS activities.

Table 4.8*Correlation between ETS Activities*

Variables	Workshop	Field Trip	Summer Camp	Outside Contact	Family Events
			r (sig)		
Workshop	-	.92*	.53*	.50*	.67*
Field Trip	.92*	-	.46*	.50*	.65*
Summer Camp	.53*	.46*	-	.13	.18
Outside Contact	.50*	.50*	.13	-	.35*
Family Events	.67*	.65*	.18	.35*	-

Note: * $p < .05$

Research question 4. Question four examined the relationship between ETS student demographics and their high school academic performance. The question asks, “What is the relationship between the demographic characteristics of ETS students and their high school academic performance?” For the purpose of this study, the variables associated with demographics included gender, ethnicity, county in which the student attends school and receives ETS services, low-income status (per federal guidelines), and potential first-generation students (per federal guidelines). Academic metrics included a student’s un-weighted GPA at the time of high school graduation, highest composite ACT score, participation in K-12 dual-credit courses through a local postsecondary institution, participation in K-12 Advanced Placement classes, and completion of the pre-college/rigorous curriculum K-12 course requirements.

Results. Analysis of the correlations between demographics and academics reveal several significant relationships at the $p < .05$ level. Gender correlated negatively with rigorous curriculum completion ($r = -.24$) indicating that female students were more likely to complete their pre-college coursework. County correlated negatively with AP class completion ($r = -.35$) signifying that Clay and Jackson counties had lower instances of AP class completion. Ethnicity correlated with GPA ($r = .22$) and ACT score ($r = .28$) suggesting a positive effect on non-minority status. Finally, low-income status correlated negatively with GPA ($r = -.23$). Table 4.9 provides detailed data on the correlations between ETS students' demographics and academic performance.

Table 4.9

Correlation between ETS Students' Demographics and Academic Performance

Variables	GPA	ACT	Dual-Credit	AP Classes	Rigorous Curriculum
	r/Φ (sig)				
Gender	-.16	-.11	-.12	-.10	-.24**
County	-.05	.00	.13	-.35 **	-.07
Ethnicity	.22*	.28**	.17	.16	.084
Low Income	-.23*	-.18	-.16	-.12	-.05
First Generation	.02	-.11	-.08	.01	-.17

Note: * $P < .05$; ** $P < .01$ level

Linear regressions on the statistically significant correlations confirmed the significance indicating the predictive ability of some demographic factors on academic performance. As with the Pearson correlation, gender proved to be a negative predictor

for rigorous curriculum completion with a $\beta = -.24$. County was also a negative predictor for AP class completion ($\beta = -.35$). Ethnicity was connected to two different metrics, GPA ($\beta = .22$) and ACT ($\beta = .28$), respectively. Finally, low-income status proved to be a negative predictor for GPA with a $\beta = -.23$. Table 4.10 presents detailed data on the regression of ETS students' academic metrics onto their demographic characteristics.

Table 4.10

Regression of Academic Metrics onto Demographics

Relationship	β (sig)
Gender x Rigorous Curriculum	-.24 (p<.05)
County x AP Completion	-.35 (p<.05)
Ethnicity x GPA	.22 (p<.05)
Ethnicity x ACT	.28 (p<.05)
Low Income x GPA	-.23 (p<.05)

Research question 5. The fifth question looked at the influence of program participation on academics. Specifically, “What is the relationship, if any, between students’ participation in specific ETS activities and their high school academic performance?” For the purpose of this study, academic metrics included a student’s un-weighted GPA at the time of high school graduation, highest composite ACT score, participation in K-12 dual-credit courses through a local postsecondary institution, participation in K-12 Advanced Placement classes, and completion of the pre-college/rigorous curriculum K-12 course requirements. Participation in ETS activities was defined as attendance at scheduled ETS workshops during school hours, attendance of optional ETS-sponsored day trips/field trips to postsecondary institutions, attendance

of optional ETS summer camps, outside contacts such as individual meetings or phone calls to parents, and family events such as the annual Career and Family Day or other TRIO or university events.

Results. The correlational data gathered on the relationships between program activities and academic metrics revealed five statistically significant correlations. GPA correlated negatively with summer camp attendance indicating that students with higher GPA's did not attend summer camps (-.22). Dual credit positively correlated with family events (.19) indicating that students who attended ETS family events were more likely to take dual-credit courses. AP class completion correlated negatively with workshop attendance (-.21), field trip attendance (-.23), and family activity attendance (-.27) indicating that students who completed their AP courses attended fewer workshops, field trips, and family events than those that did not. Table 4.11 highlights detailed data on the correlations of students' participation in ETS program activities and their high school academic performance.

Table 4.11

Correlations of Students' Participation in ETS Program Activities and Academic Metrics

Variables	GPA	ACT	Dual-Credit	AP Classes	Rigorous Curriculum
	r (sig)				
Workshops	-.17	-.04	.06	-.21*	-.14
Field Trips	-.12	-.10	.07	-.23*	-.20*
Summer Camps	-.22*	-.18	-.09	-.06	-.01
Outside Contacts	.08	-.05	.13	-.09	.03

Table 4.11 (continued)

Variables	GPA	ACT	Dual-Credit	AP Classes	Rigorous Curriculum
			r (sig)		
Family Events	-.07	-.05	.19*	-.27**	-.16
Total Participation	-.15	-.06	.08	-.22*	-.14

Note: * $p < .05$ level ** $p < .01$

Research question 6. The final question focused on the relationships between a student’s demographic characteristics and their participation in the program. It asked, “What is the relationship, if any, between ETS students’ demographic characteristics and their participation in specific ETS activities?” For the purpose of this study, the variables associated with demographics included gender, race, county in which the student attends school and receives ETS services, low-income status (per federal guidelines), and potential first-generation students (per federal guidelines). Participation in ETS activities was defined as attendance at scheduled ETS workshops during school hours, attendance of optional ETS-sponsored day trips/field trips to postsecondary institutions, attendance of optional ETS summer camps, outside contacts such as individual meetings or phone calls to parents, and family events such as the annual Career and Family Day or other TRIO or university events.

Results. Correlational analysis indicated many statistically significant relationships. Workshops correlated positively with both gender (.22) and county (.25) suggesting that male students were more likely to attend than female students, and that

students from outlying counties were less likely to attend than those more closely clustered.

Field trips correlated positively with gender (.24) suggesting higher male participation. Family events were correlated positively with gender (.20) and county (.55), again suggesting that male students were more likely to attend than female students, and that students from outlying counties were far less likely to attend than students from counties closer to the host University. Table 4.12 provides correlations between ETS students' demographics and their participation in ETS program activities.

Table 4.12

Correlation between ETS Students' Demographics and Participation in ETS Program Activities

Variables	Gender	County	Ethnicity	Low-Income	First-Generation
r (sig)					
Workshops	.22*	.25**	-.02	-.03	.10
Field Trips	.24**	.18	-.04	-.02	.13
Summer Camps	.13	-.17	-.20	.06	.12
Outside Contacts	.04	-.02	.08	.13	.00
Family Events	.20*	.55**	.00	.03	.04
Total Participation	.22*	.25**	-.02	-.01	.10

Note: p<.05 level p<.01 level

Post-Hoc Analyses

Given the lack of statistically significant data in regards to the relationship between a student's participation in the Educational Talent Search program and his or her high school academic metrics, it was determined that more intimate post-hoc analyses should be performed. The purpose of these secondary analyses would be to determine if there were relationships present that were hidden by the more broad-reaching analyses like Pearson correlations or linear regressions since these methods were using all variables of a given type (i.e. regressing high school GPA onto all participation activities).

Various linear regressions were performed using combinations of academic metrics and program activities with the goal of ascertaining if there were significant positive effects of some program variables on academic metrics that were being modified (negatively or positively) by other program variables. In order to provide for the highest possibility of finding significant relationships, the p-value was increased to .1 for the purposes of these analyses. Five linear regressions yielded significant results at the .1 level. For simplicity, only the statistically significant variables will be discussed.

GPA. When GPA was regressed onto all program variables, the significance of the equation was $p < .10$ with outside contacts yielding an effect of $r = .18$. When eliminating summer camps and family events, the same regression analysis yielded a significance of $p < .05$ and outside contacts showed a moderate effect of $\beta = .21$.

Advanced placement classes. When regressing AP class completion onto all program variables significance was $p < .10$; however, there were no significant positive

effects found within the structure of the equation. A new significant effect was found with family events indicating a $\beta = -.21$ effect on AP class completion with $p < .1$.

Rigorous curriculum. Regressing rigorous curriculum completion onto all program variables the significance of the equation was $p < .10$. In this instance, field trips indicated a $\beta = -.54$ effect ($p < .05$), and outside contacts indicated a positive influence of $\beta = .18$ at $p < .10$. When eliminating summer camps and family events, the same regression equation yielded $p < .05$. Field trips indicated a negative impact of $\beta = -.57$. Outside contacts indicated a positive impact of $\beta = .17$; however, the significance of the variable itself within the regression was outside of the experimental allowances for confidence with $p < .10$.

ACT. A single regression equation yielded significance close to the $p < .10$ level. When regressing ACT score onto all program variables the significance of the equation was $p > .10$. Three of the five variables within the equation suggested significance. The first was workshops with $p < .05$ and $\beta = .61$. Field trips and summer camps indicated a negative relationship with $p < .10$ and $p < .05$ and β of $-.43$ and $-.28$, respectively. Table 4.13 highlights detailed data on the significant positive relationships between ETS students' participation in ETS program activities and academic metrics.

Table 4.13*Significant Positive Relationships between ETS Students' Participation in ETS Program**Activities and Academic Metrics*

Variables Regressed	Equation	Positive Effect	β (sig)
All Programs x GPA	.08**	Outside Contact	.18**
Workshops, Field Trips, Outside Contacts x GPA	.04*	Outside Contact	.21*
All Programs x Rigorous Curriculum	.07**	Outside Contact	.18**
Workshops, Field Trips, Outside Contacts x Rigorous Curriculum	.02*	Outside Contact	.17
All Programs x ACT	.13	Workshops	.61*

*Note: *p<.05 level, **p<.1 level*

CHAPTER 5

DISCUSSION

Conceptual Model

The conceptual model shown in Chapter 2 includes selected demographic characteristics of ETS students, their academic metrics pertaining to high school performance, their attendance levels at specific ETS activities, and their college enrollment status. Since demographics suggest possible contextual effects in regards to participation and performance these are discussed first. Following the discussion on demographics, is a discussion on the significant findings in academics and student participation. Implications for policy, practice, and future research conclude this study.

Demographics

Gender. Female students had a more significant presence in the sample than did males (72 vs. 40) indicating that female students may be more attracted to the idea of educational enrichment activities than males. Gender was also associated with rigorous curriculum coursework $\Phi = -.24$ suggesting that males were less likely to complete the suggested pre-college/rigorous curriculum in preparation for the rigors of college. In regards to program participation, gender was a positive predictor in regards to attendance at workshops ($r = .22$), field trips ($r = .24$), family events ($r = .20$), and total program participation ($r = .22$). Although contradictory to the ratio of female students to male students in the program, this suggests that males in the program were more active in terms of participation in Educational Talent Search activities.

County of origin. Clay and Madison County displayed the highest numbers of participating students in the program with twenty-two and twenty-four respectively. County was significantly related to AP class completion with an indication that more rural counties participated in such classes less frequently. This could represent a lack of availability in some counties or a school culture that is not focused on providing or promoting such courses. In terms of participation in ETS program activities, county of origin was a moderate to strongly associated positive predictor for workshops ($r=.25$), family events ($r=.55$), and total program participation ($r=.25$). This suggests that students from the more outlying counties such as Clay, Jackson, and Lincoln were less engaged in these activities and were not participating to the same extent as students in Garrard, Madison, or Estill (counties that are more centrally located to the host University's campus).

Ethnicity. The overwhelming majority of students participating in the Educational Talent Search program reported that they were from a white, non-Hispanic/Latino heritage ($n=94$). The only other substantially represented group was Black or African American, non-Hispanic/Latino with $n=11$. Statistically significant differences were found between performance on both GPA, $F(4,107) = 2.72$ and ACT score, $F(4,107) = 3.59$ based on ethnicity for the three groups present.

Low income. The vast majority of students qualified as low income for the purposes of the study ($n=89$). This is to be expected since the primary criteria for entry into the program is to be low income or first generation (although the preference is for students to be both low-income and first-generation). Low-income status correlated negatively with GPA ($-.23$) and suggested a potential negative relationship with ACT

although $p > .05$, barely outside of the range for rejection of the null hypothesis. Low-income status indicated no effect of any kind on participation in program activities, but that is no surprise given the program is designed for low-income students and the majority of students in the sample are low income. Evidence of a relationship would have indicated a discrepancy in the delivery of the program.

First generation. Once again the majority of students in the sample were first-generation students ($n=101$). Again, this is to be expected given the program is designed for low-income and first-generation students. Surprisingly, first-generation status exhibited no effect on any academic metrics for the students in this sample. First-generation status was also not correlated in anyway with program participation, but given the program's mission and the majority of student's being first-generation, it would be inconsistent with program goals to see an indication of a relationship.

Findings

The vast majority of the students met the qualifications for low-income and first-generation status. Low income is not stratified and was measured simply as a single dichotomous variables which could hide a more substantial effect than is currently being observed. Additionally, the overwhelming majority of ETS students belong to a single ethnic group (white, non-Hispanic/Latino).

Academic Performance

GPA. The average high-school grade point average (GPA) for the sample was 3.22, a bit higher than the national average of 3.0 (NRC, 2009). GPA was a significant predictor of college enrollment with a $\beta = .43$ ($p < .05$). GPA was also strongly correlated with every other academic metric present in the study: ACT ($r = .64$, $p < .05$), AP class

completion ($r=.36$, $p<.05$), dual-credit completion ($r=.48$, $p<.05$), and rigorous curriculum completion ($r=.45$, $p<.05$). These correlations suggested a degree of consistency among the academic variables in general.

ACT. The average ACT composite score for the sample was 20.68, slightly below the national average of 21.1 (ACT, 2012). ACT scores were strongly correlated with PSE with $r= .37$ ($p<.05$). ACT scores were strongly correlated with all other academic variables: GPA ($r=.64$, $p<.05$), AP class completion ($r=.43$, $p<.05$), dual-credit completion ($r=.40$, $p<.05$), and rigorous curriculum completion ($r=.32$, $p<.05$). As with GPA, findings suggests a level of corroboration and consistency among the academic metrics in general.

Dual-credit courses. The vast majority of students did not complete dual-credit coursework in their high schools ($n=84$). This low number could be a result of a particular county or school's location or their inability to find staff qualified to teach advanced-level courses. Dual-credit courses correlated positively with college enrollment ($\beta=.28$) indicating that taking college courses early and as part of ETS students' high school curriculum may have an effect on their enrollment and preparedness for college. Every other academic metric was also positively correlated with dual-credit completion excluding AP class completion. The correlations were: GPA ($r= .48$), ACT score ($r= .40$), and rigorous curriculum ($r= .00$).

Advanced placement classes. Less than 25% of the sample ($n=23$) completed AP classes. This is in line with the low numbers of completion for AP classes. As with dual credit courses, this low number could be a result of a particular county or school's location or their inability to find staff qualified to teach advanced level courses. AP class

completion was positively correlated with entry into PSE ($r=.29$) and was also positively correlated with both GPA ($r=.36$) and ACT scores ($r=.43$). This indicated that taking the more rigorous courses (designed to convey the level of material present in college courses) may have an impact on the academic preparedness of students.

Rigorous curriculum. Rigorous curriculum completion was evident in 78.6% of the sample ($n=88$). This higher metric, in comparison to AP class and dual-credit course completion, is a result of many high schools served by ETS aligning their high school graduation requirements with the Kentucky pre-college curriculum (see Appendix E). Rigorous curriculum completion correlated strongly with PSE ($r= .45$) indicating that the attempt to provide students with increasingly difficult courses in preparation for college may have an effect. It is also possible that, because the majority of schools served by ETS have aligned their graduation requirements with the Kentucky pre-college curriculum, the effect is exaggerated. Rigorous curriculum completion correlated positively with GPA ($r= .45$), ACT score ($r= .32$), and dual-credit course completion ($r= .25$).

Findings

Many significant and positive effects were observed in regards to postsecondary education. This further validates the long held belief that high school academic performance is a strong predictor of PSE. Despite a few insignificant relationships, such as those between AP and dual-credit and those between AP and rigorous curriculum, there is strong evidence to suggest that most of the academic metrics analyzed have a substantial effect on each other. This could indicate that students are more motivated to perform on all measures based on the success in one measure or simply that the skills necessary to perform well on one metric are applicable to others as well.

Program participation

Workshops. On average there was strong participation in workshops by ETS students (mean=29.51). Workshops had a negative correlation with postsecondary enrollment ($r = -.03$), but the relationship was not significant ($p > .05$). Workshops were negatively correlated with GPA ($r = -.17$), ACT score ($r = -.04$) and rigorous curriculum ($r = -.14$) although none of these groupings were significant. Workshops were positively correlated with dual credit ($r = .06$), but the relationship was not significant ($p > .05$). The only significant relationship was between workshops and AP class completion ($r = -.21$) which indicated that students who successfully completed AP classes did not attend workshops. Workshops correlated positively with all other ETS activities: field trip ($r = .92$), summer camp ($r = .53$), outside contact ($r = .50$), and family events ($r = .67$).

Because of workshops being offered during the school day, and oftentimes in the morning, the negative relationship between attendance and AP class completion is not surprising. Many schools schedule their AP classes in the morning. Students who are determined to stay ahead in the class and complete them successfully would not have time to attend the workshops. Although the relationships are insignificant, the same can be said for GPA, ACT, and rigorous curriculum. Given the substantial time commitment that is required for ETS activities, it is possible that students who are devoted to maintaining high marks academically are hesitant to divide their time between the program (which is optional) and their academics (which have already shown a substantial effect on PSE).

Field trips. Field trip participation showed an average of 3.57 per student. Field trips correlated negatively ($r = .04$) with PSE although the relationship was not significant

($p > .05$). Field trips correlated negatively with both AP class completion ($r = -.23$) and rigorous curriculum completion ($r = -.14$). Again, these findings are not surprising given that field trips are conducted during the day, and students would have to miss out on classes for an entire school day in order to attend. If the student were determined to perform well in those classes, they may be unwilling to take the time away to attend a field trip. Field trips had a negative, yet insignificant, effect on both GPA ($r = -.12$) and ACT scores ($r = -.10$). It is possible that this is a result of the students' belief that their ability to perform on these respective measures would be negatively impacted by missing an entire day of school. The only positive relationship was with dual-credit course completion ($r = .07$), but this relationship was not significant ($p > .05$).

Field trips correlated positively with every other ETS activity: workshops ($r = .92$), summer camp ($r = .46$), outside contacts ($r = .50$), and family activity ($r = .65$). This indicated that students who attended field trips were also more likely to be involved in the other various areas of the program. As mentioned above, field trips are conducted during normal school days, usually taking the entire day. Given the link that has been seen between academic metrics and college enrollment, it is understandable that some students might have been hesitant to divide their time between field trips and classroom participation. Looking at the correlations between activities confirms this finding as well. Students with higher rates of attendance at one particular ETS activity were also more likely to attend others; this could be a reflection of their perceptions about the validity of the activities or a lack of concern about the impact on their academics.

Summer camps. Less than half of ETS students participated in a summer program during their time with ETS (36.6%). A partial explanation for this result may be

conflicts that arise between the scheduling of ETS summer camps and other summer activities. Many schools host academic and athletic camps that are required for the students that participate in those activities during the school year, and given that all ETS activities are voluntary, it is understandable that a student may be forced to make a choice between required and voluntary summer activities. The number of summer camps correlated positively with postsecondary enrollment (point bi-serial $r = .01$); however the relation was non-significant. The number of summer camps correlated negatively with every academic metric: GPA ($r = -.22$), ACT score ($r = -.18$), dual credit ($r = -.09$), AP class completion ($r = -.06$), and rigorous curriculum ($r = -.01$), however, of these number of only GPA correlated significant with GPA ($p < .05$).

Summer camps correlated positively with workshops ($r = .53$), field trips ($r = .46$), outside contacts ($r = .13$), and family events ($r = .18$), however, the only relationships of significance were found between summer camps and workshops ($p < .05$) and between summer camps and field trips ($p < .05$).

The negative correlations between the frequency of ETS activity participation and students' academic metrics can be explained by looking at whom the activities are meant to serve. The goal of these activities is to provide struggling students with academic potential with assistance in breaking into the world of PSE. However, if the students that are served reach a certain level of academic achievement, they will no longer need to attend the services. Since the summer activities are advertised as ways to develop test-taking skills and increase ACT scores, there is little incentive for students who are not lacking in these areas to attend.

Outside contacts. The average number of outside contacts for ETS students was 2.39. Outside contacts had no relationship with postsecondary enrollment ($r=.00$). Outside contacts also did not correlate significantly with any academic metric, although some of the relationships such as GPA ($r=.08$), dual credit ($r=.13$), and rigorous curriculum ($r=.03$) showed positive but insignificant correlations. Outside contacts correlated strongly with all ETS activities with the exception of summer camps ($r=.13$, $p>.05$). The correlations exhibited between activities such as workshops ($r=.50$), field trips ($r=.50$), and family events ($r=.35$) indicated a significant relationship between these variables. Once again, this suggests that students who devote more time to one ETS activity are more likely to do the same with other activities.

Outside contacts are a mercurial part of the ETS program experience. Given that these are not required, are often impromptu, and are subject to any number of other variables, it is difficult to ascertain what kind of relationship these would have in regards to academic metrics or college enrollment. Outside contacts, unlike the other activities measured, are not explicitly mentioned in the 2011-2016 Educational Talent Search grant. As such, outside contacts are subject to fewer restraints on what these can comprise. A contact could be as simple as providing a student with an ACT waiver or meeting to discuss the best way to write a scholarship essay. Given the wide variety of options, it is not startling that there are only insignificant relationships between several of the academic metrics and outside contacts.

Family activities. The mean for family event participation was .65 indicating that, on average, students did not attend a family event. Family events showed a very weak, insignificant correlation with PSE ($r=.00$, $p>.05$), and a weak yet significant

positive relationship with dual-credit completion ($r=.19$, $p<.05$). Additionally, a weak negative relationship with high significance was observed with AP class completion ($r= -.27$, $p<.05$). The other relationships between GPA ($r= -.07$), ACT ($r= -.05$), and rigorous curriculum ($r= -.16$) were all insignificant.

Family events had significant positive correlations with three other ETS activities: workshops ($r=.67$), field trips ($r=.65$), and outside contacts (.35); all at the $p<.01$ level. Summer camps and family events were positively correlated ($r=.18$), but the relationship was outside the range for significance ($p>.05$). Family events are hosted at the host University's central campus one Saturday per year. These events are usually held in conjunction with the Office of Admissions to give students and their families a sample of the University's admissions policies and campus life. Given the location of the host University, there are many students who live in the outlying counties of Clay, Jackson, or Lincoln who are unable to attend because of time commitments or an inability to make the drive to campus. Given these factors, it is no surprise that the levels of participation are so low.

Post-hoc Analyses

As mentioned in Chapter Four, post-hoc analyses were performed in order to determine if there were other relationships that might be over-looked because of other variables being considered in the regression equations. Given the wide range of activities available in the ETS program and the different presentations of services provided, there is naturally a great deal of variability in the way each student receives services. The most interesting variable of note are outside contacts. During regular analysis, outside contacts did not share any significant relationships with any academic metric. This, of course,

would lead to a finding that these do not provide any benefits. However, as mentioned previously, these are not part of the curriculum, and their content can vary as much as the student with whom the meeting takes place. In further analysis, three regression equations showed significance at the .1 alpha level (used for exploratory purposes).

The first of these involved regressing GPA onto all five program activities. This yielded an equation significance of $p < .10$. By normal standards this would not be significant, but in the interest of not making a type-two error, the confidence interval was expanded to $p < .10$ to determine if there were any effects present. When examining the effect that individual activities had on this regression, the only positive correlation was found to be outside contacts with $\beta = .18$ ($p < .10$). Again, this was found at the exploratory level, so caution is required before making assumptions about the nature of such a regression.

The second equation mirrored the first, but the variables of summer camp and family events were removed based on so few students participating in these activities. Additionally, it was possible that these two activities could have affected the results between outside contacts and academic metrics. When this second analysis was performed, the equation provided an $p < .05$ which, according to commonly accepted confidence levels, is statistically significant. When looking at the three contributing factors again, outside contacts showed a positive relationship ($\beta = .21$) and $p < .05$ which is perfectly in line with commonly accepted statistical significance.

The final equation regressed rigorous curriculum onto participation in all program variables. Given that completion of a rigorous curriculum encompasses the completion of many advanced courses, and since ETS actively promotes taking part in such courses, it

seemed a logical regression. The equation was significant at the $p < .10$ level. When examining the factors within the equation again, the only activity to suggest a positive effect was outside contacts ($\beta = .18, p < .05$).

The post-hoc analyses demonstrated that outside contacts, despite not being part of the traditional program outline, do play a positive role in at least two of the academic metrics known to positively influence college enrollment. The reason for this could be that a student received academic tutoring, mentoring, discussed study skills, or simply received some encouragement from an ETS staff member in one of these individual meetings, and that one or all of those factors led the student to achieve a higher level of academics.

The findings of this study provide interesting comparisons to previous research on Talent Search Programs (U.S. Department of Education, 2004) that state that the vast majority of Talent Search programs don't track the variables present in the study and instead focus exclusively on the metrics that are needed to complete their yearly reports. Further, the metrics that are gathered by the programs in the report are very broad (e.g. PSE or the student applying for financial) and subject to any number of other factors in the students life. Aside from these they track the type of institution the student has entered or if they are still being studied, but once again none of these metrics have anything to do with the actually effectiveness of the program itself. This raises questions about what factors need to be measured with programs like these.

Program Effect on Postsecondary Attendance

It should be noted that unlike the conceptual model shown in in figure 2.2 the data in this study included little evidence to suggest that ETS affects the postsecondary

enrollment of its students through increased high school academic performance and student support. This creates a difficult situation for ETS programs who are trying to show empirical evidence of the program's benefits. However, it should also be said that this data was focused on a very narrow range of academic and program metrics and factors such as academic self-efficacy, motivation, and student attitudes were not addressed. Ergo, there may be effects that remain to be seen.

Since it is possible that ETS has an effect on postsecondary enrollment even without a readily available mechanism it will be important in the future to examine other factors of the program such as the guidance system ETS provides as well as the outside services that are provided. Variables like the effects of college application tutorials, financial aid application assistance, and college coaching could all be key components of this hidden mechanism of action.

Implications for Policy and Practice

Demographics. The relationships between gender and academic performance show a need for increased focus on ensuring that every student, male and female, be given the support and encouragement needed to perform at college-ready levels in that the study shows that female students are more likely to complete a rigorous curriculum. The relationships between a student's county of domicile and their ETS activity participation also suggested that changes should be made to accommodate individuals who are unable to attend campus-based activities and to increase interest at the county level to drive up participation. Also, the lack of diversity in the data set demonstrates a need to reach out to minority groups within the counties that are served by ETS and stronger attempts need to be made to achieve ethnical diversity within the program.

Academic metrics. Given the incredible predictive strength of the academic variables and PSE present in the study, it is necessary to ensure continued focus on student success in every area. More attention needs to be given to motivating students to complete dual-credit and AP courses. Given the strong correlations between academic metrics there is a substantial reason to believe that if students were to increase their participation and completion of dual-credit and AP classes, that increase would be reflected in their GPA and ACT scores, both of which are incredible predictors of PSE. Further, given the levels of rigorous curriculum completion, and the strong correlations between academic metrics in the sample, it can be surmised that increased participation in dual-credit and AP classes may further increase the rates of rigorous curriculum completion. Services provided by Educational Talent Search need to be tailored to specifically influence these academic metrics and to provide support for students who are suffering in specific areas.

Program participation. Although rates of participation are high for activities like workshops and field trips, the rates for other activities, such as summer camps and family events, reflect either a lack of interest or a lack of capability on the part of the student to participate. Consideration should be given towards expanding opportunities for family and academic resource-based activities in the individual counties served. Further, the fundamental purpose of family events and summer camps, as well as workshops and field trips, needs to be examined to ensure these are in line with the needs of the students. Based on the data, many of these activities provide no effect on academic metrics or PSE. Increasing the focus of the program on student success in academic metrics (given the correlation between academics and PSE) seems to be a crucial next step to ensure

relevancy for the program. Given the significance of outside contacts in the regression equations from the post-hoc analysis, more weight should be given towards these meetings with students and towards opportunities for mentoring and relationship development these meetings provide.

Questions for Future Research

The following questions are important areas to be addressed in future research efforts.

1. What is the relationship, if any, between the topics covered during ETS activities and a student's academic performance and/or postsecondary enrollment?
2. What outside services are provided to students and what effect do these services have on academic performance and/or postsecondary enrollment?
3. What is the relationship, if any, between time in the ETS program and academic performance and/or postsecondary enrollment?
4. Is there a mitigating factor in the lack of a positive correlation between ETS program activities and academic metrics and/or postsecondary enrollment?
5. What other factors affect the observed relationships between ethnicity and academic performance?
6. What is the relationship, if any, between different institutional ETS programs and academic performance and/or postsecondary enrollment?

Future studies could benefit from having a much larger data set as well as data that is gathered over the course of several years. In addition, garnering information about a student's time in the program as well as which specific workshops, field trips, or other activities they attended can provide more contexts for the analysis. Next, gathering

longitudinal data on a student's academic performance can demonstrate a relationship between ETS and school performance over time. The current study is cross-sectional in nature and, as such, doesn't allow for the observation of effects over time. Finally, it is important to obtain information concerning other ETS programs and their procedures and metrics. By observing a single program, it is difficult to ascertain if the relationships observed and recorded previously are truly significant or if there are mitigating factors hidden by the lack of statistical power and generalizability of the study.

Conclusion

This study included a description of the demographic characteristics of the students participating in the Educational Talent Search program located at a regional University in south-central Kentucky as well as their academic metrics and program activity participation. It provided insight into the relationships between students' demographics and their performance on various academic metrics as well as the influence of those same metrics on their entry into postsecondary education. Finally, this research highlighted the weaknesses inherent in the program methodology and the relationships that program activities have on both postsecondary enrollment and high school academic metrics. Serious questions have been posed as to the underlying mechanisms present that may have led to the results of this study as well as suggestions to increase the strength and generalizability of future studies. Recommendations for program modifications and considerations have been made that would increase the efficacy and relevance of the program for the students and the schools that it serves, and for the faculty that carry it out.

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APPENDIX A
OVERVIEW OF TRIO PROGRAM SYSTEM

The following is an excerpt from the U.S. Department of Education Website found at: <http://www2.ed.gov/about/offices/list/ope/trio/index.html>

The Federal TRIO Programs (TRIO) are Federal outreach and student services programs designed to identify and provide services for individuals from disadvantaged backgrounds. TRIO includes eight programs targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline from middle school to postbaccalaureate programs. TRIO also includes a training program for directors and staff of TRIO projects.

The recipients of the grants, **depending on the specific program**, are institutions of higher education, public and private agencies and organizations including community-based organizations with experience in serving disadvantaged youth and secondary schools. Combinations of such institutions, agencies, and organizations may also apply for grants. These entities plan, develop and carry out the services for students. While individual students are served by these entities, they may not apply for grants under these programs. Additionally, in order to be served by one of these programs, a student must be eligible to receive services and be accepted into a funded project that serves the institution or school that student is attending or the area in which the student lives.

The 8 programs are:

- Educational Opportunity Centers
- Ronald E. McNair Post-baccalaureate Achievement
- Student Support Services
- Talent Search
- Training Program for Federal TRIO Programs Staff

- Upward Bound
- Upward Bound Math-Science
- Veterans Upward Bound

APPENDIX B
COPY OF IRB APPROVAL LETTER



EASTERN KENTUCKY UNIVERSITY
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Graduate Education and Research
Division of Sponsored Programs
Institutional Review Board

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Richmond, Kentucky 40475-3102
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<http://www.sponsoredprograms.eku.edu>

NOTICE OF IRB EXEMPTION STATUS

Protocol Number: 13-097

Institutional Review Board IRB00002836, DHHS FWA00003332

Principal Investigator: **Will Bowling** Faculty Advisor: **Dr. Charles Hausman**
Project Title: **Factors Influencing College Attendance of Appalachian KY Students Participating in Federal Educational Talent**
Exemption Date: **01-02-13**
Approved by: **Dr. Michael Ballard, IRB Member**

This document confirms that the Institutional Review Board (IRB) has granted exempt status for the above referenced research project as outlined in the application submitted for IRB review with an immediate effective date. Exempt status means that your research is exempt from further review for a period of three years from the original notification date if no changes are made to the original protocol. If you plan to continue the project beyond three years, you are required to reapply for exemption.

Principal Investigator Responsibilities: It is the responsibility of the principal investigator to ensure that all investigators and staff associated with this study meet the training requirements for conducting research involving human subjects and follow the approved protocol.

Adverse Events: Any adverse or unexpected events that occur in conjunction with this study must be reported to the IRB within ten calendar days of the occurrence.

Changes to Approved Research Protocol: If changes to the approved research protocol become necessary, a description of those changes must be submitted for IRB review and approval prior to implementation. If the changes result in a change in your project's exempt status, you will be required to submit an application for expedited or full IRB review. Changes include, but are not limited to, those involving study personnel, subjects, and procedures.

Other Provisions of Approval, if applicable: None

Please contact Sponsored Programs at 859-622-3636 or send email to tiffany.hamblin@eku.edu or lisa.royalty@eku.edu with questions.



Eastern Kentucky University is an Equal Opportunity/Affirmative Action Employer and Educational Institution

APPENDIX C
EXCERPTS FROM 2011-2016 ETS GRANT

I. NEED FOR THE PROGRAM [643.21(a)]

The Educational Talent Search Program (ETS) at XXXXXX-XXXXX-XXXXXX has made a difference in the lives of individuals served during 26 years of operation. With amplified educational needs in the target area, ETS's proven track record is more appreciated.

ETS at XXX in XXXXXX, Kentucky (KY) is designed to serve 787 participants who are at least 11 years of age and in grades six through twelve and out of school (OOS) participants. A veteran as defined in 643.6(b), regardless of age, is eligible to participate in ETS if he or she satisfies the eligibility requirements of 643.3(a) other than the age requirement in paragraph (a)(2). ETS complies with all participant regulations.

The target area encompasses 15 schools in the central and eastern portion of KY. The target area comprises portions of the 1st, 5th, and 6th Congressional Districts. The 5th Congressional District is the second poorest in the nation.¹ The target counties include: Clay, Estill, Garrard, Jackson, Lincoln, and Madison. Schools to be served are: Clay County Middle and High School, Estill County Middle and High School, Garrard County Middle and High School, Jackson County Middle and High School, Lincoln County Middle and High School, Lincoln County McGuffey Sixth Grade Center, B. Michael Caudill Middle School, Clark-Moores Middle School, Madison Middle School and Madison Central High School.

Clay County located in ETS's target area is the seventh poorest county of 3,142 counties in the nation by median household income; the 11th poorest county of 3,142 for poverty; and 19th worst of 3,142 counties for families in poverty.²

All counties in ETS's target area are in the Appalachian region of KY. The Appalachian Regional Commission (ARC) formed in 1965 to break the cycle of poverty in Appalachia in 13 states, including KY. Four of ETS's six counties are designated "Distressed" for fiscal year 2011

(Effective 10/1/10-9/30/11) by ARC: Clay, Estill, Jackson, and Lincoln. These four counties are part of 82 total distressed counties in the nation; the most economically depressed, ranking in the worst 10%.³ Garrard County is considered “At-Risk” of becoming economically distressed, ranking between 10% and 25% of the nations’ counties. Madison County is “Transitional,” transitioning between strong and weak counties.

A 12/8/10 U.S. Census Bureau report reported that only two other states had higher state poverty rates than Kentucky.⁴ “Over the last decade, the gap between Kentucky’s poverty rate and the U.S. rate has grown.”⁵ The U.S. Census Bureau report also indicated that only four other states had higher state poverty rates than Kentucky for families in poverty.⁶ Terry Brooks, Executive Director of Kentucky Youth Advocates, echoed earlier, “Despite several years of economic growth, Kentucky’s families actually lost ground in reducing poverty, improving health coverage or increasing family incomes.”⁷

A. High number and percentage of low-income families residing in target area [643.21(a)(1)]

The number and percentage of low-income families residing in ETS’s target area are high, mirroring the Appalachian economic condition as shown in Table IA1. The target area has 16,710 low income families. All target counties have a higher percentage of low-income families in residence than the national average. Clay County has the highest percentage of low-income families at 60.13%; three times the nation’s rate of 20.80%.

Table A1: High Numbers & Percentages of Low-Income Families Below 150% of Poverty Residing in the Target Area [643.21(a)(1)(i)]*

Target County	%’s	#’s
Clay	60.13	3876
Estill	45.13	2006
Garrard	25.87	1132
Jackson	51.69	2046
Lincoln	38.38	2594

Madison	27.62	5056
Target Area Numbers		16,710
KY %/Numbers	28.56%	317,101
U.S. %/Numbers	20.80%	15,028,369

*Kentucky State Data Center, http://ksdc.louisville.edu/1profiles_county.htm, "County Profiles from 2000 Census Data, 4-Page Profiles"; U.S. Census Bureau, "Kentucky-DP-3.Profile of Selected Economic Characteristics: 2000" and "United States-DP-3.Profile of Selected Economic Characteristics: 2000".

In the 2010 Kentucky KIDS COUNT County Data Book report (page 25), the percent and number of children attending public schools who were eligible for Free and Reduced-Price Meals for the 2009-10 School Year, showed the state percentage at 52% for a total of 387,479 students. The ETS target county percentages were all above the state, between 53% and 80%: Clay-80%/2,865 students; Estill-68%/1,752; Garrard-55%/1,556; Jackson-78%/1,833; Lincoln-64%/2,761; and Madison-53%/5,991.

The Kentucky Division of Nutrition and Health Services reported information specific to ETS's target schools noting there were 6,421 students eligible for Free or Reduced Priced Lunch during the 2009-10 School Year; target schools ranged between 43% and 82% eligibility.

Table A2: High Numbers & Percentages of Students Attending the Target Schools Eligible for Free or Reduced Priced Lunch, 2009-10 School Year[643.21(a)(1)(ii)]*

Target Schools	%'s	#'s
Clay County High School	82	810
Clay County Middle School	86	455
Estill County High School	62	444
Estill County Middle School	67	352
Garrard County High School	50	405
Garrard County Middle School	56	332
Jackson County High School	79	508
Jackson County Middle School	81	373
Lincoln County High School	56	628
Lincoln County Middle School	63	383

Lincoln County McGuffey Sixth Grade Center	62	201
Madison Central High School	43	767
B. Michael Caudill Middle School	46	245
Clark-Moores Middle School	54	274
Madison Middle School	56	244
Target Area Numbers		6,421

*Kentucky Division of Nutrition and Health Services “Quantifying Data based on Free and Reduced Price Information”; <http://scn.ky.gov/octdataout/rptlist.htm>, 10/10.

B. Low rates of high school persistence among individuals in target schools [643.21(a)(2)]

Table IB1 shows the low persistence rates of ninth grade students for the most recent year, 2009-10 generated from state target school statistics. Only 69.8%, 1,343 of the 1,925 target school ninth grade individuals persisted to twelfth grade compared to 76.6%, 45,680 of 59,663 ninth grade Kentucky school individuals, further supporting the need for ETS services.

Table A3: Low Persistent Rates of Individuals in Target Area High Schools (#'s & %'s)*

Target HS	2009-10
Clay County HS	218 of 339 = 64.3%
Estill County HS	179 of 253 = 70.7%
Garrard County HS	164 of 253 = 64.8%
Jackson County HS	164 of 205 = 80.0%
Lincoln County HS	220 of 331 = 66.5%
Madison Central HS	398 of 544 = 73.2%
Target High School Total #'s/Average%	1,343 of 1,925 = 69.8%
KY High Schools Total #'s/Average%	45,680 of 59,663 = 76.6%

*KY Department of Education (KDE) Office of District Support Services, “Superintendent Annual Attendance Report, Enrollment By District, School and Grade”, 9/28/07 and 8/6/10.

The National Center for Public Policy and Higher Education has said that “Compared with leading states, relatively few 9th graders in Kentucky graduate from high school in four years. Relatively few students are adequately prepared to succeed in college-level education or training.”⁸

C. Low rates of students in the target schools who graduate high school with a regular secondary school diploma in the standard number of years [643.21(a)(3)]

The state of Kentucky does not track seniors by what type of diploma at graduation. The Superintendent Offices or the high school guidance counselors from 5 of the six target high schools were able to provide information to show the low rate of seniors who graduated with a regular secondary school diploma in 2009-10. The target area average (from available information) for seniors graduating with a regular secondary school diploma was 49%.

Table A4: Low Rate of Target High School Students Graduating with Regular Secondary School Diploma in Standard Number of Years in 2009-10*

Target HS	Graduated Seniors With Regular Secondary School Diploma (%)	Graduated Seniors With Rigorous Secondary School Diploma (%)
Clay County HS	35	65
Estill County HS	45	55
Garrard County HS	49	49
Jackson County HS	67	33
Lincoln County HS	49	51
Madison Central HS	Not Available	Not Available
Target Area Avg.	49	51
State Average	KY DOES NOT TRACK	KY DOES NOT TRACK

*Superintendent Office/High School Counselor Surveys 12/10; Lisa Gross of Kentucky Department of Education 12/10.

D. Low postsecondary enrollment and completion rates among individuals in the target area and schools as evidenced by--[643.21(a)(4)]

1. Low enrollment rate of target school graduates in programs of postsecondary education by graduates of the target schools in 2008-09[643.21(a)(4)(i)]*

ETS's target schools postsecondary enrollment rate ranged from 38% to 73%; target school area enrollment rate was 55% compared to the KY state rate of 63%. ETS is designed to narrow this gap.

Table A5: Low Enrollment Rate of Target School Graduates in Programs of Postsecondary Education for 2008-09 (#'s & %'s)*

Target High School	2008-09 #s	Percentages
Clay County High School	119 of 226	52.6
Estill County High School	80 of 160	50.0
Garrard County High School	77 of 167	46.1
Jackson County High School	56 of 146	38.3
Lincoln County High School	107 of 226	47.3
Madison Central High School	267 of 366	72.9
Target HS's Total Number/%	706 of 1,291	54.6
KY High School #'s/%		26,726 of 42,657 = 62.6

*KDE, Office of Assessment and Accountability, "Transition to Adult Life Data-Public Schools," 6/1/10.

2. High number or high percentage of individuals residing in the target area with education completion levels below the baccalaureate degree level [643.21(a)(4)(ii)]*

Breaking the cycle of poverty depends on continued and consistent attention. ETS assists individuals in the target area with education levels below the baccalaureate. The need for ETS in the target area is documented in Table ID2, where 90 % of individuals have not earned a baccalaureate degree in the target area; higher than the state, Appalachian area, and the nation. The target counties show a range between 78% and 93% of individuals who have not earned a baccalaureate degree.

Table A6: High Percentage of Individuals Residing in the Target Area With Education Levels Below the Baccalaureate Level [643.21(a)(4)(ii)]*

Target County	Percent of Persons 25 Years & Older with Education Completion Levels Below the Baccalaureate Level
Clay	92.0
Estill	93.1
Garrard	89.5
Jackson	93.2
Lincoln	91.6
Madison	78.2
Target Area Percentage	89.6
KY Percentage	82.9
Appalachia Percentage	82.4
U.S. Percentage	75.6

*KY Deskbook of Economic Statistics 2009, "Educational Attainment for KY Counties (Persons 25 and Over)," pages 247-249, 12/10; Appalachian Regional Commission's Socioeconomic Overview of Appalachia 2010, "Educational Attainment: Percent Completed College, 2000."

Also alarming is the number of Kentuckians earning a baccalaureate degree in 2006 in six years at four-year colleges. The 47% figure was lower than the national rate of 56% and the top states rate of 65%.⁸

E. Extent target secondary schools do not offer their students the courses or academic support to complete a rigorous secondary school program of study or have low participant or low success by low-income or first generation students in such courses.[643.21(a)(5)]

A 9/21/10 report by the KDE showed 34 % of all graduating students from KY public high schools were not ready for college or careers; a statistic that KY Education Commissioner Terry Holiday calls "abysmal." An analysis was released 9/27/10 by three education advocacy groups that indicates there are only six percent of KY's high schools that are at proficiency now or are on pace to reach proficiency by 2014; only four KY high schools have reached proficiency level on the transition index. The percentage of KY high schools on track for proficiency fell from 15% last year. Only 39% of middle schools have reached proficiency or would reach proficiency by 2014 if the current growth rate is continued, particularly middle and high schools.¹⁰

Robert King, president of the KY Council on Postsecondary Education stated that "...we have not been teaching the right content in too many instances and, in others, kids are not being required or encouraged to take college preparatory courses."¹¹

Success by low-income target secondary school students in achieving proficiency level in KY Core Content is even lower (see Table IE1 for latest data available), creating a deficit in successful preparation to complete a rigorous secondary school program of study.

Table A7: Low Success of Low-Income Target School Secondary Students in Achieving Proficiency Level in KY Core Content in 2008-09 Academic Year [643.21(a)(5)]*

Low Income in Target Schools	Below Proficiency in Reading%	Below Proficiency in Mathematics%	Below Proficiency in Science%
Clay County High School	47.6	72.9	73.6
Clay County Middle School	39.7	57.7	49.5
Estill County High School	45.4	73.6	67.0
Estill County Middle School	52.2	54.8	58.6
Garrard County High School	37.5	75.3	72.6
Garrard County Middle School	49.1	45.9	38.4
Jackson County High School	48.5	71.0	77.1
Jackson County Middle School	38.4	49.4	56.6
Lincoln County High School	49.7	72.8	72.0
Lincoln County Middle School	26.8	32.4	18.8
Lincoln County 6 th Grade Center	39.3	39.3	Not Available
Madison Central High School	48.6	75.5	73.58
B. Michael Caudill Middle School - School was not Built in '08-'09			
Clark-Moores Middle School	34.4	41.0	35.0
Madison Middle School	46.8	55.2	65.5
KY	40.0	47.1	Not Available

*KDE, KY State Report Card 2008-09; School Report Card 2008-09 (by county).

F. Other indicators of need for a TS project including low academic achievement and low standardized test scores of students enrolled in the target schools, a high ratio of students to school counselors in the target schools, and the presence of unaddressed academic or socio-economic problems of eligible individuals, including foster care youth and homeless children and youth in the target schools or the target area [643.21(a)(6)]

1. Low academic achievement and low standardized test scores of students enrolled in the target schools [643.21(a)(6)]

Low academic achievement by students in ETS’s target schools is shown by viewing the KY Core Content Test (KCCT) results from 2009-10. KCCT measures performance levels as Novice, Apprentice, Proficient, or Distinguished.

Ten of 15 ETS target schools had higher rates of non-proficiency in at least three of the five performance indicators, compared to a lower state level. Two high schools and three middle schools had all five indicators of achievement below the proficiency rate. ACT, Inc. reviewed “*The Forgotten Middle*” research study that suggested there is a critical defining point for students in the college and career readiness process. ACT, Inc. emphasizes that there should be more focus on getting more students on target for college by the end of eighth grade, so they are prepared to maximize the benefits of high school.¹²

Table A8: Low Academic Achievement of Target School Secondary Students Who Are Below Proficiency Level in KY Core Content, 2009-10 Academic Year [643.21(a)(6)]*

Target Schools	Below Proficiency Level:				
	Reading	Mathematics	Science	On-Demand Writing	Social Studies
Clay County HS	48.15	58.53	60.37	63.94	65.44
Estill County HS	38.54	55.1	54.42	89.16	53.74
Garrard County HS	48.51	61.68	61.08	85.99	55.69
Jackson County HS	46.79	68.25	69.05	66.87	68.25
Lincoln County HS	49.34	70.7	70.7	73.85	74.22
Madison Central HS	39.63	67.77	68.9	67.06	56.87
KY –HS Level	38.69	59.72	58.86	64.06	60.14
Clay County MS	36.42	48.17	59.04	67.78	41.48
Estill County MS	37.04	46.39	49.69	77.47	56.59
Garrard County MS	36.58	40.62	56.82	67.61	51.14
Jackson County MS	37.05	38.84	62.5	69.59	55.41
Lincoln County MS	27.23	32.68	34.67	50.17	37.37

Lincoln County 6 th Grade Center	No Data Reported				
B. Michael Caudill MS	24.14	37.83	39.62	58.28	39.74
Clark-Moores MS	19.88	33.2	34.03	55.38	38.17
Madison MS	36.36	42.34	38.89	78.26	57.39
KY – MS Level	29.79	37.62	42.98	57.66	43.62

*KDE's "KY Core Content Test (KCCT), Content Area Performance 2007-10," 9/23/10.

Low standardized test scores of target school students are evident in the state's report related to the Explore and Plan 2009-10 data. All target school ratings for the Plan assessment are below the national rate. These two assessments were mandated by Senate Bill 130 in the 2006 KY General Assembly. The assessments are provided by ACT, Inc. and are designed to focus schools on meeting academic standards across the entire secondary school program.

Table A9: Low Standardized Test Scores of Enrolled Target School Students from the 2009-10 Academic Year for ACT's Plan (10th Grade) and Explore (8th Grade) Assessment [643.21(a)(6)]*

Target Schools	English%	Mathematics%	Reading %	Science %	Composite%
<u>PLAN</u>					
Clay County HS	14.5	15.7	16.0	17.0	15.9
Estill County HS	15.4	15.4	15.8	17.1	16.1
Garrard County HS	15.1	15.7	14.9	16.8	15.8
Jackson County HS	14.5	15.0	15.3	16.9	15.6
Lincoln County HS	15.5	15.9	15.7	17.0	16.1
Madison Central HS	15.9	16.5	16.5	17.7	16.8
KY	15.8	16.5	16.2	17.6	16.7
U.S.	16.9	17.4	16.9	18.2	17.5
<u>EXPLORE</u>					
Clay County MS	12.4	12.9	13.5	15.0	13.6
Estill County MS	12.8	14.8	13.6	15.9	14.4
Garrard County MS	14.7	14.8	14.3	16.0	15.1
Jackson County MS	12.9	14.1	13.5	14.8	13.9

Lincoln County MS	14.4	15.5	14.3	16.2	15.2
Lincoln County 6 th Grade Center	N/A	N/A	N/A	N/A	N/A
B. Michael Caudill MS	14.5	15.1	14.4	16.4	15.2
Clark-Moores MS	15.1	15.1	14.9	16.4	15.5
Madison MS	13.0	13.6	13.1	14.9	13.8
KY	14.0	14.9	14.2	16.1	14.9
U.S.	14.2	15.1	13.8	15.9	14.9

*KDE, "KY Core Content Test (KCCT), Content Area Performance 2007-10," 9/23/10.

The 2009-10 KY Senior classes were the first class to be reviewed for college/career readiness. The KY Council on Postsecondary Education (CPE) System wide Benchmarks on the ACT indicator includes students meeting benchmarks for Reading (20), English (18), and Mathematics (19) on any administration of the ACT.

The KDE reports show that the state average for college/career readiness was 34% in comparison to the target area average of 26.3%. Five of ETS's six target high schools fared worse: Clay-24%, Estill-26%, Garrard-27%, Jackson-17%, Lincoln-27%, and Madison-37%.¹³

2. High ratio of students to school counselors in the target schools [643.21(a)(6)]

The total number of students in target schools is 10,473 with the average ratio of students per counselor at 455/1 as shown in Table 8. In comparison, the recommended ideal ratio of the American School Counselor Association is 250/1. In the target schools these numbers become even more alarming where they range from 287/1 to an extreme high of 858/1. School counselors cannot be as effective with these unreasonable caseloads.

Additionally target school counselors may be called upon, not only to schedule, but to also teach classes. These added duties on top of counseling responsibilities sadly change their role from proactive to reactive. ETS is able to be proactive, reaching out to students and nurturing academic confidence by teaching them the skills necessary for academic success. With its lower student/counselor ratio (196/1) ETS ensures that all participants get the attention and

information they need in order to complete secondary education, pursue, and complete postsecondary education.

Table A10: High Ratio of School Counselors in Target Schools for 2009-10 Academic Year*

Target Schools	Grades Served	Total Enrollment	Number of Counselors
Clay County High School	9 – 12	929	2
Clay County Middle School	7 – 8	527	1
Estill County High School	9 – 12	703	2
Estill County Middle School	6 – 8	527	1
Garrard County High School	9 – 12	858	1
Garrard County Middle School	6 – 8	622	1
Jackson County High School	9 – 12	645	2
Jackson County Middle School	6 – 8	457	1
Lincoln County High School	9 – 12	1117	3
Lincoln County Middle School	7 – 8	634	1
Lincoln County 6 th Grade Center	6	287	1
Madison Central High School	9 – 12	1699	4
B. Michael Caudill Middle School	6 -- 8	512	1
Clark-Moores Middle School	6 – 8	506	1
Madison Middle School	6 – 8	450	1
Target School Totals		10,473	23
Target School Ratio		455/1	
American School Counselor Association Recommended Ratio		250/1	
ETS Ratio		196/1	

*Target School Superintendent Office Reports, December 2010; The American School Counselor Association’s “The Role of the Professional School Counselor” revised 2009.

3. Unaddressed academic or socio-economic problems of eligible individuals, including foster care youth and homeless children and youth in the target schools or the target area [643.21(a)(6)]

Isolation due to the rural setting of the ETS target area prevents eligible individuals, including foster care youth and homeless youth, from having easy access to activities and

services that would benefit their well-being and educational advancement. The target area is spread over 2,079 square miles where 75% is rural and 25% is urban (see Table IF3a). The topography varies from gently rolling hills to the steep foothills in the Appalachian Mountains. Small farms are scattered throughout the counties and small towns serve as county seats.

Table A11: Target Area Demographics [643.21(A)(6)*

Target County	Rural %	Urban %	Total Population	County Size in Square Miles
Clay	80.9	19.1	23,930	471
Estill	72.5	27.5	14,948	254
Garrard	73.3	26.7	17,021	231
Jackson	100	0	13,645	346
Lincoln	80.4	19.6	25,072	336
Madison	41.4	58.6	82,192	441
Total/Average	74.75	25.25	176,808	2,079

*KY Deskbook of Economic Statistics 2009” “Population Estimates for KY Counties = 2008”; “Rural and Urban Population for KY Counties – 2000”; “KY Land Area and County Seats: 2000”

Description of the target schools in terms of low-income population, homeless and foster care student numbers, distance from the institution, and proposed numbers of students to be served are found in Table IF3d. The number of in-school participants to be served includes approximately 291 sixth - eighth graders and 486 ninth - twelfth graders. Approximately 10 out-of-school participants are to be served which will not dilute the services to in-school participants.

Table A12: Target School Data for 2009-10 Academic Year*

Target School	Miles from XXX	Homeless Student #'s	Foster Care Student #'s	Low-Income Students (#'s & %'s)	Student #'s to Serve
Clay County HS	72	65	14	773 = 83.21%	80
Clay County MS	72	4	1	445 = 84.4%	39

Estill County HS	23	20	Not avail.	460 = 65.43%	80
Estill County MS	23	34	Not avail.	357 = 67.74%	45
Garrard County HS	24	33	10	393 = 45.80%	80
Garrard County MS	24	12	4	322 = 51.77%	45
Jackson County HS	39	24	1	501 = 77.67%	80
Jackson County MS	39	44	2	367 = 80.31%	45
Lincoln County HS	33	12	2	698 = 62.49%	80
Lincoln County MS	33	16	8	436 = 68.77%	30
Lincoln County 6th	33	7	0	197 = 68.64%	15
Madison Central HS	2	0	26	866 = 50.97%	86
B.Michael Caudill MS	3	0	4	276 = 53.91%	24
Clark-Moores MS	3	1	8	308 = 60.87%	24
Madison MS	1	0	7	299 = 66.44%	24
Totals/Percentage		272	87	6,698 = 68.7%	777

*Target School Superintendent Office Reports, December 2010.

ETS has remained true to its commitment to seek out and serve truly high-risk individuals with identifiable potential. ETS has continually sought to establish high standards of achievement among its participants in spite of persistent economic problems, lack of resources, low graduation rates and an ever-growing pool of eligible participants. The continued need for ETS services is evident. As ETS impacts each individual, our nation will ultimately benefit.

III. PLAN OF OPERATION [643.21(c)]

A. Plan to inform the residents, schools, and community organizations in the target area of the purpose, objectives, and services of the project and the eligibility requirements for participation in the project [643.21(c)(1)] and GEPA [PUB.L.103-382]

ETS has a comprehensive plan to inform residents, schools and community organizations in the target area of the purpose, objectives and services of the project and eligibility requirements for participation in the project. ETS's informational plan uses available avenues of: television, newspaper, radio, Internet, promotional materials and displays, referral networks,

mailings, the ETS website and personal contact. Any publicity material used by ETS (brochures, posters, student handbook) displays the address, phone numbers and website address, making all materials recognizable by association to ETS. ETS continues an excellent relationship with residents, schools and community organizations within the target area. ETS has a comprehensive working relationship with XXX's community, particularly with administrative offices where ETS reports and with academic departments whose members participate in ETS's Speaker's Bureau. Table IIIA1, gives a review of the 29 activities for providing ETS information to residents, schools, community organizations, and institutional community.

Table A13: Plan to Inform Residents, Schools, and Community Organizations

	Residents	Schools	Community Organizations	*Institutional Community
Submit announcements, articles, press releases or information to radio stations, television stations, talk shows, local newspapers, school newspapers and websites of ETS and target schools.	X	X	X	X
Place posters, brochures or information sheets in strategic places in libraries, community centers and community agencies.	X	X	X	X
Attend target school open houses at the beginning of each school year, to meet with community residents, ETS participants and parents.	X	X	X	
Visit with county officials as needed.	X	X	X	X
Talk with residents who attend ETS parent meetings.	X	X		
Distribute the student handbook to participants, and encouraging them to share it with relatives and friends so they may become familiar with ETS.	X			
Offer one-on-one dialogue with individuals wanting to learn about ETS.	X	X	X	X
Explain its program at Evening Financial Aid Workshops for parents and seniors.	X	X		
Attend community resource expos and events in target counties to display ETS information.	X	X	X	
Participate in target school in-service trainings, faculty meetings, principal meetings or site-based meetings, when appropriate.		X		
Mail brochures, student and parent newsletters, handbook, scheduled events, announcements and publicity information.	X	X	X	X
Mail yearly report to superintendents and principals.		X		
Meet with the principal and/or counselor of each target school once during the year.		X		

Attend college/career fair activities hosted in the target schools when feasible.	X	X		
Provide bi-monthly ETS Faculty Flyers to target school teachers during the academic year that provide program activity information and a current list of participant names.		X		
Request inclusion in daily announcements where applicable.		X		
Provide ETS program synopsis.	X	X	X	X
Maintain close communications with school personnel and encourages them to view and use the ETS website.		X		
Talk with individuals, visits and/or makes formal presentations to requesting groups, service agencies, civic organizations, clergy, youth serving institutions or any other referral agencies.	X	X	X	X
Inform its Advisory Board members through mailings and an annual meeting.	X	X	X	X
Continue collaboration with referral agencies that work in unison with ETS participants.		X	X	X
List its program in area directories.	X	X	X	X
Has phone contact and visits to administrative and/or academic departments at postsecondary educational and vocational schools.				X
Leave brochures and information sheets with appropriate staff members at the time of postsecondary school visits.				X
Attend college night activities and talks with postsecondary institution representatives.				X
Submit information to University publications (i.e. University newspaper and the online Update posted daily).				X
Maintain open communication with the Director of University Programs in regards to all ETS activities through meetings, reports and newsletters.				X
Involve college students on "College Life" panels who share ETS information with fellow college students so they may learn more about ETS and participate in college life panels.		X	X	X

*Institutional Community consists of XXX and other postsecondary institutions.

B. Plan to identify and select eligible project participants.[643.21(c)(2)]

ETS has an accurate plan for the identification and selection process of eligible participants meeting requirements from the U.S. Department of Education General Education Provisions Act (GEPA). ETS ensures participation without regard to race, color, religion, sex, sexual orientation, disability, national origin, veteran status or genetic information. Identification and selection of ETS participants is ideally initiated at the sixth grade level for those who are at least 11 years of age (seventh grade level in Clay County explained in the Need Section).

Individuals eligible to participate in the ETS project must be at least 11 years of age but not more than 27 years of age, however, an individual who is more than 27 years of age may participate in ETS if there is no Educational Opportunity Center (EOC) funded to serve the target area. This ETS program serves out-of-school (OOS) participants from Clay, Garrard, Lincoln and Madison counties upon request or referral; ETS's other two counties (Estill and Jackson) are served by a currently funded EOC. Should the currently funded EOCs not be refunded, ETS would provide services to these two counties.

A veteran as defined in 643.6(b) regardless of age is eligible to participate in ETS.

ETS identifies and selects those individuals who have postsecondary potential, show a need for ETS services and who meet the eligibility requirements of low-income and first generation status which is at least two-thirds of the total number served. Target schools, community organizations and agencies are thoroughly informed of these requirements.

ETS recruitment presentations are done primarily with sixth grade students, but also for other grade levels when needed, as a means of identifying an eligible pool. Services and benefits of ETS are presented via classroom presentations, lunch-time videos, display boards, and individual meetings. Interested students complete and submit an application request after ETS information is shared. An ETS application, including income verification, needs assessment, and academic records release, is then mailed to the student's parent/guardian. Upon completion, the application and requested paperwork is mailed to the ETS Office in a postage paid envelope.

The application identifies potential eligibility based on age, citizenship and low-income/first-generation criteria. If physical, learning or emotional disabilities are divulged by the participant, appropriate services and facilities can be coordinated. Target school personnel (principals, counselors, teachers, and staff) are made aware of ETS eligibility guidelines and

services through presentations at faculty/staff meetings, the ETS Information Packet, and individual meetings. ETS staff work closely with school personnel in the identification of potentially eligible participants. A person may also access the ETS application via the ETS website as the initial office contact.

Community agencies also aid in identifying potential ETS participants. Referred individuals complete an ETS application, income form, academic records release, publicity permission form, and needs assessment. Referral agencies in the target area are provided ETS eligibility information and the ETS synopsis of services to give a thorough understanding of the requirements for participation. In addition, all ETS participants are selected without regard to race, color, national origin, gender, disability, or sexual orientation. The Vocational Rehabilitation offices work closely with ETS to assist participants with disability needs. ETS is also listed in area directories to assist agencies and residents who wish to refer individuals to ETS. Other outreach methods that can be used to raise awareness of ETS are radio/television announcements and the ETS website.

The greatest number of participants are carried over from year to year until secondary completion and postsecondary enrollment, however, some individuals are identified and selected to fill vacancies by those who discontinue participation in ETS (such as by moving out of the target area, or selection into the Upward Bound Program).

Selection of ETS participants is based on postsecondary potential and the need for ETS. Documentation for selection is based on current reported grades and need for services, according to federal guidelines at the time of application, as shown in Table IIIB.

Table A14: Selection Documents Maintained in Participant's Folder (one or more)

	Signature	Official Documentation	Referral
Academic Potential	Parent/Guardian Application Validation	Transcript, Grade or Progress Report	School personnel, community agency
First Generation	Parent/Guardian Application Validation	Court Guardianship	School personnel, community agency
Low Income	Parent/Guardian Application Validation	Federal Taxable Income, Court Guardianship	School personnel, community agency

Each Educational Coordinator (EC) or the Assistant Director (AD) makes the final selection of applicants to be accepted from the portion of the target area they serve. The Director then approves the applicant's paperwork before an acceptance packet is mailed to them.

The ETS Senior Office Associate (SOA) maintains a waiting list of eligible applicants with potential and need. A letter is sent to the applicant so they know their current status.

C. Plan for providing the services delineated in (643.4) as appropriate based on the project's assessment of each participant's need for services. [643.21(c)(3)]

ETS assesses each participant's need for services provided by the project. A needs assessment is completed as part of the application process, then annually thereafter. In recognition of the importance of consistent and on-going monitoring, any participants who are absent from school on the workshop day are contacted shortly thereafter to complete a needs assessment. ETS recognizes there are different needs for different age groups and has a middle school, high school and OOS needs assessment in place.

The needs assessment addresses the following areas: academics, college preparation, career exploration, personal development and financial assistance information for postsecondary education. The needs assessment identifies each participant's strengths and weaknesses and allows for project planning (i.e. supplemental workshops if needed). Also considered in the needs assessment are applicant responses of their academic history, standardized testing scores (such as PLAN and ACT) and classes meeting the KY pre-college (rigorous) curriculum. Family

situations and additional information provided by other educational and community professionals working with the applicant are also considered. Information from all or some of these sources establishes the student's needs. Contact notes are maintained for each participant via the ETS computer database and in each participant's ETS folder.

ETS schedules a minimum of two days per month to visit in each target school. One day each month is scheduled to meet with participants in groups, by grade level, to provide workshops. These workshops are developed based on needs at particular grade levels, (see ETS Workshop Calendars in Table III Ea). During second meeting each month, EC's meet with participants and/or parent/guardian can meet to discuss concerns, needs, academic weakness, improvement recommendations, and completion of postsecondary applications on an individual basis. After initial visits take place in September, EC's begin to note contacts in each participant's folder. Reports from school personnel of any problems ETS participants are having at school are reviewed and addressed at that time with an appropriate plan of action. Referrals are made to local social service agencies or community support groups if needed. ETS will continue to accommodate individuals with disabilities and is committed to provide equal access to services, per GEPA regulations.

Table A15: ETS Addresses Required and Permissible Services [643.4(A1-6)(B1-8)]

643.4(a)(1) - Connections for participants to high quality academic tutoring services to enable the participants to complete secondary or postsecondary courses.	
All grades 6 - 12	Maintenance of comprehensive target school & community tutoring information on the ETS website. Provide assistance to participants in connecting with quality tutoring at target school or within community. Provide tutorial curriculum workshops.
643.4(a)(2) - Advice and assistance in secondary school course selection and, if applicable, initial postsecondary course selection.	
Grade 8, 9, 10, 11	KY Pre-College Curriculum Workshops
Grade 8	High School Survival Workshop
Grade 10, CC*, CRC*	KHEAA* Know How to Go Workshop
Grade 10	College Prep Jeopardy Workshop
Grade 11	Jump Start/Duel Credit/AP Classes Information Workshop

Grade 12 OOS*	Choosing a College Major & Postsecondary Survival Workshops Individual meetings, connections, and referrals	
643.4(a)(3) - Assistance in preparing for college entrance examinations and completing college admission applications.		
Grade 9 Grade 10 Grade 11 Grade 12 CRC & OOS	PLAN, PSAT, ACT, & Test Taking Workshops Critical Thinking Workshop ACT Preparation & Essay Writing Workshops College Admission & Scholarship Applications Workshop ACT Practice Test	
643.4(a)(4)(i) - Information on the full range of Federal student financial aid programs and benefits (including Federal Pell Grant awards and loan forgiveness) and on resources for locating public and private scholarships.		
CC & CRC Grades 8, 9, 10, 11 Grade 10 Grade 11 Grade 12 Grade 12 & Parents OOS	Financial Aid for Postsecondary Education KY Educational Excellence Scholarship College Prep Jeopardy Workshop It's Money Baby Workshop Financial Aid & Free Application for Federal Student Aid Workshop Evening Financial Aid (KHEAA) Workshop Individual assistance and guidance	Materials used include federal and state (KHEAA) publications.
643.4(A)(4)(ii) - Assistance in completing financial aid applications, including the Free Application for Federal Student aid (FAFSA).		
Grade 12 Grade 12 & Parents OOS	Financial Aid & FAFSA Workshop, individual assistance with financial aid applications, distribution of state and regional scholarship applications, Evening Financial Aid (KHEAA) Workshop Individual assistance with financial aid applications	
643.4(a)(5)(i) - Guidance on and assistance in secondary school reentry.		
Grade 9, 10, 11, 12	Individual meetings and guidance	
643.4(a)(5)(ii) - Guidance on and assistance in alternative education programs for secondary school dropouts that lead to the receipt of a regular secondary school diploma.		
Grade 9, 10, 11, 12	Individual meetings and guidance.	
643.4(a)(5)(iii) - Guidance on and assistance in entry into general educational development (GED) programs		
Grade 9, 10, 11, 12, OOS	Individual meetings and guidance	
643.4(a)(5)(iv) - Guidance on and assistance in entry into postsecondary education		
Grade 12 & OOS	All workshops and individual meetings	
643.4(a)(6) - Connections for participants to education or counseling services designed to improve the financial and economic literacy of the participants or the participants' parents, including financial planning for postsecondary education.		
CC & CRC CC, HSC, Grade 10 Grade 11	Financial Aid for Postsecondary Education KY Know How to Go It's Money Baby (presented by KHEAA)	

Grade 12 & Parents All Grades All Parents	Financial Aid & FAFSA (federal and state materials used) Student Newsletter - Financial component Parent Resource Guide – Financial component	
643.4(b)(1) - Academic tutoring, which may include instruction in reading, writing, study skills, mathematics, science, and other subjects.		
Grades 6, 7, 8 Grade 6 Grade 7 Grade 8 Grade 9 Grade 10 Grade 11 Grade 12	Learning Styles Inventory Writing, Textbook Reading & Interpreting Visual Aids Note Taking, Budgeting Writing Skills Learning and Study Strategies Inventory, Study & Test Taking Critical Thinking, Time Management, ACT, Essay Writing Application & Scholarship Essay Writing	
643.4(b)(2) - Personal and career counseling or activities.		
Grade 6, 7, 9, 10, 11, CC, & CRC All Grades	Career Awareness & Inventory Activities Individual meetings allow for personal & career counseling	
643.4(b)(3) - Information and activities designed to acquaint youth with the range of career options available to youth.		
All Grades Grade 7, 9, 11 Grade 10 All Grades	Family Career Day & College/Career Site Field Trips Holland Career Code & Category Identification Career Exploratory Student Newsletter – Career Component	
643.4(b)(4) - Exposure to the campuses of institutions of higher education, as well as to cultural events, academic programs, and other sites or activities not usually available to disadvantaged youth.		
All Grades & Parents All Grades CC & CRC	Family Career Day Field Trips Summer camp	Campus tour, college fair, cultural events Campus & cultural site tours Campus living, dining, tour, academics, cultural activity
643.4(b)(5) - Workshops and counseling for families of participants served.		
All Grades CC & CRC Parents	Family Career Day, individual meetings as needed Camp Closing Ceremonies Parent/Teacher Conferences at target schools, Evening Financial Aid/FAFSA Workshop	
643.4(b)(6) - Mentoring programs involving elementary or secondary school teachers or counselors, faculty members at institutions of higher education, students, or any combination of these persons.		
Grade 8 & 9 All Grades, CC, CRC Grade 12	High School Mentors, High School Panel Workshop Family Career Day, Field Trips - college student & faculty mentors College Life Panel – college student mentors	
643.4(b)(7) - Programs and activities as described in this section that are specially designed for participants who are limited English proficient, from groups that are traditionally underrepresented in postsecondary education, individuals with disabilities, homeless children and youths, foster care youth, or other disconnected participants.		

All Grades & Parents	Spanish version of ACT and KHEAA Publications, Deaf Interpreters provided by the XXX American Sign Language Department for hearing impaired. Career publication including those targeting special populations (Black Collegian, Saludos Hispanos, Careers and the Disabled). Scholarships for underrepresented populations.
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*CC – Camp Chameleon (8th grade), CRC – College Readiness Camp (9th – 12th grades), KHEAA – KY Higher Education Assistance Authority, OOS – Out of school individuals.

Academic Year Activities (Highlights and Special Focus Activities): ETS participants have two contacts available to them per month during the academic year. The first meeting is to provide progressive workshops developed by grade level (see Table III Ea, Workshop Calendars). The second monthly meeting is for individual and small group meetings for advising. ETS participants sign up to meet with their EC individually or in small groups for addressing needs for special projects such as completing financial aid forms. On occasion, target schools request additional assistance. ETS has the flexibility to accommodate extra school visits when participant and/or parental needs occur.

Special focus activities enhance the ETS curriculum. September’s workshop involves the annual individual needs assessment completion, grade level ETS workshop curriculum pre-test, orientation for ETS academic activities for all grade levels. In addition, a learning style inventory is administered to participants in grades 6 through 8, and pre-college curriculum is the focus for participants in grades 9 through 11. Two specific workshops during the academic year provide opportunities for development of peer mentor relationships. Mentors share important information that will assist in the success of an ETS participant’s education. The High School Survival Workshop for 8th graders includes a panel of ETS high school students who will share experiences and vital information about high school. The College Life Workshop provides ETS seniors the opportunity to speak with college students who have volunteered their time to share experiences and crucial information about college from a college student’s perspective

November and March are designated ETS field-trip months. Participants in each target county have the opportunity to register for their designated field trip to visit postsecondary education, career and/or cultural enrichment sites. These months are chosen due to target school testing schedules and inclement weather factors. ETS staff provides field trip supervision. Participants are mailed field trip notices which include a field trip schedule, permission for emergency medical treatment, and behavior agreement. ETS target schools receive an advanced list of names of participants registered to go on field trip.

Career information and awareness workshops are part of the curriculum for 6th, 7th, 9th, 10th, and 11th grades. Students have the opportunity to explore and identify their interests, skills and abilities with the use of the John Holland occupational interest categories.

A Family/Career Day is scheduled for participants and parent/guardians on one Saturday during the academic year. Postsecondary institutions and community speakers participate and the University allows ETS participants and staff to attend an athletic/cultural event at no cost.

Evening Financial aid workshops are scheduled December - February for ETS participants and their parents or guardians. Guest speakers discuss federal, state, and private financial aid programs and scholarships options. The Free Application for Federal Student Aid (FAFSA) worksheet is distributed and reviewed. When computer labs are available in the schools, parents are given the opportunity to complete the FAFSA online during the evening workshop. ETS provides dates, times, and locations to participants and parents regarding the national event, College Goal Sunday. In KY, College Goal Sunday is sponsored by the KY Association of Student Financial Aid Administrators (KASFAA). It is funded by the Lumina Foundation for Education, the YMCA, and KnowHow2GoKY.org. ETS staff meets individually

with participants and or parents in an effort to assist with completing the FAFSA, other financial aid paperwork, as well as scholarship applications.

During the month of April and May, participants are administered the grade level ETS workshop curriculum post-test, and program evaluation.

APPENDIX D
EDUCATIONAL TALENT SEARCH STUDENT APPLICATION



Educational Talent Search APPLICATION

RETURN APPLICATION & DOCUMENTS TO:
 Educational Talent Search Program
 129 Keith Building, 521 Lancaster Avenue
 Eastern Kentucky University, Richmond, Kentucky 40475
 Phone: 859-622-5425 FAX: 859-622-5033

Complete (BOTH SIDES) of Application with REQUIRED signatures & dates, noted by "★".

Student's Full Name _____ Goes by _____
 Social Security No. _____ - _____ - _____ Gender ()Male ()Female
 Marital Status ()Single ()Married Birth Date ____/____/____ Age ____
 Mailing Address _____ City _____ Zip Code _____
 Home Phone (____) _____ Student Cell Phone (____) _____
 Student E-mail Address _____

School _____ Last Grade Completed ____ Entering or Current Grade ____
 Grade Point Average (GPA): _____ or Most recent grades in classes: A's B's C's D's F's
 Anticipated High School Graduation Year: _____

STUDENT IS: (select one)

- A U.S. Citizen, A Permanent Resident of the U.S.
- In the U.S. for other than temporary purpose (must provide evidence of intent to become permanent resident),
- A permanent resident of Guam, The Northern Mariana Islands, or Trust Territory of Pacific Islands (Palau), or
- A resident of the Freely Associated States, Federated States of Micronesia or Republic of the Marshall Islands.

ETHNIC BACKGROUND (Ethnic information is for statistical summaries only, and will not be a factor in program eligibility). Check all that apply

- African American/Black Asian American Indian/Alaskan Native Hispanic/Latino
- Caucasian/White Native Hawaiian/Pacific Islander Specify Other _____

I understand I can only participate in one TRIO Program at a given time (Educational Talent Search, Upward Bound, or Upward Bound Math Science).

- I am not a participant in any TRIO Program.
 - I have participated in another TRIO Program, but wish to transfer to the ECU Talent Search Program.
- Indicate TRIO Program in which you have participated: _____

SCHOOL AGE SIBLINGS IN THE HOME	AGE	GRADE	CURRENT SCHOOL	Office Use

FOR OFFICE USE Received _____ Hold Until _____ Accept Date _____

Comments _____ 2/3RD LI FG OTH NE

Coordinator _____ Director _____

Student Lives With: *(Parent is defined as biological or adoptive parent)*

- () Both Parents () One Parent () Parent & Step-parent
 () Foster Guardian-**attach Court Document** () Legal Guardian-**attach Court Document**
 () Other—Specify relationship _____ - **attach Educational/Medical Rights**

Parent/Guardian with whom student lives	Parent/Guardian with whom student lives
Name: _____	Name: _____
Email Address _____	Email Address _____
Cell Phone _____	Cell Phone _____
Employer _____	Employer _____
Work Phone _____	Work Phone _____
This parent has a 4-year college degree: YES NO	This parent has a 4-year college degree: YES NO

CURRENT MARITAL STATUS of Parent/Guardian with whom the student lives:

___ Single ___ Married ___ Separated ___ Divorced ___ Widowed ___ Domestic Partner

Additional Emergency Contact Person

Name _____ Relationship to Student _____ Phone _____

As an ETS parent/guardian, I would like to:

- ◆ be on the ETS County Action Team. YES NO
- ◆ receive ETS Parent/Guardian Information via email. YES NO

EDUCATIONAL PLANS

- ___ I plan to continue my education beyond high school.
- ___ I am undecided about my future educational plans.
- ___ I presently have no plans to continue my education beyond high school.
- ___ I presently have no plans to complete high school.

I am interested in attending the following:

- ___ College or University
- ___ Community College
- ___ Business College
- ___ Technical/Vocational College
- ___ Proprietary School (i.e., Hair Design)
- ___ Other (specify) _____

EDUCATIONAL TALENT SEARCH INITIAL NEEDS ASSESSMENT

Please check all topics for which you would like to receive information, counseling, or assistance:

- ___ Goal Setting ___ Learning Styles Inventory
- ___ Study Skills / Test Taking Techniques
- ___ Referral & connection to Academic Tutoring
(specify subject) _____
- ___ Career Choices / Life Planning
- ___ Classes to take in high school & Pre-college Curriculum
- ___ Field Trips to explore colleges & career sites
- ___ Match-up with an ETS Student Mentor
- ___ College Selection ___ College Entrance Test Preparation
- ___ College Admission Requirements
- ___ College Financial Aid & Scholarships
- ___ Personal Counseling
- ___ Other (specify) _____

Applicant has the abilities and interest to pursue academic classwork that will lead to continuing my education after high school. Applicant is interested in becoming an ETS Scholar, and participating in the ECU Educational Talent Search (ETS) Program activities and events.

★ STUDENT SIGNATURE _____ DATE _____
 ★ PARENT/GUARDIAN SIGNATURE _____ DATE _____

CONFIDENTIAL FAMILY INCOME AND INFORMATION

EDUCATIONAL TALENT SEARCH PROGRAM - EASTERN KENTUCKY UNIVERSITY
 129 Keith Building, 521 Lancaster Avenue, Richmond, Kentucky 40475-3102
 PHONE: 859-622-5425 FAX: 859-622-5033 Web Address: www.ets.eku.edu

(TO PARENT/GUARDIAN): We are required by the U.S. Department of Education to obtain family income and other eligibility information from all participants served by the Educational Talent Search (ETS) Program. Please complete the following and return this and all requested documents to the ETS Program Office. All information will be held in strict confidence.

STUDENT'S FULL NAME _____ SOCIAL SECURITY NO. _____

SCHOOL _____ GRADE _____ BIRTH DATE _____

YES NO Student is a participant in the school free lunch program.

YES NO A biological/adoptive parent (with whom the child lives) has baccalaureate/bachelor's degree. (If YES, indicate Parent's Name, College, & Degree earned, and Year below):

Parent's Name College Bachelor's Degree Earned Graduation Year

NUMBER OF PEOPLE LIVING IN HOUSEHOLD: _____ (including students away at college)
DID THE FAMILY FILE A FEDERAL INCOME TAX REPORT LAST YEAR? YES NO
 (If YES, complete Section A below left. If NO, Complete Section B, below right)

SECTION A:

Complete this side if family filed a federal income tax report for last year.

- Yes, a copy of last year's federal income tax report will be included with this application.
- Yes, a signature has been placed on the included tax form copy.

Indicate TAX FORM USED & TAXABLE INCOME from specific referenced line).

1040EZ (line 6) 1040-A (line 27) 1040 (line 43)

Family Size	Taxable Income (refer to "Taxable Income" line on tax form)
_____ 1	\$0 - \$16,755 _____
_____ 2	\$16,756 - \$22,695 _____
_____ 3	\$22,696 - \$28,635 _____
_____ 4	\$28,636 - \$34,575 _____
_____ 5	\$34,576 - \$40,515 _____
_____ 6	\$40,516 - \$46,455 _____
_____ 7	\$46,456 - \$52,395 _____
_____ 8	\$52,396 - \$58,335 _____

SECTION B:

Complete this side if family did not file a federal income tax report for last year.

Check all sources of income:

- SOCIAL SERVICES/K-TAP
- CHILD SUPPORT
- RETIREMENT
- UNEMPLOYMENT
- ALIMONY
- DISABILITY
- SOCIAL SECURITY/SSI/
SURVIVOR'S BENEFITS
- VETERAN BENEFITS
- OTHER (please specify)

DO YOU EXPECT ANY MAJOR DECREASE IN YOUR FAMILY INCOME THIS YEAR? (Unemployment, business or farm loss, divorce, death, major illness, etc.) YES (please attach written statement) NO

I verify by signing this document and submitting the requested documentation that the information I have provided is accurate to the best of my knowledge. I understand that this information will be held in complete confidence by the Educational Talent Search (ETS) Program at Eastern Kentucky University.



PARENT/GUARDIAN SIGNATURE _____ DATE _____

PUBLICITY PERMISSION FORM (optional)

Educational Talent Search Program - Eastern Kentucky University
129 Keith Building, 521 Lancaster Avenue, Richmond, Kentucky 40475-3102
Phone: (859) 622-5425 Fax: (859) 622-5033 Web Address: <http://www.ets.eku.edu>

I hereby authorize Eastern Kentucky University (EKU), The Educational Talent Search (ETS) Program, its employees, regents, and volunteers to record my likeness and voice on video, audio, photographs, digital, electronic medium, press releases, or other news sources and mediums (1) to recognize ETS participants and increase awareness about ETS services and activities; (2) To use the participants name with these recordings; (3) To use, reproduce, exhibit or distribute in any medium these recordings for any purpose EKU or ETS deems appropriate, including promotional or advertising efforts. Your signature below grants permission without any further consideration, for EKU and ETS to use photographs, student's name, school, writings, accomplishments, and other identifying information. **(Student names are not associated with any ETS student photo used on the ETS website without the expressed permission for the given photo).**

★ Student Signature _____ Date _____

★ Parent/Guardian Signature _____ Date _____

EDUCATIONAL RECORDS RELEASE (required)

Educational Talent Search Program - Eastern Kentucky University
129 Keith Building, 521 Lancaster Avenue, Richmond, Kentucky 40475-3102
Phone: (859) 622-5425 Fax: (859) 622-5033
Web Address: <http://www.ets.eku.edu>

I give permission for the Educational Talent Search (ETS) Program at Eastern Kentucky University, to have access to any educational records of:

_____ Student's Social Security Number
Print Student's Full Name

This information may be used to determine eligibility to receive full services from the Educational Talent Search (ETS) Program. It is my understanding that these records will be released only to those who have legitimate educational interest, or otherwise required by law to be disclosed by EKU.

★ Student Signature _____ Date _____

★ Parent/Guardian Signature _____ Date _____

APPENDIX E
PRE-COLLEGE CURRICULUM CHECKLIST

Planning for College

Precollege Curriculum Checklist

Source: Kentucky Department of Education

You need to take these classes if you plan to attend a four-year Kentucky public university.

Subject	Credits Required
Language Arts	4 credits: English I, II, III, IV or AP English
Mathematics*	3 credits: Algebra I, Algebra II, geometry
Science	3 credits: to include life science, physical science and earth/space science (at least one lab course)
Social Studies	3 credits: U.S. history, economics, government, world geography and world civilization
Health	1/2 credit
Physical Education	1/2 credit
History and Appreciation of Visual and Performing Arts	1 credit history and appreciation of visual and performing arts or another arts course that incorporates such content or students may earn the credit for specialization in an art form
Foreign Language	2 credits or demonstrated competency
Electives	7 credits (5 rigorous)*

* Students must take math all four years of high school. The fourth math class can be counted as an elective.

** Rigorous electives should have academic content at least as challenging as the courses required in the minimum diploma requirements. Electives should be in social studies, science, math, language arts, arts and humanities, foreign language, and above the introductory level in agriculture, industrial technology, business, marketing, family and consumer sciences, health sciences, and technology education and career pathways, Electives in physical education and health are limited to one-half unit each.

APPENDIX F
SAMPLE STUDENT ACTIVITY REPORT

Educational Talent Search Program
Eastern Kentucky University
Yearly Detail (Activities/ End of Year Status/ Forms/ APR Subject)

Student's Name

Students Phone

Fiscal Year	2011	Counselor	
Active	Yes	Advisor	
Served	Yes	Tutor	
Reported	Yes	College	
Participant Status	Continuing participant	College Type	
End Status	Graduated	College Year	0
Grade Standing	12th grade	College Date	//
School			

Activities	Component
Career Inventory Exploration	Academic
CASA - College & Scholarship Application Review	Academic
College Life Panel	Academic
College Tour	Academic
Financial Aid Wksp.	Academic
Goal Setting & Needs Assessment	Academic
Job Preparation	Academic
Other - Do Not Use	Academic
Personal Counseling	Academic
Post Secondary Survival Skill	Academic

End Status	
B2. Received regular secondary school diploma and completed a rig	
C. Enrolled in PSE or notified of deferred enrollment	

APPENDIX G

FREQUENCY AND DESCRIPTIVES HISTOGRAMS FOR STUDY VARIABLES

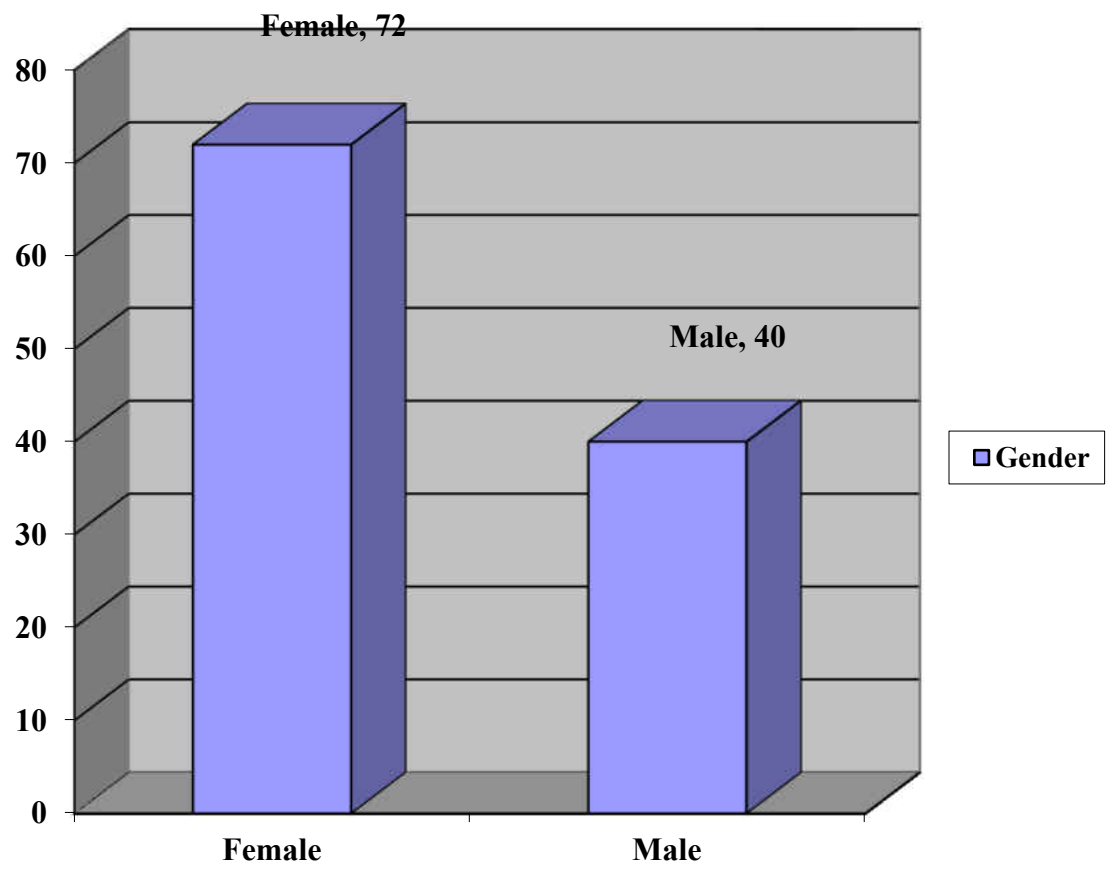


Figure A.1. *Gender Frequency*

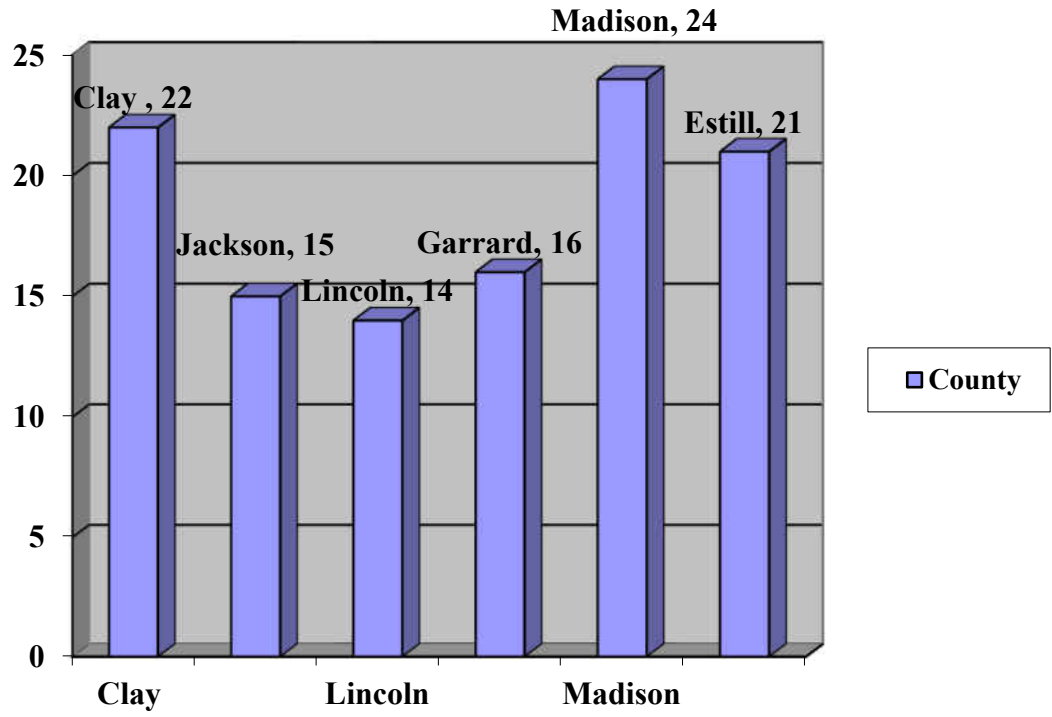


Figure A.2. *County Frequency*

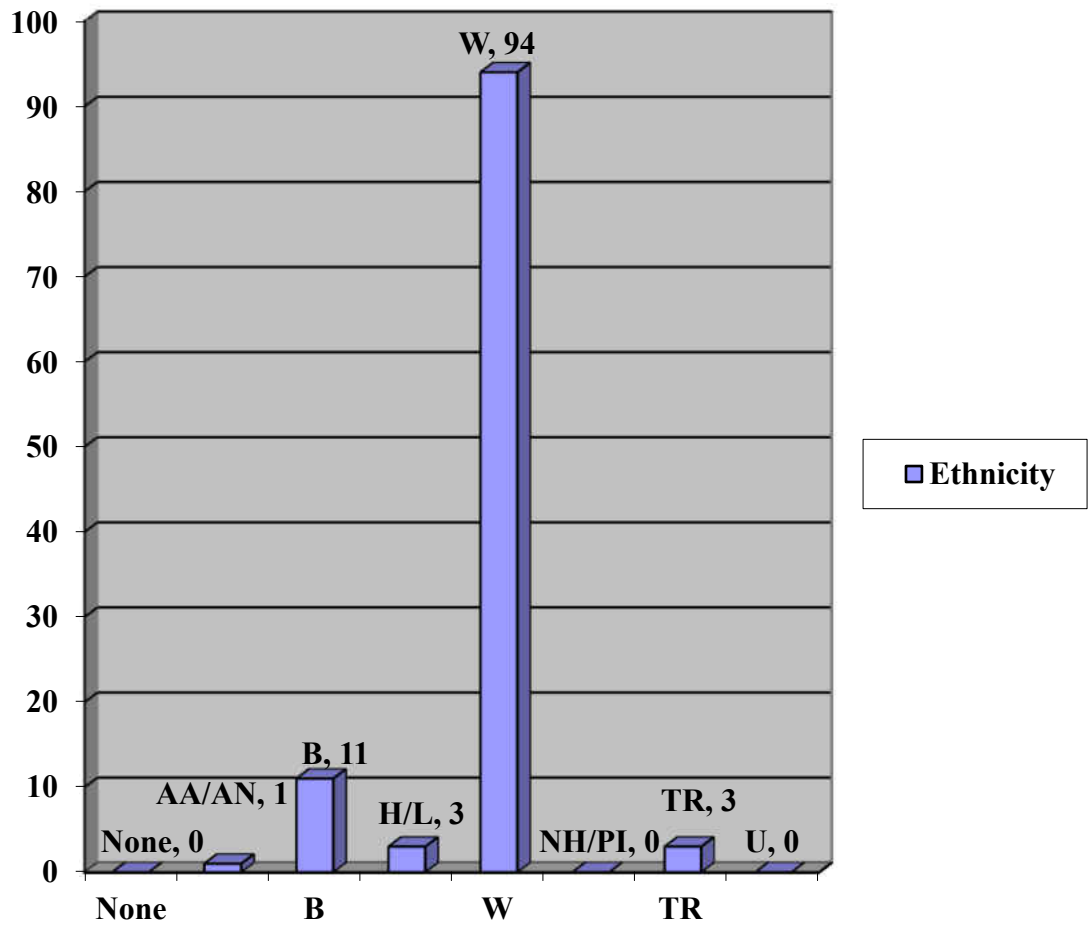


Figure A.3. *Ethnicity Frequency*

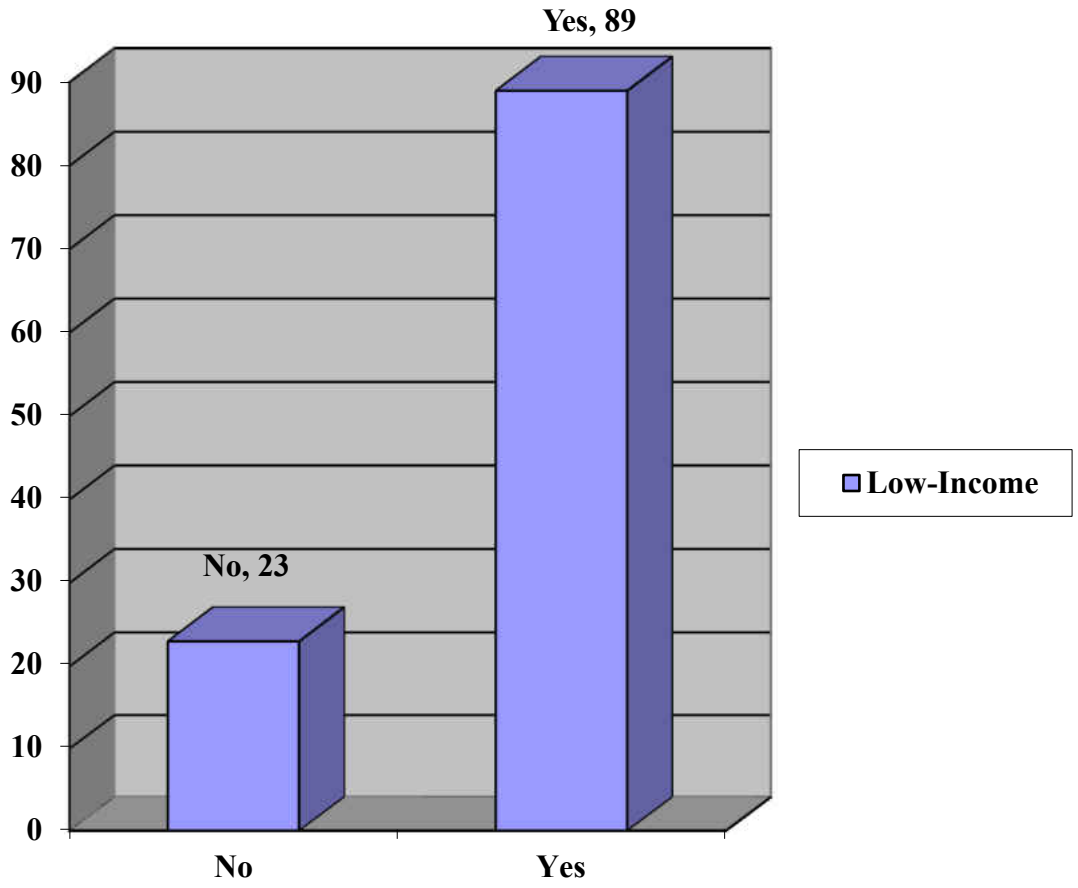


Figure A.4. *Low Income Frequency*

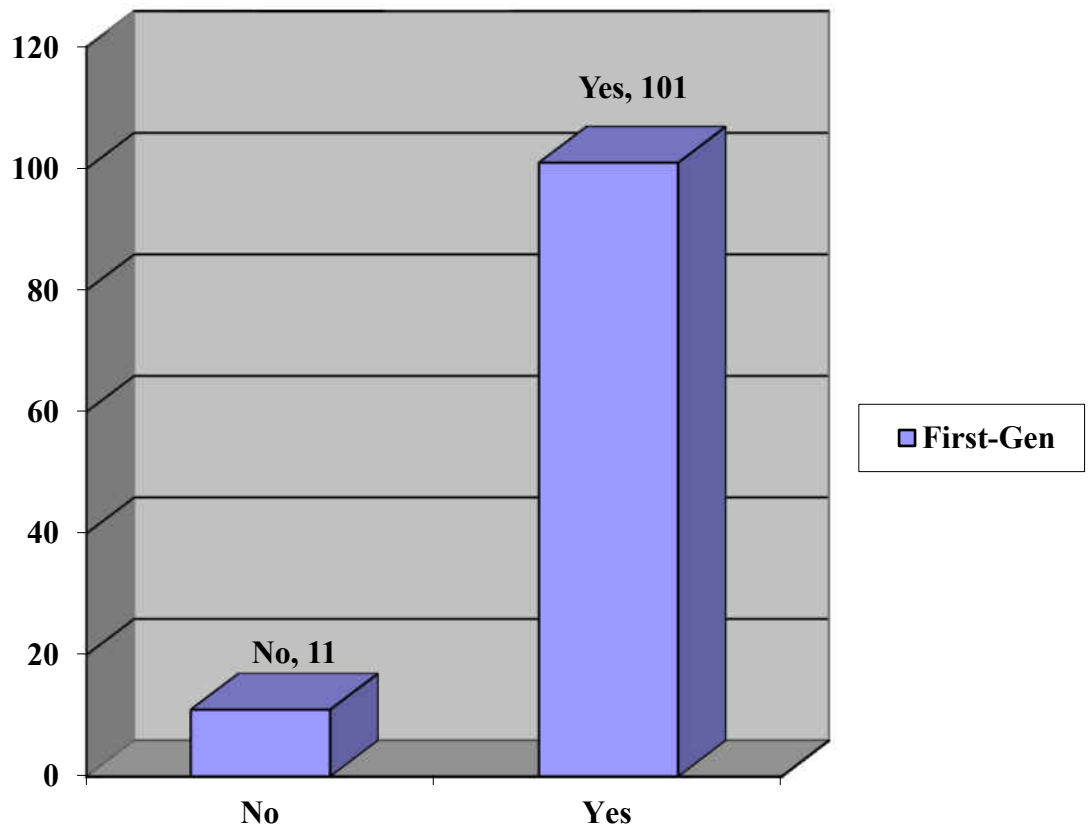


Figure A.5. First Generation Frequency

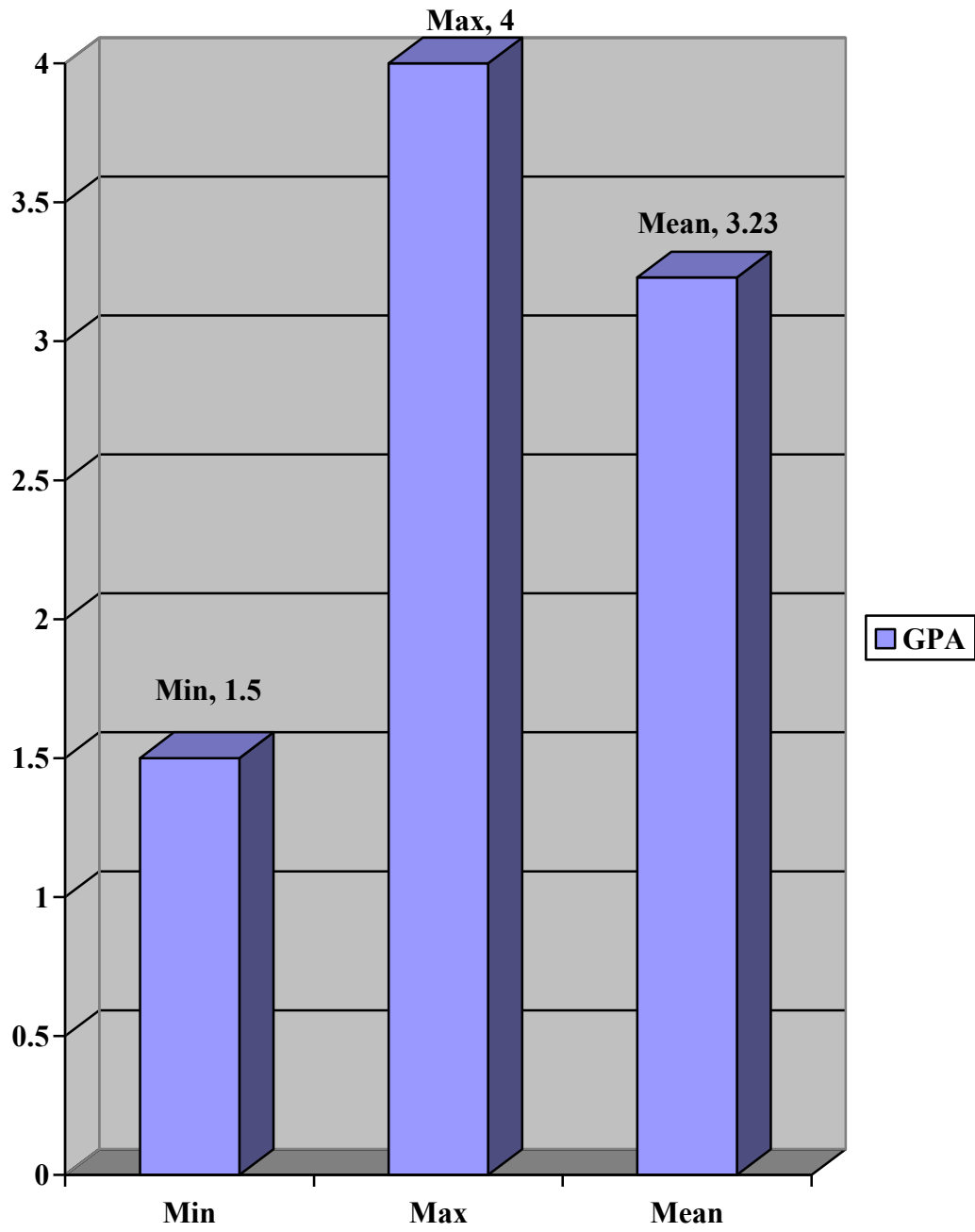


Figure A.6. GPA Descriptive

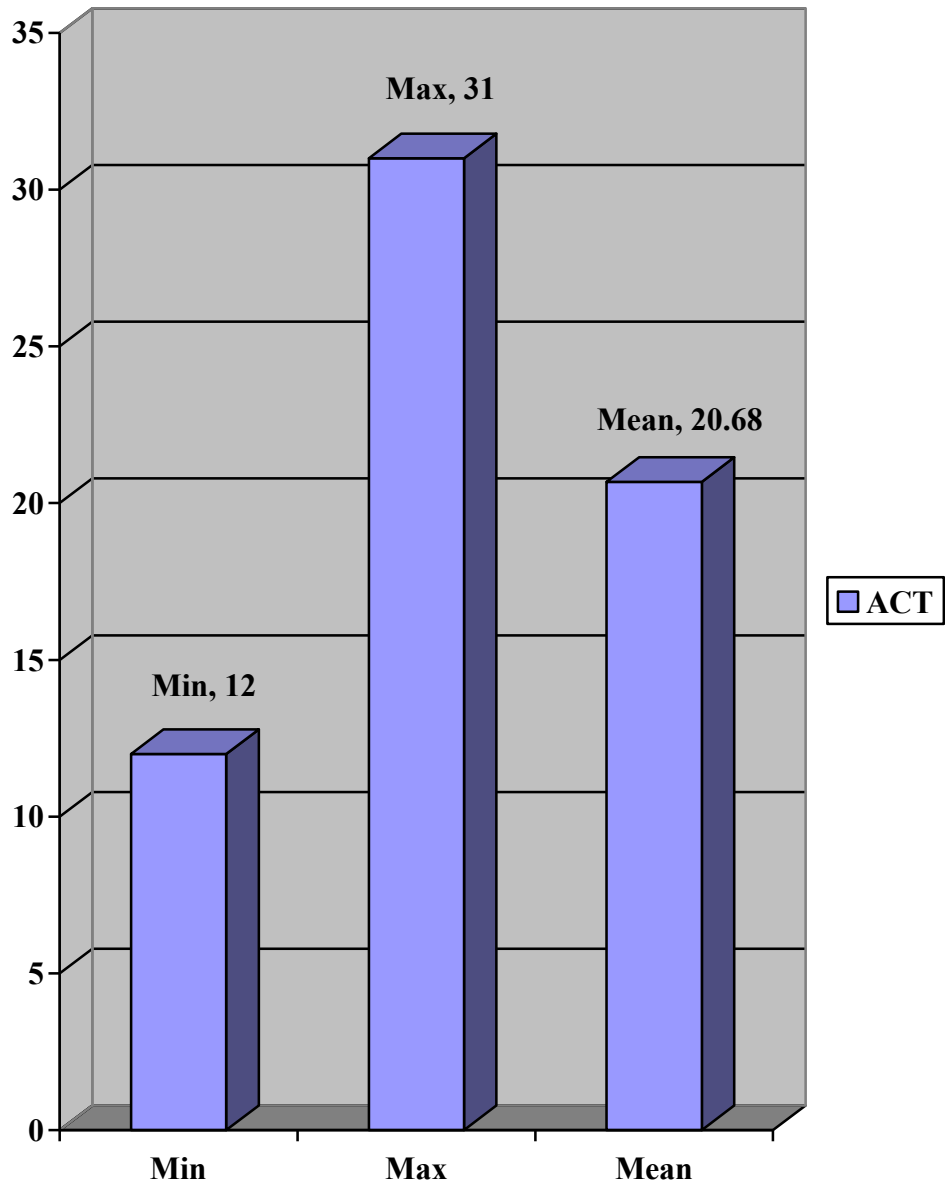


Figure A.7. *ACT Descriptive*

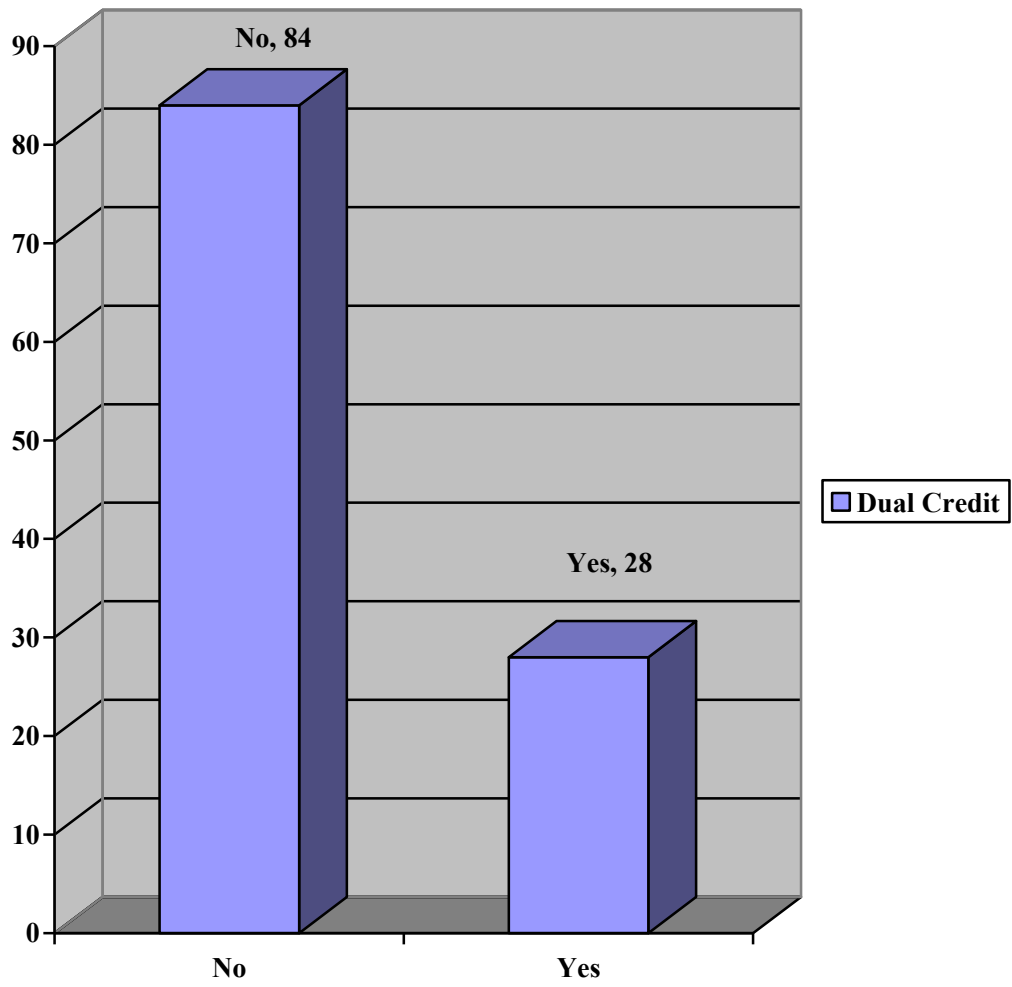


Figure A.8. *Dual-Credit Completion Frequency*

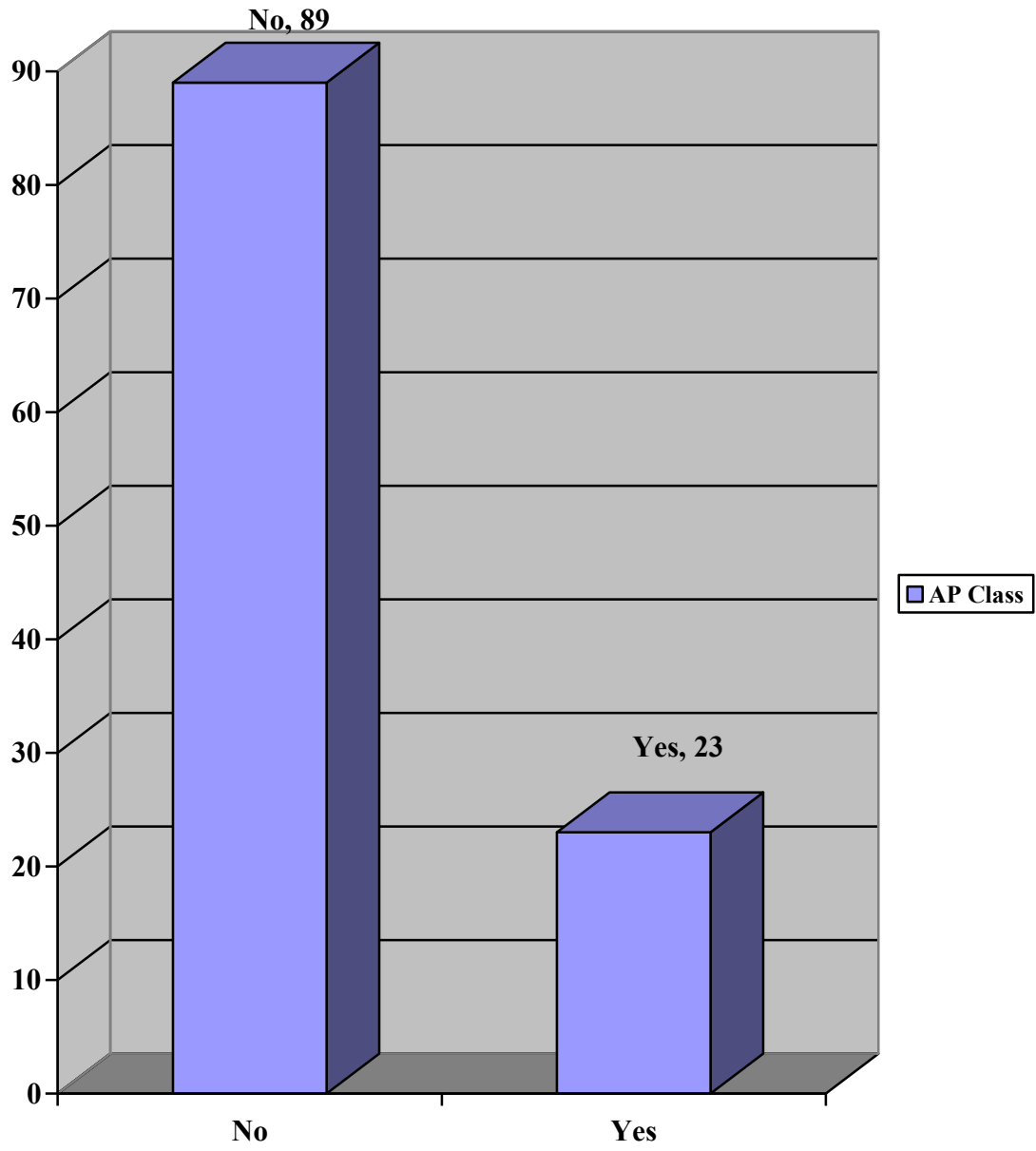


Figure A.9. *Advanced Placement Class Completion Frequency*

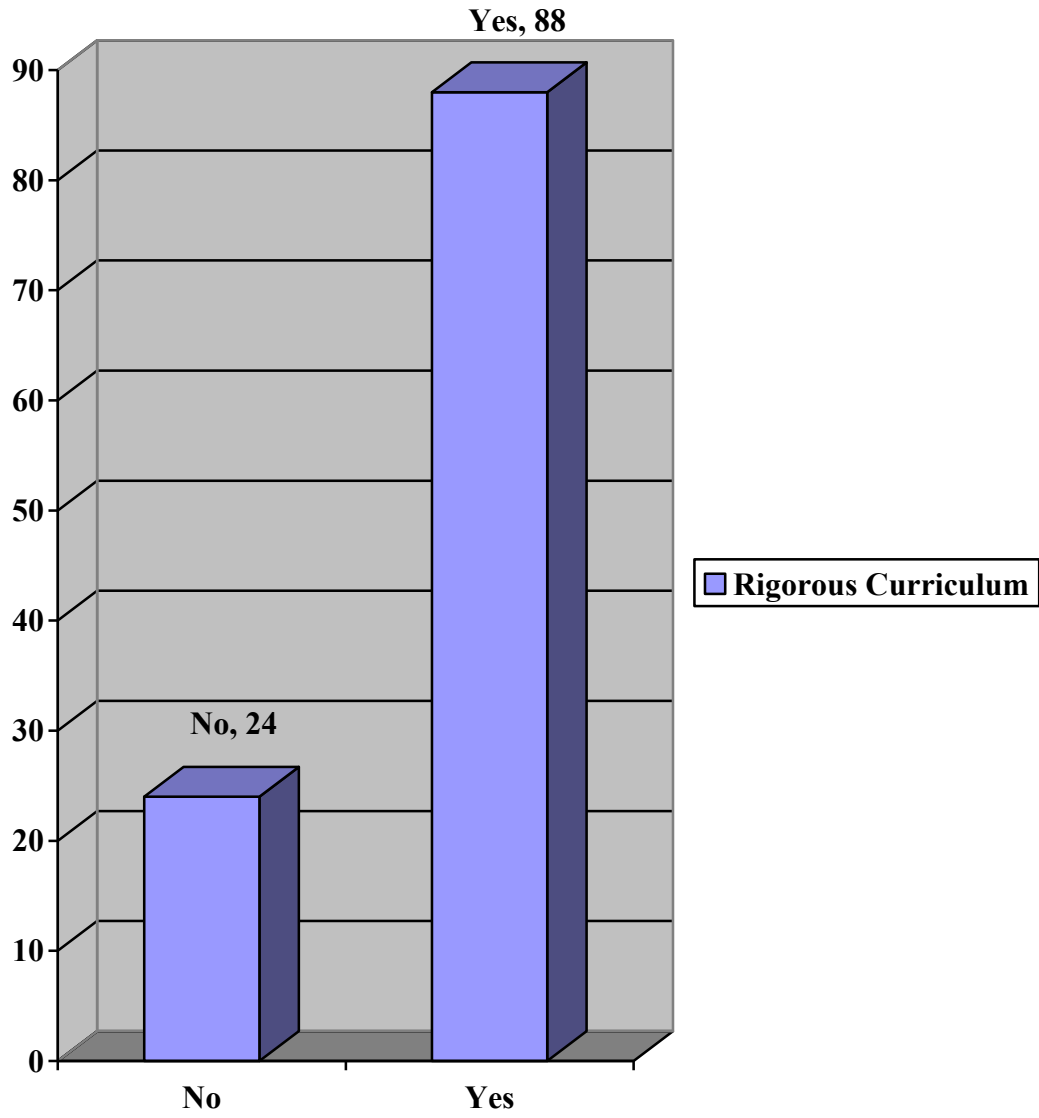


Figure A.10. *Rigorous Curriculum Completion Frequency*

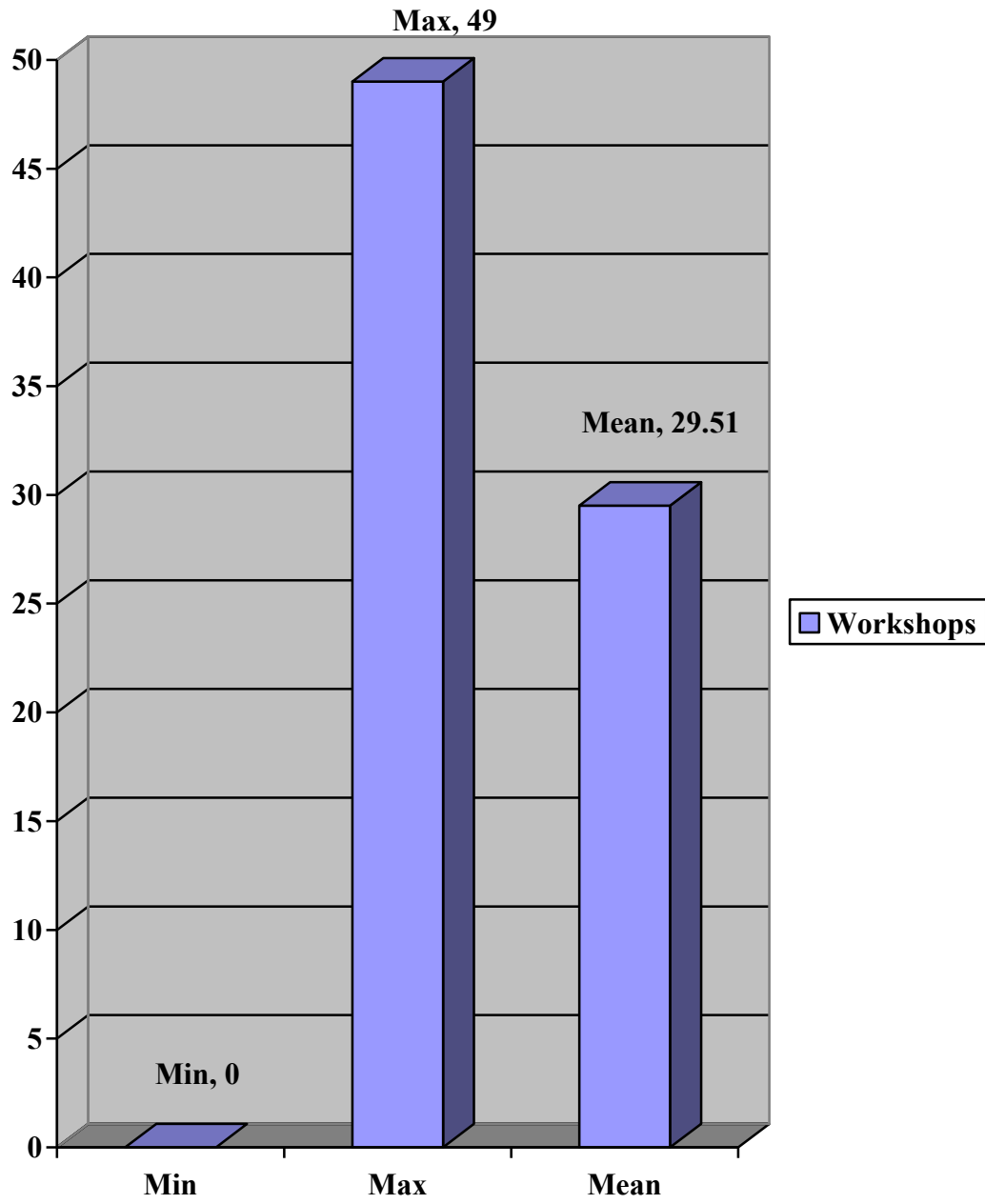


Figure A.11. *Workshop Attendance Descriptive*

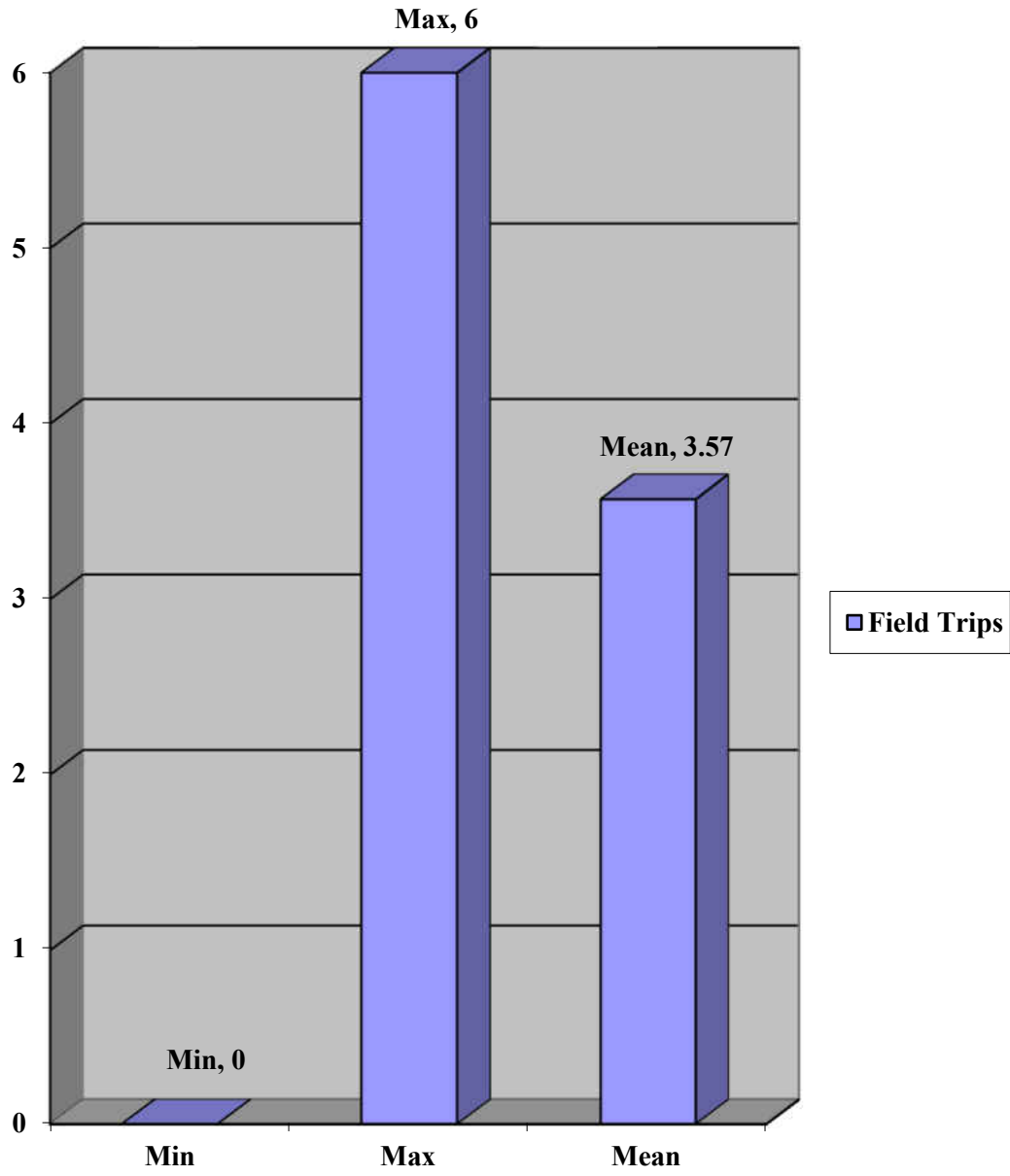


Figure A.12. *Field Trip Descriptive*

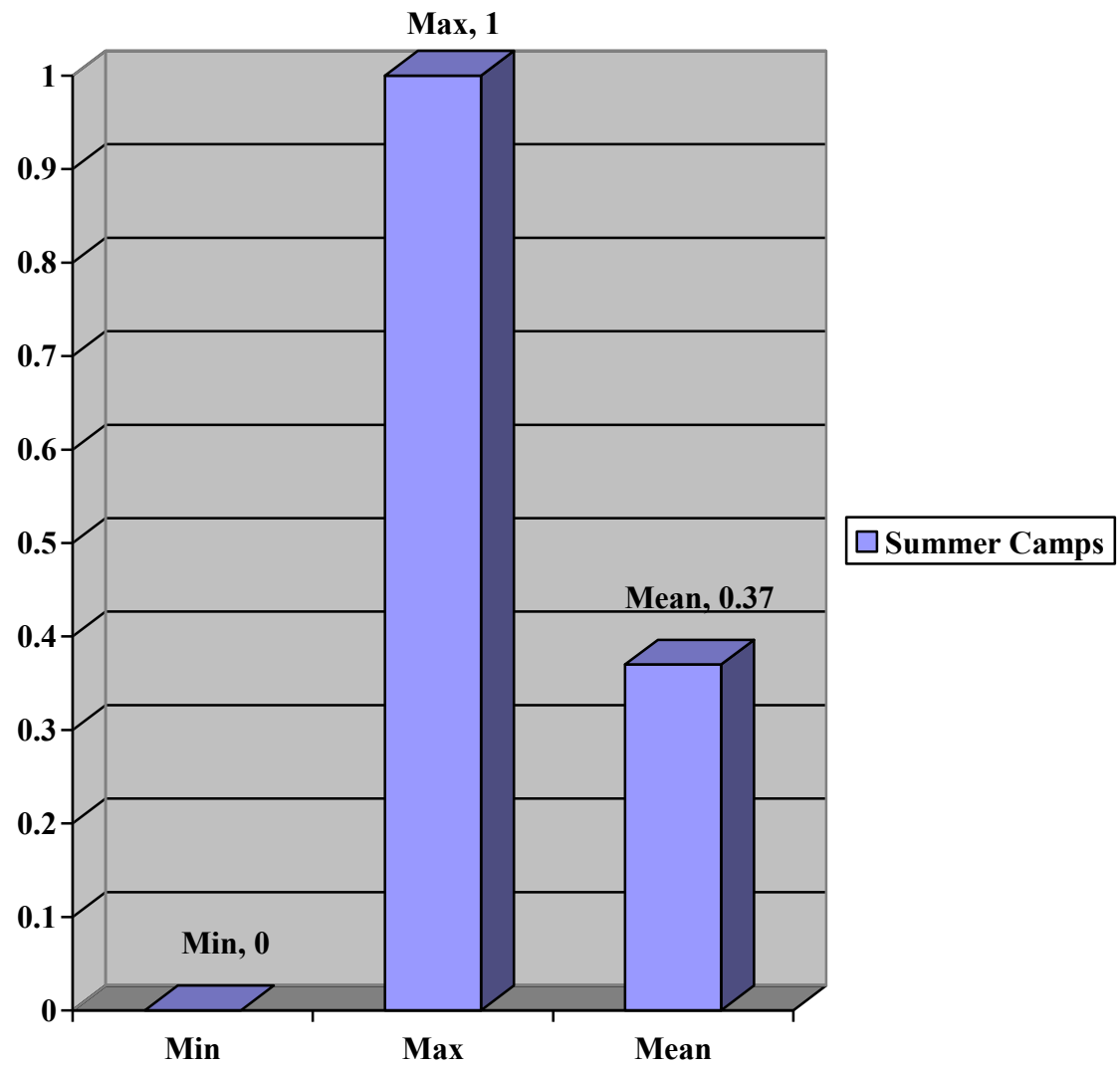


Figure A.13. *Summer Camp Descriptive*

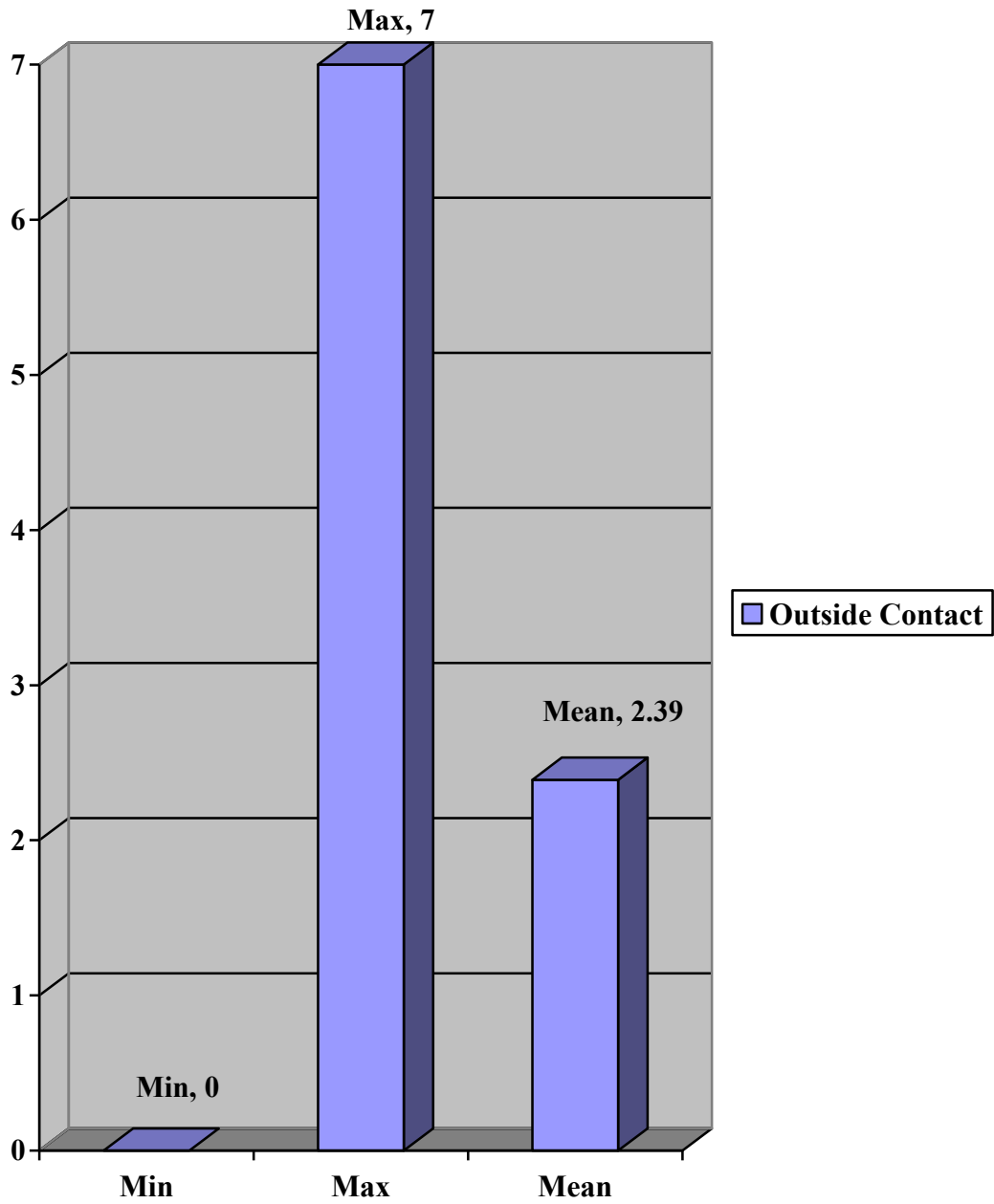


Figure A.14. *Outside Contact Descriptive*

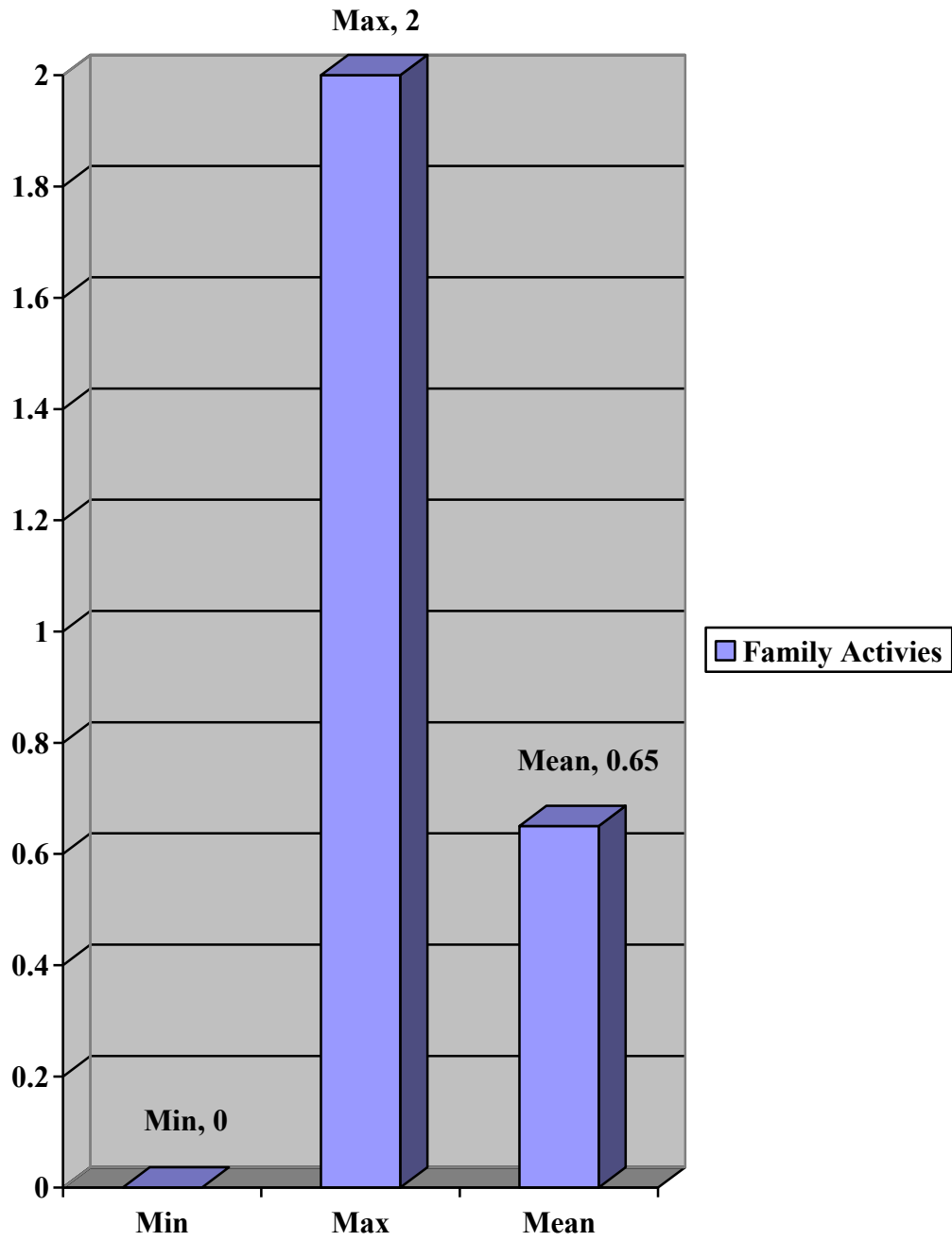


Figure A.15. *Family Activities Descriptive*

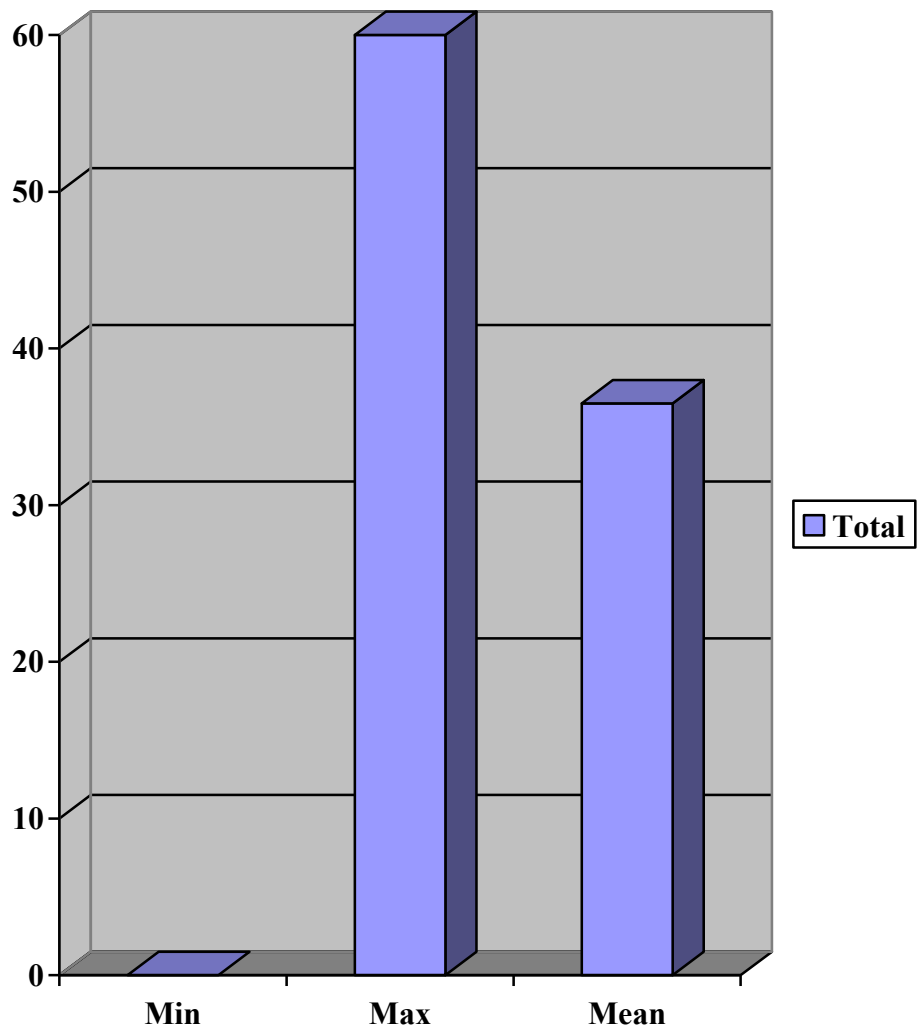


Figure A.16. *Total Participation in ETS Activities*