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Behavioral Intention Determinants Towards Post-Secondary Education: Clues for Strategic Message Development

Stacia Elaine Couch
University of Tennessee - Knoxville

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To the Graduate Council:

I am submitting herewith a thesis written by Stacia Elaine Couch entitled "Behavioral Intention Determinants Towards Post-Secondary Education: Clues for Strategic Message Development." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Communication and Information.

John W. Haas, Major Professor

We have read this thesis and recommend its acceptance:

Kenneth J. Levine, Michael J. Palenchar

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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and recommend its acceptance:

Kenneth J. Levine

Michael J. Palenchar

Accepted for the Council:

Linda Painter

Interim Dean of Graduate Studies

(Original signatures are on file with official students records.)

BEHAVIORAL INTENTION DETERMINANTS TOWARDS
POST-SECONDARY EDUCATION:
CLUES FOR STRATEGIC MESSAGE DEVELOPMENT

A Thesis
Presented for the
Master of Science Degree
The University of Tennessee, Knoxville

Stacia Elaine Couch
December 2006

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Abstract

The purpose of this study was to explore and identify factors that might increase the probability that a high school student will pursue post-secondary education. An understanding of these factors can help state government appropriately design policies, programs, and public awareness initiatives to persuade more youth to achieve higher levels of education. A review of persuasion and education literature revealed 17 possible variables as determinants of a student's behavioral intention towards continuing education, seven of which were developed through factor analysis.

The data utilized in this study was collected by researchers in the Center for Business and Economic Research under a contract with the Tennessee Office of the Comptroller of the Treasury to study Tennesseans' attitudes about education. The paper and pencil Scantron survey was conducted in 39 public high schools and 3 private high schools across the state of Tennessee and resulted in usable responses from 10,976 high school juniors and seniors.

Analysis showed that the demographic, individual characteristic, and external and internal factor variables of students who express the behavioral intention to continue their education differ from those who do not at the 95% significance level. Further, boys and girls show different behavioral intentions towards continuing education as well as determinants. The multivariate econometric analysis using a probit model showed the relative effects each determinant has on the probability that a student will express an intention to continue their education. Ideas for strategic message development based on the characteristics and determinants of these students are offered.

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Chapter 1: Introduction

Tennessee ranks 42nd in the nation for both high school and college educational attainment (U.S. Census Bureau, 2000, 2004), with 22.2% of individuals aged 25 and older who hold bachelor's degrees and 80.7% who have graduated from high school (or equivalent). In his State of the State address in January 2006, Tennessee Governor Phil Bredesen said he wants to see a marked increase in both high school graduation rates and college matriculation rates. Specifically, he said, "I want Tennessee in the next six years, by 2012, to achieve a 90% high school graduation rate, and a 55% college graduation rate" (Bredesen, 2006, para. 37).

Governor Bredesen's education initiatives include fully funding the Basic Education Program, raising teacher pay, expanding pre-kindergarten programs, and encouraging reading initiatives in the home, all at the pre-kindergarten through twelfth-grade level (State of Tennessee, 2006). At the post-secondary level, Tennessee's activities include the Tennessee Higher Education Commission's CollegeforTN Web site, the GEAR UP grant received from the U.S. Department of Education, and the Education in the South—A Passport for Opportunity grant from the Bill and Melinda Gates Foundation, in conjunction with the Southern Governors' Association and the Southern Regional Education Board (Southern Governors' Association, 2005, n.d.; State of Tennessee, 2005). Tennessee is one of nine states awarded the Passport for Opportunity grant—a grant that will allow the state to develop and implement a media outreach program to promote high school completion and college readiness—on the following basis:

Each of these states has already made significant independent commitments to redesigning and improving high schools so that students can leave high school with the tools they will need to succeed in college, other postsecondary education, and/or the workforce. The governors of these states are participating in *Passport* because they realize the benefits of using communications strategies to reach students at risk of dropping out and encouraging them to stay in school and graduate at a high level of achievement. (Southern Governors' Association, 2005, para. 3)

Educational achievement and attainment levels are a concern nationally as well. Many states strive to reduce high-school drop-out rates. The nation's high-school-graduation rates fall behind other countries such as the Czech Republic, Greece, Hungary, and Italy. Colleges struggle with increased spending on remediation courses. Finally, college students are taking longer to graduate (Jacobson, 2006; Schmidt, 2006; The Chronicle of Higher Education, 2006).

Another trend of concern to educators is a question of sex. Articles in popular press publications such as Newsweek and Esquire describe a sort-of "boy crisis" whereby boys are falling behind girls in educational achievement and attainment.

By almost every benchmark, boys across the nation and in almost every demographic group are falling behind. ...And nowhere is the shift more evident than on college campuses. Thirty years ago men represented 58 percent of the undergraduate student body. Now they're a minority at 44 percent. (Tyre, 2006, para. 3)

Based on these assertions, educators express concern about failing to educate such a large group of men. Ange Peterson, current president of the American Association of Collegiate Registrars and Admissions Officers, believes that both primary and secondary schools need to make major changes to restore the balance between boys' and girls' educational attainment (Tyre, 2006).

But a recent report by Education Sector, an independent education think tank, questions the reliability of the boy crisis reports. Via an analysis of the U.S. Department of Education's National Assessment of Educational Progress data, Sara Mead (2006) found that while boys' achievement, attainment levels, and aspirations and preparation differed from girls', there may be causes other than sex:

Although there are a host of statistics about how boys and girls perform in school, we actually know very little about why these differences exist or how important they are. There are many things—including biological, developmental, cultural, and educational factors—that affect how boys and girls do in school. But untangling these different influences is incredibly difficult. (p. 14)

So while tempering the extreme messages about failing boys, Mead recognized that boys and girls view their educational choices and outcomes differently. She advised parents, educators, and policymakers not to fall prey to panic, to fund and conduct proper research on the causes of boys' and girls' success or failure, and to prepare appropriate messages “to boys about the importance of education to their future opportunities” (p. 19).

Educators and policymakers strive to prepare and encourage youth (boys and girls) to reach their educational potential, recognizing the impact lifelong learning (or the lack thereof) can have on the national, state, and local economy. Governor Bredesen's

Web site stated that education is the “key to growing a strong economy, ensuring future success for our children and improving the quality of life for all Tennesseans” (State of Tennessee, 2006). As Tennessee’s economy continues to transition and competition in the workforce becomes more global, improvements in the skills and education levels of all Tennesseans—boys and girls—must be made. In order for the state to develop communication programs and techniques to persuade more high school students to plan for continuing education and lifelong learning, state government needs a comprehensive model of the determinants of students’ behavioral intentions towards continuing education.

To that extent, this study takes a step towards exploring and identifying possible determinants and measuring their effects on a large sample of Tennessee high school juniors and seniors. It is organized into five chapters. First, the introduction delineated the impetus for this study—state government’s need for and desire to increase educational attainment levels in Tennessee. Chapter 2 then explores the possible determinants of high school students’ behavioral intentions by reviewing both persuasion and education literature. The final segment of Chapter 2 outlines the hypotheses and research questions. Chapter 3, Methods, describes the survey participants and procedure and provides a detailed explanation of the variables included in the analysis. Chapter 4 discusses the results, and Chapter 5 concludes with a discussion of the results and recommendations for message design regarding continuing education for this particular audience.

Chapter 2: Literature Review

Since the objective of this study is to offer insight into what factors influence high school students' intentions towards continuing education so that state government can persuade more students to pursue post-secondary education, the foundation for the study is in the field of persuasion. To that end, the following section describes how the principles behind the persuasion theory of planned behavior and its concept of behavioral intentions apply to the analysis of high school students' intentions towards continuing education. It then moves to a review of education literature to explore what components researchers have identified as possible determinants of educational achievement and attainment. This section concludes with a synopsis of the goals of the study as well as hypotheses and research questions.

Part 1. Theoretical Foundation

Persuasion

The theoretical framework for this study lies in persuasion, a broad field whose strategies are invoked by advertisers, marketers, public relations practitioners and researchers, political scientists, lawyers, communicators, and more. As is typical in social science research, definitions are elusive. Petty and Cacioppo (1996) stated that "the process of persuasion is such an ever-present aspect of our daily lives that we often fail to even notice its occurrence" (p. 3). O'Keefe (2002) described the six common features of persuasion and provided a definition as "a successful intentional effort at influencing another's mental state through communication in a circumstance in which the persuadee has some measure of freedom" (p. 5).

Persuasion is linked to attitude (O’Keefe, 2002), or more specifically, the persuadee’s attitude towards a particular behavior or product, whether it is speaking out about drinking (Neuwirth & Frederick, 2004), engaging in fighting behaviors (Roberto, Meyer & Boster, 2001), or the decision to complete high school (Davis, Ajzen, Saunders & Williams, 2002).

A multitude of approaches to persuasion have been proposed and studied. Approaches include the conditioning and modeling, message-learning, judgmental, motivational, attributional, combinatorial, and self-persuasion approaches outlined by Petty and Cacioppo (1996) and the functional approaches, belief-based models, cognitive dissonance theory, theories of behavioral intentions, and the elaboration-likelihood model described by O’Keefe (2002). Persuasion research typically focuses on two processes: attitude formation and message evaluation. In other words, persuasion research in general might shed light on how high school students might come to hold their opinions (or attitudes) about continuing education or it might assist with message development to persuade high school students to change their attitudes. Yet, neither of those lines of inquiry aid in the determination of possible factors that contribute to a high school students’ stated intention.

On the other hand, theories of behavioral intentions might. Based on research conducted in the mid-1970s, Fishbein and Ajzen seek to provide an account of the determinants of an individual’s voluntary behavior (Ajzen, 1991, 2002; Fishbein & Ajzen, 1975). Fishbein and Ajzen first coined the theory of reasoned action and then the theory of planned behavior to produce alternative models of the factors that determine

what a person plans to do, or in other words, to describe “a mathematical relationship among beliefs, attitudes, and behaviors” (Petty & Caccioppo, 1996, p. 193).

The original theory (the theory of reasoned action) proposed that a person’s behavioral intention precedes and can predict a person’s behavior and that a person’s behavioral intention is comprised of just two factors: the individual’s attitude towards the behavior and the subjective norm. The theory of reasoned action has been applied to and is generally predictive of voting, consumer purchase choices, and a variety of health behaviors (O’Keefe, 2002).

Following criticism that the theory of reasoned action failed to acknowledge a person’s control over the behavioral intention at issue (Sheppard, Hartwick & Warshaw, 1988), Ajzen extended his research on the theory of reasoned action to include a third variable—perceived behavioral control—and termed this behavioral intention theory as the theory of planned behavior (Ajzen, 1991, 2002). Empirical evidence has shown that the addition of this third factor does, at times, improve researchers’ ability to predict a behavioral intention among a variety of behaviors (O’Keefe, 2002).

In fact, the theory of planned behavior has not only been applied to adolescent behaviors such as condom use (Chaisamrej, Zimmerman, Noar & Thomas, 2005), high school student’s choice to take physical education (McGill, 2001), and academic achievement in language and mathematics (Sideridis & Padelidu, 2001), but it has also been applied specifically to a high school student’s decision to complete high school (Davis et al., 2002).

The theory of planned behavior maintains that human action can be predicted by three beliefs: behavioral beliefs (or attitudes towards a behavior), normative beliefs (or

social pressure or social norm), and control beliefs (or perceived behavioral control) (Ajzen, 2002). The direct result of these three beliefs is not, however, an action, but rather a behavioral intention to act. According to Ajzen, “intention is thus assumed to be the immediate antecedent of behavior” (p. 1). Figure 1 provides a graphical representation of the components of the theory of planned behavior.

On the surface, the theory of planned behavior seems to provide a parsimonious model of determinants of human action—consisting of just three variables, all three of which affect a behavioral intention and one of which also affects the action. However, a closer look at the application of this theory and its variables show that in fact each of the variables has determinants of its own.

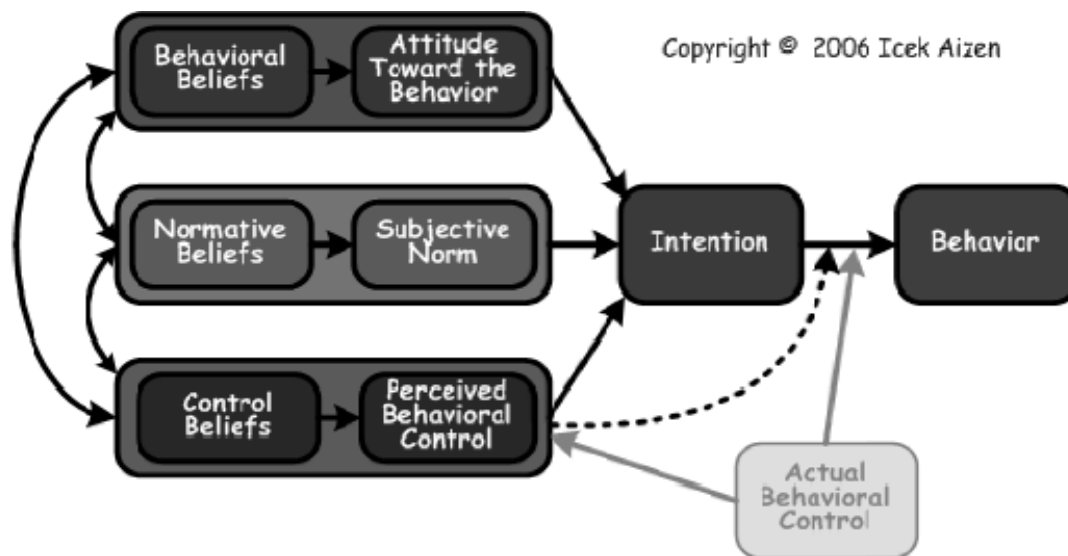


Figure 1. Theory of planned behavior

First, attitudes are determined by beliefs, including beliefs about the act itself, beliefs about the outcomes of the act, and the relative strength of those beliefs. Second, subjective norm can be determined by what a person thinks other important people expect but it also must take into account the likelihood that the person will respond to that social pressure (Fishbein & Ajzen, 1975). Finally, perceived behavioral control has been operationalized in a number of ways, including in health-based models as barriers, in interpersonal behavior as facilitating conditions, and in social cognitive theory as self-efficacy (Ajzen, 2002).

Similarly, measuring these variables and their underlying determinants has been approached differently over time (and with different results). Some research is accomplished by asking direct questions (Davis et al., 2002) while others utilize belief-based models (Ajzen, 2002).

Because research does not identify one specific set of determinants of these variables or a reliable method of measurement for any given action or behavioral intention, it is appropriate to apply the primary principle behind these theories of behavioral intentions to adolescents and their educational intentions while exploring additional measures of attitude, social norm, and perceived behavioral control. As noted, the primary principle of the theories of behavioral intentions is that the determinants of behavioral intentions can be identified and that they are generally predictive of behavior. Literature pertaining specifically to educational achievement and attainment provides a variety of opportunities to explore what the determinants of behavioral intentions towards education might be.

Part 2. Identifying Possible Determinants

Education

Social science and education researchers have oft investigated characteristics and behaviors of individuals who succeed or fail in school as well as individuals who attain certain levels of education. This research has explored educational achievement and attainment in terms of demographics like sex, race, and parental income as well as other attributes like parental motivation, risk, and resilience.

In terms of demographics, the sex and racial makeup of college students has changed over the past few decades, with women outnumbering men for the past 15 years (Pike & Kuh, 2005) and with African American and Hispanic enrollment on the rise, although still significantly lower than White enrollment (Perna & Titus, 2005). Parental income has been shown to influence children's educational attainment both in high school graduation rates and years of post-secondary schooling, whereby low-income youth are not as able as higher-income youth to pursue college education because either they can not actually afford it or because their parents discouraged their aspirations out of fear that they can not afford it (Mayer, 2002; Taubman, 1989).

In addition to demographics, engaging in a college preparatory curriculum, earning higher grades, achieving higher scores on standardized tests, and advanced educational goals are generally predictive of college attendance (Chenoweth & Galliher, 2004; Ganderton & Santos, 1995; King, 1996). With the exception of *advanced educational goals*, all of the characteristics above are observable and easily measured. On the other hand, this concept of advanced educational goals has been explored differently over time but maintains the underlying idea that students with advanced educational goals

likely perceive that education is important to life opportunities. For example, Chenoweth and Galliher (2004) measured the value students place on education by inquiring why they plan to attend college. This inquiry resulted in three distinct factors: self-improvement (to become a more cultured and education person), money-status (to make more money or get a better job), and external-escape (want to get away from home).

To be sure, more complicated personal characteristics and social influences play a part in adolescents' behavioral intentions towards continuing their education. To identify additional determinants beyond demographics and current educational achievement, this literature review turns to subjects particularly salient for adolescents: risk and resilience.

Risk and Resilience

A broad view of other characteristics and influences can be classified as *internal and external assets* and lie under the purview of risk and resilience research (Constantine, Benard & Diaz, 1999). Risk research has focused on the risks to development that might preclude youth (particularly adolescents) from achieving their potential (Constantine et al., 1999; Jenson & Fraser, 2006; Minnard, 2001).

Resilience research, which incorporates the evaluation of protective factors as well, has approached adolescent behaviors and choices differently; rather than studying youth already engaged in unhealthy behaviors and attempting to identify their deficits, resilience researchers question what assets students possess in terms of self, parents, and schools that might enable them to negotiate their environment and maximize their education potential (Constantine et al., 1999; Jenson & Fraser, 2006; Minnard, 2001). In the Constantine et al. model, internal assets included social competence, autonomy and

sense of self, and sense of meaning and purpose while external assets encompassed caring relationships, high expectations, and meaningful participation.

In conjunction with the above assets, protective factors that build youth resilience and that are shown to reduce school failure (among other outcomes) in youth are defined as effective social policies, supportive school climates, positive peer modeling, good parent-child relationships, personal and social skills, self-efficacy, and social support (Minnard, 2001).

Other studies have similarly sought to quantify interactions between certain internal and external assets and youth choices, including parental influence and support on a student's decision to attend college (King, 1996), the impacts of home and classroom environments on academic achievement and attitudes towards school (Epstein, 1983a, 1983b as cited in Chenoweth & Galliher, 2004), and parental involvement as social capital and college enrollment (Perna & Titus, 2005).

The internal and external assets that contribute to risk and resilience, taken in combination with observable characteristics like sex, race, and income, can be used to identify factors that affect developmental outcomes such as educational attainment. Understanding those factors can provide policymakers guidance in designing and delivering educational policies for children and families (Jenson & Fraser, 2006).

Taking into account the myriad of components identified in the literature as possible influences on behavioral intentions, the initial goal of this study is to measure the demographic, social, and personal characteristic affects on high school students' behavioral intentions towards continuing education within one year after high school graduation. The analysis includes a statistical and analytical description of the differences

between students who do intend to continue their education and those who do not, as well as the differences between boys and girls. Given the enhanced understanding of these high school students as an audience, the outcomes of this study can be utilized by policymakers to design policies, programs, and public awareness initiatives to persuade more youth to continue their post-secondary education.

Hypotheses and Research Questions

The above review of relevant literature has led to the following hypotheses and research questions:

- H1: Characteristics of high school students who intend to continue their education after high school differ from those who do not.
- RQ1: Is sex a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ2: Is race a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ3: Is perceived family income a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ4: Is having a computer and/or the Internet at home a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ5: Are the grades a student earns in high school a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ6: Is whether or not a student is taking advanced placement and/or college preparatory classes a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ7: Is whether or not a student has taken the ACT a determinant of a high school student's behavioral intention towards continuing education within one year after high school?

- RQ8: Is a student's score on the ACT a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ9: Is whether or not a student works part-time for money a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ10: Is a student's involvement in student government a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ11: Is the Personal Development factor for valuing education a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ12: Is the Financial Security factor for valuing education a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ13: Is the School Support factor for external and internal assets a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ14: Is the Home Support factor for external and internal assets a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ15: Is the Self-efficacy factor for external and internal assets a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ16: Is the School Assets factor for external and internal assets a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ17: Is the Character factor for external and internal assets a determinant of a high school student's behavioral intention towards continuing education within one year after high school?
- RQ18: What combination of possible determinants is most predictive of a high school student's behavioral intention towards continuing education after high school?
- H2: Behavioral intentions towards continuing education and their determinants will vary in degree by sex.

RQ19: What are the differences between boys and girls in terms of behavioral intentions towards continuing education and their determinants?

Chapter 3: Method

This study presents a detailed analysis of the behavioral intentions high school juniors and seniors in Tennessee express towards continuing their education after high school and the determinants thereof. It examines not only the demographic characteristics associated with the students' intentions but also other social and personal factors that might impact those intentions. Finally, multivariate analysis is performed to more precisely identify how both demographic characteristics (and in particular, sex) and social and personal factors might increase or decrease the probability of a student's intention to continue his or her education after high school. These results are analyzed to determine how sex affects the other factors found to determine students' behavioral intentions towards continuing education.

This analysis draws from data collected by researchers in the Center for Business and Economic Research at the University of Tennessee under a contract with the Tennessee Office of the Comptroller of the Treasury to study Tennesseans' attitudes about education. The resulting report, *Understanding Tennesseans' Attitudes about Education* (Fox, Kiser & Couch, 2006), painted a broad picture of both adult and high school students' attitudes. The present analysis focuses specifically on exploring high school juniors and seniors' behavioral intentions towards continuing their education after high school.

Participants and Procedure

The target population for the study was high school juniors and seniors in public and private schools across the state of Tennessee. Forty public high schools were identified by the Tennessee Department of Education as representative of various state

geographic and demographic characteristics; one declined to participate. Private schools were contacted through the Tennessee Association for Private Schools, and three volunteered to participate. According to Department of Education and school records, approximately 14,232 juniors and seniors attended these 39 public schools and 3 private schools. In the public schools, Department of Education field service office directors or their representatives administered the surveys during a one- or two-day time frame (depending on the size of the school) in a designated in-class period (for instance, most schools used the first 30 minutes of their English classes). In the private schools, school administrators distributed the surveys to their students on one day during a designated in-class period (most private schools used their study hall). Each student was provided with a questionnaire booklet, a blank Scantron form, and a No. 2 pencil. A copy of the questionnaire booklet appears in Appendix A. Surveys were conducted from October 25, 2005, to November 9, 2005, and participating schools and students were both guaranteed confidentiality. Further, students themselves participated on a voluntary basis; they could simply not return the Scantron form or, in the alternative, they could skip any question to which they did not wish to respond by filling in the “T” bubble on the Scantron form.

Scantron forms for 11,790 students in junior and senior level classes were returned to the administrator. Due to incomplete or inappropriate completion of Scantron forms, 486 surveys were removed manually, and another 180 were removed algorithmically because they contained a number of invalid responses and/or a clear pattern of improper responses to the survey. An additional 148 surveys were removed because the respondent reported being a freshman or a sophomore. Following this analysis and data-cleaning, there were 10,976 useable surveys.

While neither the students nor the schools were randomly selected and therefore the results can not simply be extrapolated to all junior and senior high school students in the state of Tennessee, the results do reflect the opinions of 10,976 students in 42 different high schools across the state. As a point of reference, according to the state Department of Education, the 2004-2005 school year had 123,368 eleventh and twelfth graders in 313 city and county public schools (Department of Education, 2006).

Variables

The behavioral intention of interest in this study is whether or not the high school junior or senior specifically stated that he or she intends to begin a post-secondary degree program (vocational or technical, associate's, bachelor's, or professional degree program) within one year after graduating from high school.

The distinction between a *goal* intention and a *behavioral* intention lies in a person's ability (or even perceived ability) to achieve that intention (Sheppard et al., 1988). For instance, a high school student might express the following intention: "I want to be a fighter pilot;" however, unless this student meets certain height and weight standards, has (or can afford to obtain via surgery) perfect vision, and plans to enlist in one of the armed forces, this statement can be viewed as a *goal* intention rather than a *behavioral* intention. A logical way to ascertain whether an intention is goal- or behavior-oriented is to press for additional details to determine whether the individual believes he or she has the ability to achieve the intention. To distinguish, then, between a behavioral intention and a goal intention, this study asked students about their plans for the future through distinct states of specificity in three questions.

First, the survey posed a general question asking students to indicate how true the following statement is about them personally: “I plan to go to college or some other school after high school.” Response options were “Definitely NO!,” “No,” “Yes,” “Definitely YES!,” or “Don’t know.” Second, the survey asked a similar question but in a different manner to gauge the students’ commitment to their continuing-education intentions: “what is the highest level of education you plan to obtain in your life?” Response options allowed for seven attainment levels from high school diploma to professional degrees in medicine or law. Students could also report that they had not decided yet. Finally, and again to narrow the gap between a goal intention and a behavioral intention, the survey asked juniors and seniors precisely what they plan to do during their first year after they graduate from high school. Students could make multiple selections from options as follows—take some time off, get married, join the military, get a job or continue the job I have now, begin a vocational or technical program, begin an associate’s degree program, begin a bachelor’s degree program, begin a professional degree program, other, or I haven’t decided yet. By selecting an educational option when given other alternatives and by indicating a specific time performance (within one year), the inference can be made that students have assessed their ability to continue their education within that time frame and therefore are expressing a behavioral intention, not a goal intention. How students respond to these three questions can also be used to indirectly measure a student’s perceived behavioral control over their educational plans.

Based on the student’s stated behavioral intention, then, this analysis explores demographic factors, individual and environmental characteristics, and social and

personal influences—all identified in previous research—that might affect behavioral intentions towards continuing education.

Demographic variables. The present study examined gender, race, and the students' perceptions of their family income as possible determinants of their intention to continue their education after high school. It also included variables to assess whether or not the student having a computer and access to the Internet at home affects the likelihood that students will intend to continue their education.

Individual characteristic variables. Building on this foundation, this study included variables for several individual characteristics reported by students. These variables include the grades they earned in school last year, whether or not they are taking advanced placement or college preparatory courses, if they have taken the ACT, whether or not they scored above-average on the ACT when they did take it, if they are employed part-time for money, and if they are involved in student government.

The study approached the value students place on education by asking them to rate the importance of education to nine life opportunities. These nine questions asked students to choose whether education is very important (1), somewhat important (2), or not important (3) to those opportunities. Students could also indicate that they did not know or that they did not want to answer the question. Those two selections are not considered in this analysis.

Factor analysis using maximum likelihood extraction¹ with oblique rotation² yielded two factors describing how Tennessee's juniors and seniors value education. Five items loaded on a Personal Development factor (e.g. learning how to tackle obstacles in life, being self-sufficient, fuller enjoyment of life's experiences, being able to provide for your family, and developing and awareness of other cultures; 35% of the variance). Four items loaded on a Financial Security factor (e.g. earning more money in the future, more choices in what jobs students could get, getting a job, and being able to start your own business; 8% of the variance). All responses were then categorized into two binary variables for each factor—where the student either views education as an opportunity for personal development and financial security most of the time or does not. In other words, if the student's mean score was 2.6 or higher on the five questions that loaded on personal development and a mean score of 2.5 or higher on the four questions that loaded on financial security, that student is considered to perceive that education is *not* an opportunity for personal development or financial security.

External and internal factor variables. The survey of Tennessee high school juniors and seniors includes components from the California Resilience and Youth Development module (Constantine et al., 1999) to measure the external and internal assets held by these students. These 28 questions asked students to rate statements on a 4-point scale from 1 (definitely *not* true for me) to 4 (definitely true for me). Students could

¹ Factor analysis using principal component analysis was also considered. While the total variance explained was higher for both factors (42 percent and 14 percent), the factor loadings were similar and therefore, the categorization of the two factors remained the same.

² Varimax rotation (an orthogonal rotation) in the factor analysis, despite its abundance in the literature, is inappropriate for these variables because of their high levels of correlation. Varimax, by definition, assumes that the input variables are not correlated. Instead, the oblique rotation of direct oblim with delta set to zero provides the most simple structure and pattern. Nonetheless, both methods yielded the same solution.

also indicate that they did not know or that they did not want to answer the question.

Those two selections are not considered in this analysis.

Appendix Table B1 lists 28 survey questions included from the California module and shows how these assets load into five factors using maximum likelihood extraction with oblique rotation.³ The 28 questions regarding external and internal assets group into five specific categories: School support factor (external), Home support factor (external), Self-efficacy factor (internal), School assets factor (external), and Character factor (internal). Responses were then categorized as “high” or “low,” where “high” represents students whose average rating for the questions in that factor was above 2.5, or in other words, they were more likely to respond that the statements were mostly true or definitely true for them. “Low” of course represents the opposite—that the students were more likely to indicate that these statements were mostly not true or definitely not true for them (2.5 or less).

In conclusion, the variables considered to be possible determinants of high school students’ behavioral intention towards continuing their education within one year after high school include sex, race, income, computer access at home, Internet access at home, grades earned last year, whether the student took advanced placement or college preparatory courses last year, whether the student has taken the ACT, his/her score on the ACT, student employment, involvement in student government, value for the personal

³ Once again, the maximum likelihood extraction with oblique rotation offered the most simple structure and pattern for analysis and categorization. Using alternate methods (principal components with and without varimax rotation) on these variables, however, yielded loadings on six of the 28 questions that were nearly equal on two factors and but were still greater than Gorsuch’s (1983) recommendation of .3 as the minimum meaningful loading. With maximum likelihood extraction and oblique rotation, only one variable had nearly dual-factor loadings. That variable (ratings on the statement “there is a purpose to my life” loaded almost equally on the Self-efficacy factor (.57) and the Home Support factor (.54); it was included in the Self-efficacy factor in the remainder of this analysis.

development factor, value for financial security factor, school support, home support, self-efficacy, school assets, and character. These variables were tested in the multivariate analysis.

Chapter 4: Results

Chapter 4 begins with a description of how students responded to the measures of behavioral intentions described in Chapter 3. The chapter then provides a short description of the characteristics of the entire sample before it moves to a detailed analysis of the qualities of students who intend to continue their education within one year after they graduate from high school compared to those who do not. This analysis will address hypothesis 1. Next, the chapter provides the results of the multivariate analysis used to evaluate the determinants of students' behavioral intentions, to address research questions 1 through 18. The final section of this chapter reports how these results differ among boys and girls, to address hypothesis 2 and research question 19.

Results of Behavioral Intention Measures

Just over one half (56.9% or 6,246) of high school juniors and seniors stated that they intend to continue their education within one year after graduating from high school.⁴ Overall, almost 14% were undecided about their plans after graduation (even when presented with nine options). Boys and girls were almost equally undecided. Eleven percent of seniors had not decided what they plan to do after high school graduation. For both boys and girls combined, the first and biggest reason given for not continuing education within one year after high school was “I never thought about it.” After that response, boys indicated that they did not see the point, that they did not like school, that they wanted to join the military, that the job they want does not require them to have more education, that their health won’t allow it, that there’s just no reason for them to go

⁴ Because this question allowed for multiple responses, we recoded the question to a binary (true or false) response. If a student selected any one of the continuing education options (even when combined with other non-educational activities), the response was coded as “true.” If a student did not select any of the education options or selected only “other” or “I haven’t decided yet,” the response was coded as “false.”

to college, and that they do not have support from teachers or administrators more often girls. On the other hand, girls indicated that they want to work and earn some money first, that it would cost them or their family too much money, that they want to start a family, that their grades are too low, that they want to travel, or that they do not have support from parents or other family members more often than boys.

In terms of lifetime educational attainment, just over three-quarters planned to obtain some degree beyond high school in the course of their lifetime. But one out of every 20 students (5.2%) indicated that their lifetime educational attainment will end with a high school diploma while another three out of those 20 students (16.7%) were undecided about their lifetime educational attainment plans. Boys made up 67.6% of the students who plan to attain only a high school degree in their lifetime. The most common response for lifetime attainment was a bachelor's degree at 25.7%, but interestingly almost 13% of students said they plan to earn a medical degree during their lifetime.⁵

Even more students answered "Yes" or "Definitely YES!" to the general question: "I plan to go to college or some other school after high school." In fact, the percentage of students who answered "Yes" or "Definitely YES!" was very high at 89.2%, and a majority of students (64.5%) responded "Definitely YES!" Still, 7.0% indicated that they do not plan to go to college or another school, and 3.8% said they do not know.

As shown above, there was a reduction of 3,504 students (or 32% of the sample) between the broadest measure and the very specific measure of intentions towards continuing education. The remainder of the results reported here base a student's

⁵ According to the U.S. Department of Education, National Center for Education Statistics (2004), in 2003-2004 (the most recent year for which these data are available) less than 1% of post-secondary degrees conferred are medical professional degrees (MDs).

behavioral intention on the most narrow of these three questions; therefore, comparisons are made between the 6,246 students who intend to pursue post-secondary education within one year of high school graduation and the 4,730 who do not.

Profile of Student Sample

The sample of students surveyed were 52.5% female, 4.1% of Hispanic origin, and 73.6% white.⁶ Almost one-quarter of students reported that their family income was slightly or far below average compared to other American families. The majority of students indicated that they have a computer at home (87.0%), but slightly less had access to the Internet at home (79.4%).⁷

In terms of their individual characteristics, only 5% of students reported that they earned below average grades last year (mostly Ds or mostly below Fs), and almost 30% report making mostly As. Only 38.5% of students are currently taking any advanced placement or college preparatory classes, and even less than that have taken the ACT (29.0%). Of those students who took the ACT, 62.7% report scoring above 20 (the median ACT composite score in the state of Tennessee for the 2005 high school graduating class) (ACT Research Services, 2005).⁸ More than half of these high school juniors and seniors are working part-time for pay either before or after school or on weekends, while only 13.8% are involved in their school's student government.

⁶ See Appendix Table B2 for frequencies and percentages of all student responses.

⁷ The latest Census data (2003) indicate that 56.8% of Tennessee households have a computer and only 49.0% have Internet access.

⁸ The distribution of cumulative ACT scores reported by this sample does not precisely mirror the distribution of scores reported by ACT Research Services' 2005 report. This sample of students reports slightly higher scores—for instance 1.9 percent of the sample say that they scored between a 33 and 36 (the highest scores possible) while the ACT report shows only 1 percent of students scored in that range. In the lower ranges, this sample shows 1.8 percent of scores between 01 and 12 and 6.3 percent between 13 and 15; the ACT report shows 2 percent and 13 percent respectively. It is likely that some students slightly inflated their ACT scores in the survey.

Overall, all students place a very high value on education for both personal development and financial security. Less than 3% of students feel that education is not important to personal development and/or financial security.

When analyzed as a group, it appears that most students believe that they have high levels of support at school and at home and that they have high self-efficacy (see Figure 2.) Fewer students, however, report high school assets and high character.

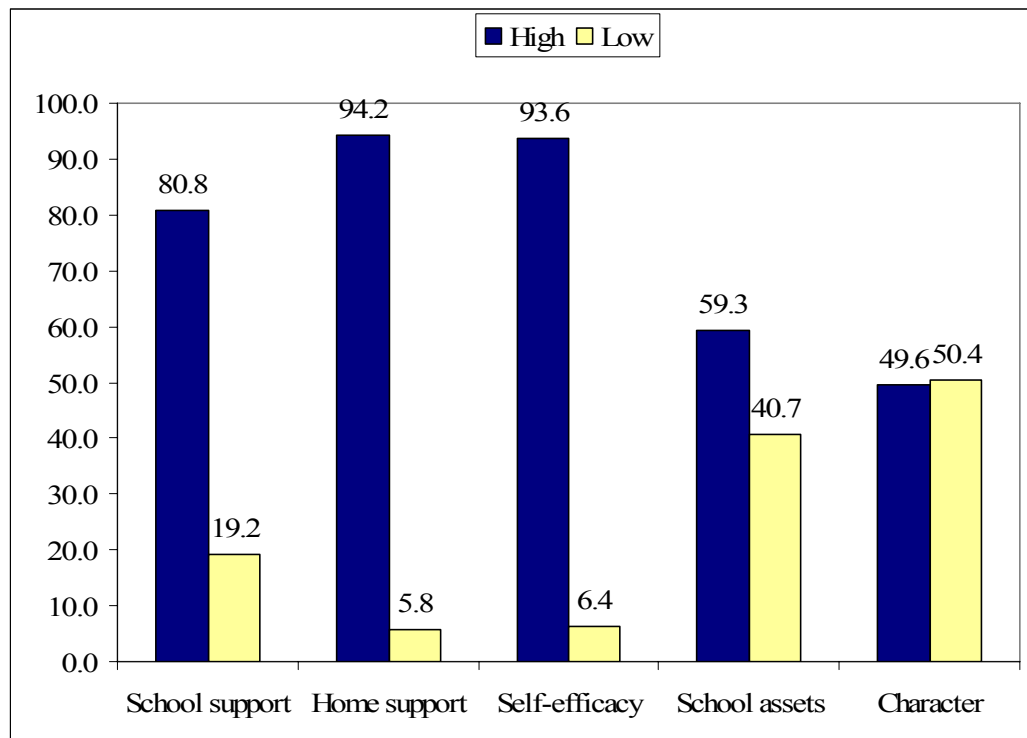


Figure 2. Profile of student sample, by external and internal factors

Profile of Students According to Their Behavioral Intention

This sample of Tennessee's high school juniors and seniors showed marked differences between those students who plan to begin any type of educational program (vocational or technical, associate's, bachelors, or other professional degree) within one year after they graduate from high school and those who do not.⁹ In fact, statistically significant differences appear in *every one* of the variables used in this study. Hypothesis 1—that the characteristics between these two groups differ—is fully supported.

In terms of demographic characteristics, girls were more likely to state that they intend to continue their education than boys. In fact, 59.3% of students who intend to continue their education were girls, while over half of the boys state that they do not intend to continue their education. White students with average or above-average family incomes were more likely to intend to continue their education than their non-white, lower-income counterparts. Students who have computers and/or Internet access at home were also more likely to intend to continue their education. Sixty percent of students who do not have a computer at home do not intend to continue their education.

Similarly, the individual characteristics variables indicate differences in behavioral intentions. Students with above-average grades who are taking advanced placement and/or college-preparatory classes, have taken the ACT at least once and scored above average on it, work part-time for pay, and are involved in student government were all more likely to express that they intend to continue their education within one year after school.

⁹ See Appendix Table B3 for frequencies and percentages of student responses displayed according to their behavioral intention towards education.

Further, despite the indication that an overwhelming majority of students place very high value on education for both personal development and financial security, the students who indicate that education is *not* important to personal development and financial security were far less likely to intend to pursue post-secondary education within one year (see Figure 3).

Similar results emerged with students' ratings on external and internal factors; students who rate any of the five factors "low" were less likely to indicate that they will continue their education. This occurrence was more pronounced on the home support, self-efficacy, and school support factors than on the school assets and character factors (see Figure 4).

The above analysis illuminates different groups' likelihood of expressing an intention to continue their education after high school. It does not, however, show with certainty that a student with support from a parent or other adult at home, in and of itself, increases the probability of expressing the intent to continue education. The descriptives above cannot answer this question. To address this issue more precisely, a multivariate econometric analysis was performed to isolate the independent effects that each factor has on the probability that an individual will express the intention to continue their education.

Results of Multivariate Econometric Analysis

Specifically, the effects of a broad set of factors on this probability can be estimated using a probit analysis. The probit technique estimates the change in probability given a change from zero to one in each of the dichotomous variables

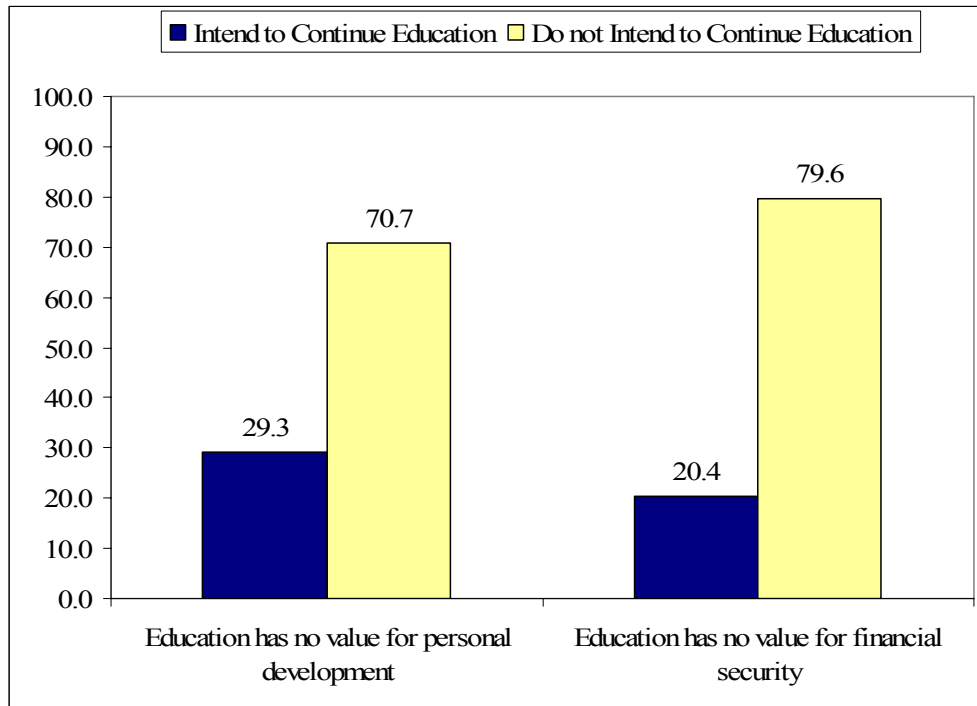


Figure 3. Students who do not value education, by behavioral intention

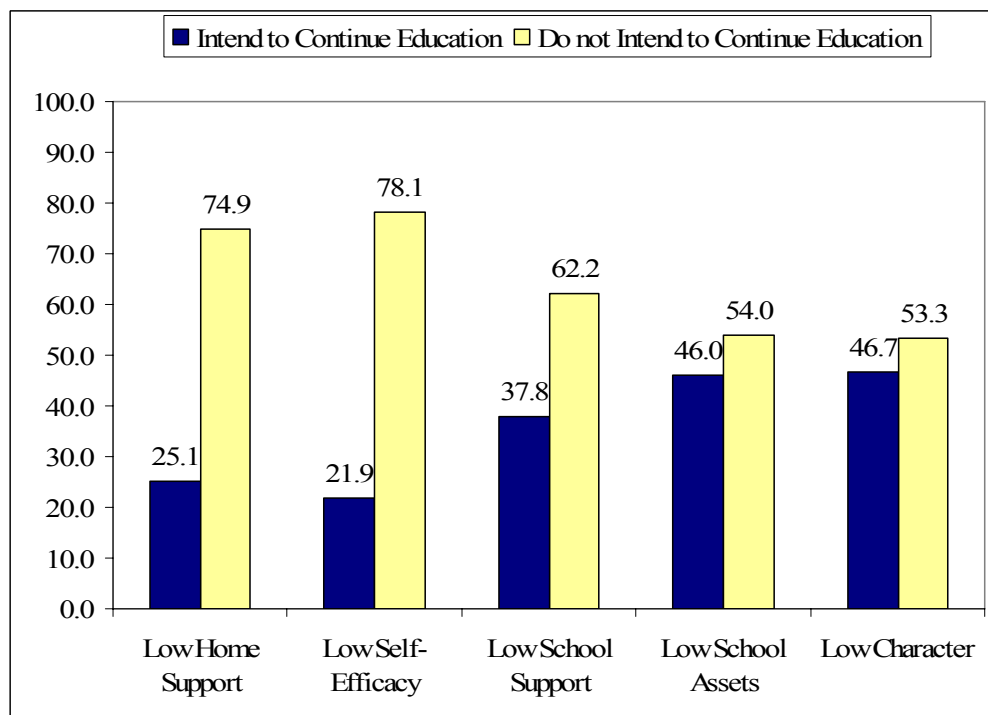


Figure 4. Students with low external and internal assets, by behavioral intention

individually, holding everything else in the model constant at its mean. First, the probit analysis provides marginal effects coefficients, Z-statistics from the probit estimations, and the associated p-values for all students, to address research questions 1 through 18. To address hypothesis 2—that the ability of certain variables to predict this behavioral intention will differ between boys and girls—boys and girls were regressed separately.

The marginal effects coefficients represent the percentage point change in the probability that a student intends to continue education given a change from zero to one in the row variable. For example, for the row variable *Income*, zero indicates that a student said their family's income was below the average U.S. family income while one indicates that a student said their family's income was average or above average. The marginal effects change, then, is the change that would occur when increasing a student's income from below average to average or above average. Similarly, for the five internal and external asset variables, zero indicates that a student rated that asset as low; one indicates that a student rated that assets as high; therefore, the marginal effects coefficient shows the change that would occur when bringing the student's rating on any given asset from low to high.

The Z-statistics and their accompanying p-values determine whether or not the change in probability is statistically distinguishable from zero. Baseline probabilities are also included. It is important to note that the probit model is reporting marginal effects, which again, represent the percentage point change in the probability given the change in the row variable compared to the average values of the explanatory variables. The reported percentage point change, then, is the change that would occur in the average student described in the analysis above. This model can not predict the likelihood that

one particular student with certain demographics, individual characteristics, and external and internal factors will intend to continue his or her education. It can, however, 1) describe changes in the probability of the average student intending to continue education that would occur if certain variables change and 2) show the relative effects of these variables for both boys and girls.

Analysis of the Entire Sample

The baseline probability that a student intends to continue his or her education was 61.3%, and all but two variables were statistically significant at the 95% level (see Table 1). The two exceptions were students' participation (or lack thereof) in student government and whether or not students value education for personal development. All but the race variable¹⁰ were positively associated with the intention; being White actually reduced the likelihood that the student will express an intention to continue his or her education by 2.9 percentage points. This finding shows the inherent value of a multivariate analysis; while simple cross-tabulations showed that White students were more likely to express a positive behavioral intention, this analysis indicates that when the effects of race are isolated from the other variables in the model, Whites are actually less likely to express a behavioral intention towards continuing education than their non-White counterparts. (Note in the subsequent analysis, however, that this finding is not significant for girls, only for boys.)

As expected, the findings showed that the following demographic and individual characteristics *increase* the probability that a student intends to continue his or her

¹⁰ The race variable, as with all variables in this study, is self-reported by the student.

Table 1

Probit analysis of all student data

Variable	Marginal effects	Z-statistic	p-value
Gender (1=female)	0.0921	7.83	0.0000
Race (1=white)	-0.0290	-2.13	0.0330
Income (1=average or above average)	0.0531	3.73	0.0000
Computer at home (1=yes)	0.0970	5.23	0.0000
Grades last year (1=above average)	0.1487	10.77	0.0000
AP/college-prep (1=taking courses)	0.1237	9.81	0.0000
ACT (1=have taken it)	0.0893	4.84	0.0000
ACT Score (1=above TN median)	0.1122	5.07	0.0000
Work (1=work part-time)	0.0372	3.18	0.0010
Student government (1=participating)	0.0159	0.9	0.3690
Value for personal development (1=yes)	0.0723	1.53	0.1250
Value for financial security (1=yes)	0.1566	2.45	0.0140
School support (1=high)	0.0727	4.28	0.0000
Home support (1=high)	0.1767	5.66	0.0000
Self-efficacy (1=high)	0.1400	4.53	0.0000
School assets (1=high)	0.0558	4.23	0.0000
Character (1=high)	0.0609	4.76	0.0000

Notes. Entries are probit marginal effects. N=7,966; Observed probability=61.3 percent. Average predicted probability=62.9 percent.

education: being female (9.2 percentage points), having average or above-average family income (5.3 percentage points), having a computer at home (9.7 percentage points),¹¹ earning above average grades in high school (14.9 percentage points), taking advanced-placement or college-preparatory courses in high school (12.4 percentage points), having taken the ACT (8.9 percentage points), scored above the Tennessee median on it (11.2 percentage points), working part-time (3.7 percentage points), and valuing education for financial security (15.7 percentage points).

With the external and internal factors, students with high support at home were 17.7 percentage points more likely to intend to continue their education after high school than those who report low support at home, holding all else in the model constant. For the entire sample, then, increasing home support had the largest effect on the baseline probability; increasing a student's support at home from low to high increased the likelihood that a student will intend to continue his or her education from 61.3% to 79.0%. Similarly, students with high self-efficacy and high school support were more likely than those with low ratings, by 14.0 and 7.3 percentage points respectively. While the effects for school assets (5.6) and character (6.1) appear to be lower than the other external and internal factors, students with high ratings in these two factors were still more likely than those with low ratings to express an intention to continue their education.

¹¹ Students reported whether they had a computer at home and whether they had the Internet at home. While the percentage of students who have computer is higher than those who have the Internet, only the "having a computer at home" variable was included in the chosen probit analysis. An exploratory analysis was run with only the "having the Internet at home" variable; it too was significant but the marginal effects on it and all other variables were similar.

In sum, research questions 1 through 9 and 12 through 18 were supported, as the variables were in fact shown to be predictors of a student's behavioral intention towards continuing education. Research questions 10 and 11 were not supported.

Analysis According to Sex

Hypothesis 2 and research question 19 supposed that the determinants and the degree of their effect would be different for boys and girls. Both were supported. The remainder of this section describes how the results differ between the entire sample by sex and then between the sexes themselves.

The observed probability that a girl will intend to continue her education was 68.2%, 6.9 percentage points higher than for the group. Race and valuing education for financial security were no longer statistically significant for girls (see Table 2). As with the entire sample, participating in student government was not statistically significant. And interestingly, valuing education for personal development became statistically significant for girls and increased the likelihood that a girl will intend to continue her education by 17.3 percentage points. Whereas home support seems to have the most effect of the external and internal factors on the whole group, for girls, the effect of self-efficacy is higher. The probability of the average girl with low self-efficacy intending to continue her education is only 54.0%, or in other words, she is 14.2 percentage points less likely to plan to continue her education than the average girl with high self-efficacy.

The observed probability that a boy will intend to continue his education was much lower than the group's at 53.4%, and changes occurred in the significant predictor variables (see Table 3). Race was statistically significant (being White reduced the average boy's likelihood of intending to continue his education by 5.0 percentage points).

Table 2

Probit analysis, girls

Variable	Marginal effects	Z-statistic	p-value
Race (1=white)	-0.0112703	-0.65	0.51400
Income (1=average or above average)	0.0523614	2.83	0.00500
Computer at home (1=yes)	0.0630641	2.57	0.01000
Grades last year (1=above average)	0.1388787	7.29	0.00000
AP/college-prep (1=taking courses)	0.1289831	8.15	0.00000
ACT (1=have taken it)	0.0934282	4.13	0.00000
ACT Score (1=above TN median)	0.1044631	3.78	0.00000
Work (1=work part-time)	0.0498255	3.34	0.00100
Student government (1=participating)	0.0167254	0.77	0.44400
Value for personal development (1=yes)	0.1725353	2.26	0.02400
Value for financial security (1=yes)	0.1494185	1.42	0.15600
School support (1=high)	0.0657332	2.83	0.00500
Home support (1=high)	0.1398254	3.05	0.00200
Self-efficacy (1=high)	0.1416752	2.89	0.00400
School assets (1=high)	0.0697816	4.15	0.00000
Character (1=high)	0.0643958	3.95	0.00000

Notes. Entries are probit marginal effects. N=4,228; Observed probability=68.2 percent. Average predicted probability=70.9 percent.

Table 3

Probit analysis, boys

Variable	Marginal effects	Z-statistic	p-value
Race (1=white)	-0.0499	-2.41	0.0160
Income (1=average or above average)	0.0517	2.46	0.0140
Computer at home (1=yes)	0.1291	4.85	0.0000
Grades last year (1=above average)	0.1564	8.04	0.0000
AP/college-prep (1=taking courses)	0.1070	5.50	0.0000
ACT (1=have taken it)	0.0775	2.67	0.0080
ACT Score (1=above TN median)	0.1180	3.44	0.0010
Work (1=work part-time)	0.0200	1.14	0.2550
Student government (1=participating)	0.0160	0.58	0.5620
Value for personal development (1=yes)	0.0111	0.18	0.8550
Value for financial security (1=yes)	0.1509	1.93	0.0540
School support (1=high)	0.0831	3.47	0.0010
Home support (1=high)	0.1979	4.84	0.0000
Self-efficacy (1=high)	0.1410	3.57	0.0000
School assets (1=high)	0.0322	1.62	0.1050
Character (1=high)	0.0523	2.71	0.0070

Notes. Entries are probit marginal effects. N=3,738; Observed probability=53.4 percent. Average predicted probability=53.5 percent.

Working part-time, being involved in student government, valuing education for personal development, and school assets were not significant for boys. Valuing education for financial security was significant only at the 90% level. The highest marginal effect was for boys having high support at home; having high rather than low support at home increased the likelihood that he will intend to continue his education by 19.8 percentage points. To place this finding in perspective, note again that the overall probability that he intends to continue his education after high school is 53.4%. Therefore, the change in the probability of continuing education when having high levels of support at home (rather than low) was equal to 40% of the overall probability—a large effect, particularly given that of the students who report low home support, 67.4% are males.

Along with differences in the significant variables, differences in the relative effects of the variables emerge in the separate models (see Figure 5). First, boys are 14.8 percentage points less likely to intend to continue their education after high school than girls. For boys, the three variables with the highest effects were home support, grades earned last year, and valuing education for financial security. For girls, the top three were value for personal development, self-efficacy, and home support. While home support falls within the top three for both, it appeared to have a greater effect on boys than girls. Similarly, having a computer at home was statistically significant and positive for both girls and boys, but it seems to have a greater effect on boys. The effects of income, self-efficacy, and many of the academic performance variables, on the other hand, are similar for boys and girls.

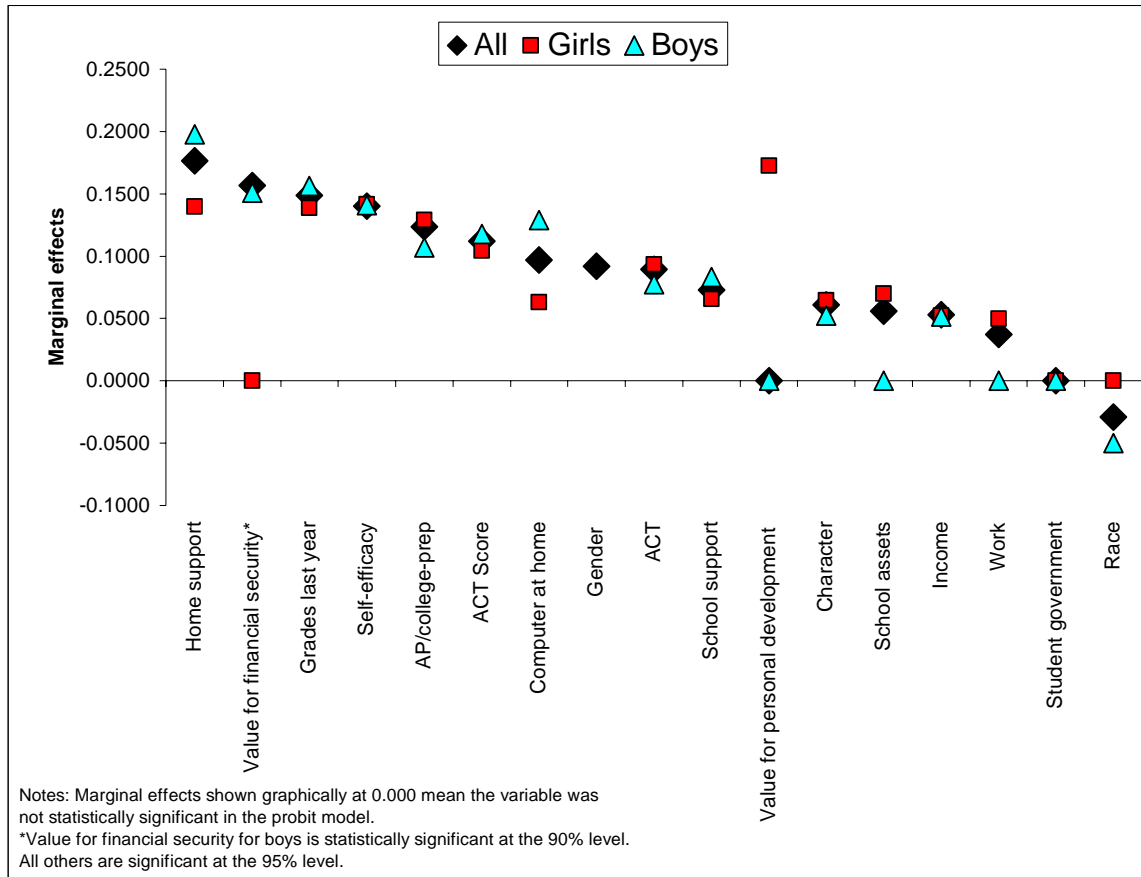


Figure 5. Results of probit analysis

Chapter 5: Discussion

To design effective messages to encourage high school juniors and seniors to continue their education after high school, it is critical to understand the characteristics and assets (or deficits) of youth who do and do not intend to pursue higher education. Certainly for state government to reach students who say that they will cease their formal education after high school, communicators and policymakers must understand who they are and what factors might determine their intentions.

An important underlying theme in these high school students' responses is indecision. Many students are uncertain about their plans for their future, even their immediate future, or have not given consideration to their educational plans beyond high school. This result begs the question of whether or not juniors and seniors are receiving enough information about their options from teachers, school administrators, and/or their caretakers and if they are equipped to appropriately assess that information and make choices for themselves.

The results of this project also indicate that students do not fail to understand the value of education in the abstract. Students overwhelmingly feel that education is important to both financial security and personal development, and a vast majority of students agree that they plan to go to college or some other school at some point in their lives. Still, many of them (almost half) do not plan to start any post-secondary education program within a year after high school. Clearly, there is a disconnect between the value students place on education, their lifetime goals, and their intention to begin an educational program proximately.

Returning to the theory of planned behavior may shed some light on this phenomenon. The theory of planned behavior holds that three variables, each of which has their own possible determinants, predict a behavioral intention. Research into the theory of planned behavior also shows that the weights of these variables differ by subject. In this study, even with indirect measurements of the determinants, variables, and weights, it appears that perceived behavioral control carries the greatest weight. Again, 32% of the students who expect that one day they will go back to school were lost when pressed for a commitment to a specific time frame and degree program. Another way to indirectly measure perceived behavioral control may be the self-efficacy factor, which proved to be an important predictor of a student's behavioral intention for both girls and boys.

Next, the social norm variable—as measured by the home support and school support external factors—is also a significant predictor of student's behavioral intentions, particularly home support and particularly for boys. While measuring social norm in this manner does not take into account how likely students are to conform to the expectations of important adults, it can not be ignored that having important adults who believe in them and expect them to go to college potentially increases the probability that the average student will express a positive behavioral intention by nearly 25 percentage points.

Finally, the attitude variable can be ascertained by how highly students value education in general. As in, if a student believes that education is important to financial security and personal development, they have a positive attitude towards education. Attitude is generally found to be the most powerful predictor in the theory of planned

behavior and the concept that is most often addressed in persuasion techniques and messages; however, in this study, it appears to be less important than perceived behavioral control and social norm. To wit, the fact that a boy values education for personal development is not a significant predictor of his behavioral intention.

While additional research is needed to directly test the theory of planned behavior or to measure the weights of these variables on the continuing education behavioral intention for high school juniors and seniors, many of the determinants in this model fit into the theory of planned behavior. These determinants seem to indicate that both perceived behavioral control (or self-efficacy) and social norms are powerful predictors on the continuing education behavioral intention and that the lack thereof may be contributing to both indecision and a negative intention.

It is further evident from both the descriptives and the model that intentions are different for boys than they are for girls—not only in terms of the stated intention to continue education but also in terms of the characteristics and factors that influence their intentions. For instance, girls seem to be driven by personal development, self-efficacy, and character while boys are influenced more by their environment at home and at school.

In sum, for the purposes of persuasion, three important findings emerge: 1) many students are undecided about their plans for the future, 2) students who do not plan to continue their education within one year often perceive that they do not have the ability, means, and support necessary to do so, and 3) the effects of many of the determinants are different for boys and girls.

Implications of These Findings

With these determinants in mind, state government and other stakeholders—through strategic policy initiatives, message design, and information dissemination—can more effectively address student motivations and can target those areas that might have the most impact on increasing the probability that a student will plan to pursue further education after high school. Targeted outreach and informational programs could be developed to encourage parental support and communication, to provide teacher and administrator training to increase school support, fairness, and safety, to promote students' perceptions of their self-worth and their ability to interact with others, and even to increase access to computers and/or the Internet in homes. According to this research, improvements in those factors would increase the probability that students will intend to continue their education.

Opportunities for Future Research

Research based on these results could stem from many disciplines. Social scientists might be interested in approaching the effects of the family on behavioral intentions towards education, particularly among males. Higher education researchers might investigate how these same variables affect students during their first year of higher education, evaluating whether or not students who report low support in their high schools or at home are more or less successful than their counterparts. Public policy and finance researchers might develop innovative policies to address how state or local governments could fund programs intended to increase the likelihood that high school students will continue their education.

Communication scholars and practitioners might focus on persuasion strategies and message production and can do so more effectively with the understanding about determinants of behavioral intentions gleaned from this study. With these results in mind, the following section describes possible approaches to message production that may be useful in persuading high school seniors and juniors to continue their education after high school.

Approaches to Message Production

Designing and delivering messages to adolescents has been practiced, studied, and evaluated prolifically. It is a complicated process when attempting to account for developmental processes, sex (and other demographic) differences, socioeconomic influences, and individual preferences. The following two sections are certainly not intended to be a comprehensive review of message production for adolescents but are rather designed to generate ideas and new paths to investigate in the context of the topic of study—behavioral intentions towards continuing education.

Messages for Girls and Boys in High School

It is imperative not to lose sight of the differences between the sexes as well as between adults and adolescents in message production. For instance, boys' and girls' perceptions of messages in both product and pro-social advertisements differ (Andsager, Austin & Pinkleton, 2002). Youth respond to sudden noises, bright colors, music and laughter (U.S. Department of Education, 1988). Youth also experience more frequent and stronger emotions than adults (Larson & Richards, 1994).

The results of this study suggest that girls would be attracted to messages that appeal to their sense of power and control over their lives and their ability to accomplish

goals on their own volition. Themes like “grow yourself” or “do it for you” might reach girls. Messages about finances or earning more money will not be as powerful for girls. On the other hand, boys might respond to more encouraging and supporting messages since boys seem to be affected more by a lack of support at home and in the schools than girls are. For instance, phrases like “we know you can do it” (featuring adults in their home or in their schools) or messages offering assistance or help from adults might be more likely to affect boys’ behavioral intentions.

Of course, these message themes assume that said boy or girl has the *ability* to succeed in post-secondary education, but many of the important predictors of this behavioral intention involve current academic performance (grades earned last year, taking advanced placement or college preparatory courses, and having taken and scored above average on the ACT). It would clearly be useful to direct messages to boys and girls currently in their junior and senior years (or even earlier) about the importance of working hard and succeeding in school today since performance today may affect their intentions for the future. These messages could use similar themes but be present-focused rather than future-focused.

The themes above address content but not structural features of the messages. Pro-social advertisements might provide a useful avenue for exploring structural features of messages. Pro-social advertisements are generally directed at quelling risk behaviors such as smoking and consuming alcohol but can also address to other health prevention and detection initiatives like practicing safe sex. The challenge for pro-social advertisers is two-fold: they are most often trying to tell adolescents what *not* to do, and they are competing with high-dollar advertisements from product advertisers encouraging the

conflicting behaviors. Pro-social advertisements have been criticized by teenagers as visually boring (even when the content might be trustworthy), and evidence shows that “the content of pro-social advertisements largely washes over adolescents with minimal impact on their decision making” (Pinkleton, Austin & Fujioka, 2001, p. 592). While message design in the context of this study does not involve telling adolescents what not to do but rather encouraging them to consider a path they might have not yet considered or have preliminary rejected, message designers should still bear in mind the voluminous other messages adolescents are exposed to (or seek out) on a daily basis. Designers should avoid producing content-savvy, informational pieces that lack design features that capture the attention of adolescents. For instance, black and white mailings from state government outlining the benefits of education might be viewed as accurate and trustworthy but are likely to miss their mark. More appropriate message delivery might reside in high-color television commercial spots featuring music and laughter, Web sites that include video or music features, and Web blogs geared toward teen audiences offering support, advice, and success stories from other teens in their quest for continuing education. A Web blog run by high school students on the topic of education (current or future) might go a long way towards helping students understand their options for continuing education. See, for example, the student-run Albany High School blog in New York at <<http://blogs.timesunion.com/albanyhigh/>>.

In addition to considering message content and structural design and delivery, message producers should also consider where the adolescent is in his or her decision-making process and adapt messages to the appropriate stage. Decision theory offers a broad perspective on possible stages for persuasion.

Decision Theory

Decision theory describes the steps involved in making any decision, as follows: recognizing that a decision must be made, understanding the goals that one hopes to attain, making a list of options, determining the consequences—both positive and negative—of each option, determining the desirability of each consequence, evaluating the likelihood of each consequence, and integrating all the information (Fischhoff, Crowell & Kipke, 1999). The results of this study show that many of Tennessee’s juniors and seniors have not gotten past the very first step—recognizing that a decision must be made—or have identified and assessed options that might not be appropriate (to wit, the high incidence of students saying they plan to obtain a medical degree). These two steps in the decision-making process are certainly areas policymakers and educators could address through message delivery. At the first step, message design could come in many forms, via career and life counseling in high schools or training programs for parents and caretakers to encourage them to ask their high school students the question: “what do you plan to do when you graduate?” frequently and supportively. Once again, the biggest change that can be made to increase the probability these students will intend to continue their education is increasing their support at home.

The recommendations above for message design and delivery are also important at subsequent steps in the student’s decision-making process, particularly option production. Messages should be produced for all available post-secondary education options—including vocational and technical schools, associate’s degrees, and traditional higher education pursuits. Additional ideas for designing message and programs for adolescents in the context of decision theory can be found in the work of the The

National Academies' Board on Children, Youth, and Families and its Forum on Adolescents.

Summary

As educators and policymakers strive to prepare and encourage youth to reach their educational potential, they might be assisted by an understanding of what factors increase the probability that a high school student will pursue post-secondary education. Understanding those factors and their relative effect on behavioral intentions will allow state government to appropriately design policies, programs, and public awareness initiatives to persuade more youth to achieve higher levels of education. This study explored possible determinants of high school juniors' and seniors' behavioral intentions towards continuing their education after high school through both persuasion and education literature. The study then measured the affects these determinants (such as demographic, social, and personal characteristics) had on the behavioral intention Tennessee high school juniors and seniors express towards continuing their education within one year after high school graduation. It then recommended avenues to explore in terms of producing messages for this diverse audience.

Limitations

Certain limitations exist within this study. First, the results of this study reflect the opinions of 10,976 students in 42 different high schools across the state, but neither the students nor the schools were randomly selected and therefore the results can not be simply extrapolated to all junior and senior high school students in the state of Tennessee. The remaining limitations are generally expected within the study of determinants, using a multivariate analysis of survey variables: omitted variable bias and the potential for

reverse causality. The study identified 17 possible determinants of high school students' behavioral intentions from education, risk and resilience, and persuasion literature, but of course other variables could also contribute to behavioral intentions. Variables such as parental education level, whether or not siblings are in or intend to go to college, environmental constraints, or health considerations were not included in the model and could possibly affect behavioral intentions. Omitted variable bias could alter the relative effects of the variables included in the model. Last, the problem of reverse causality may exist in this model, particularly with the variables relating to current academic performance. For instance, the model does not reveal whether the fact that a student is taking advanced placement and college preparatory classes causes that student to intend to continue education or if the student is taking advantage of those opportunities because the student already possesses that behavioral intention.

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Appendices

Appendix A
Survey Instrument

Dear Student:

This survey is about your education—how you feel about it so far and your plans for the future. This is not a test so there are no right or wrong answers. Your answers to these questions will be CONFIDENTIAL. This means that your answers will stay secret, and your name will never be asked.

Please do not write your name on this question booklet or on the Scantron form.

Before you begin, please go to the top left of your Scantron form to the I.D. NUMBER area. Enter your home ZIP Code in the first five boxes of the I.D. NUMBER section and fill in the corresponding bubbles.

This survey is completely voluntary. You may skip any question you don't want to answer. If you do skip a question, please fill in the bubble ① on your Scantron form so that you do not lose your place in the survey.

Please read the instructions before you mark any answers.

Thank you for participating in this survey.

Mark all answers with heavy pencil marks inside the circles on the Scantron form; please do not mark on this booklet.

1. How old are you?

- Ⓐ 15 or younger
- Ⓑ 16
- Ⓒ 17
- Ⓓ 18
- Ⓔ 19 or older

2. What grade are you in?

- Ⓐ 9th
- Ⓑ 10th
- Ⓒ 11th
- Ⓓ 12th

3. Are you

- Ⓐ Female
- Ⓑ Male

Please make heavy pencil marks inside the circles on the Scantron form, not on this booklet.

4. Are you of Hispanic or Latino national origin?

- Ⓐ Yes
- Ⓑ No
- Ⓒ I'm not sure

5. What do you consider yourself to be?

- Ⓐ White
- Ⓑ Black or African American
- Ⓒ Asian
- Ⓓ Native Hawaiian or Other Pacific Islander
- Ⓔ American Indian or Alaska Native
- Ⓕ Mexican
- Ⓖ Puerto Rican
- Ⓗ Cuban
- Ⓘ Other

6. Putting them all together, what were your grades like last year?

- Ⓐ Mostly As
- Ⓑ Mostly Bs
- Ⓒ Mostly Cs
- Ⓓ Mostly Ds
- Ⓔ Mostly below Ds

7. How many times have you taken the ACT?

- Ⓐ None
- Ⓑ 1
- Ⓒ 2
- Ⓓ 3
- Ⓔ 4 or more

8. What was your composite score on the ACT the last time you took it? (Choose the range in which your score fell.)

- Ⓐ I have not taken it
- Ⓑ 01-12
- Ⓒ 13-15
- Ⓓ 16-19
- Ⓔ 20-23
- Ⓕ 24-27
- Ⓖ 28-32
- Ⓗ 33-36

9. In which subject area of the ACT did you score the highest the last time you took it? (If you scored equally high in two subjects, mark both subjects.)

- Ⓐ I have not taken it
- Ⓑ English
- Ⓒ Math
- Ⓓ Reading
- Ⓔ Science

10. Are you currently taking any college prep classes or advanced placement classes or both?

- (A) I am not taking any
- (B) I am taking college prep classes
- (C) I am taking advanced placement classes
- (D) I am taking both college prep classes and advanced placement classes

Questions 11-21 are about the people with whom you live most of the time and their education. Please read the instructions carefully.

FIRST:

Mark whether **each person** lives with you.

(A) = NO, he or she does not live with you or you do not have one

(B) = YES, he or she lives with you

NOW: if this person lives with you, on the same line of your Scantron form, please fill in the bubble describing his or her highest level of education

		NO	YES	Some high school	High school graduate	College graduate (Associate's, Bachelor's, Master's, or Doctorate Degree)	Professional degree (MD, DDS, JD)	Other	Don't know
<i>Example: You live with your mother alone. She has a Bachelor's degree.</i>									
11.	Mother	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
12.	Father	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
11.	Mother	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
12.	Father	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
13.	Stepmother	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
14.	Stepfather	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
15.	Foster mother	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
16.	Foster father	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
17.	Grandmother	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
18.	Grandfather	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
19.	Aunt	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
20.	Uncle	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
21.	Other adults	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)

22. How many brothers, sisters, stepbrothers, stepsisters, or other children live with you most of the time?

- (A) None
- (B) 1
- (C) 2
- (D) 3
- (E) 4
- (F) 5
- (G) 6 or more

23. What is the language you use most often at home?

- (A) English
- (B) Spanish
- (C) Chinese
- (D) French
- (E) German
- (F) Other

YOU ARE NOW ON QUESTION 24!
Please check your Scantron form.

24. How important do you think the subjects you are learning in school right now will be for later in your life?

- (A) Very important
- (B) Somewhat important
- (C) Not important at all

25. Please think about one particular person whom you would consider a role model. Which of the following categories would your role model be in? (Please choose only one.)

- (A) Family member
- (B) Friend/family friend
- (C) Entertainment/artist or writer
- (D) Teacher/educator
- (F) Coach
- (G) Sports figure
- (H) Religious leader, including pastor or youth leader
- (I) Business leader
- (J) Local political or community leader
- (K) National political leader
- (L) International political leader

How to answer these questions:

Mark (A) for **NO!** if you think the statement is **definitely not true** for you

Mark (B) for **No** if you think the statement is **mostly not true** for you

Mark (C) for **Yes** if you think the statement is **mostly true** for you

Mark (D) for **YES!** if you think the statement is **definitely true** for you

How strongly do you agree or disagree with the following statements about the school you are in right now?

		Definitely NO!	No	Yes	Definitely YES!	Don't know
26.	I feel close to people at this school.	(A)	(B)	(C)	(D)	(E)
27.	I am happy to be at this school.	(A)	(B)	(C)	(D)	(E)
28.	This school challenges me.	(A)	(B)	(C)	(D)	(E)
29.	The teachers at this school treat students fairly.	(A)	(B)	(C)	(D)	(E)
30.	I feel safe in my school.	(A)	(B)	(C)	(D)	(E)

At my school, there is a teacher or some other adult...

		Definitely NO!	No	Yes	Definitely YES!	Don't know
31.	who really cares about me.	(A)	(B)	(C)	(D)	(E)
32.	who tells me when I do a good job.	(A)	(B)	(C)	(D)	(E)
33.	who notices when I'm not there.	(A)	(B)	(C)	(D)	(E)
34.	who always wants me to do my best.	(A)	(B)	(C)	(D)	(E)
35.	who listens to me when I have something to say.	(A)	(B)	(C)	(D)	(E)
36.	who believes I will be a success.	(A)	(B)	(C)	(D)	(E)

During the school year, I...

		Definitely NO!	No	Yes	Definitely YES!	Don't know
37.	participate in after-school activities.	(A)	(B)	(C)	(D)	(E)
38.	am involved in student government.	(A)	(B)	(C)	(D)	(E)
39.	do things that make a positive difference to other students.	(A)	(B)	(C)	(D)	(E)
40.	do things that make a positive difference in my community.	(A)	(B)	(C)	(D)	(E)
41.	have a job (for pay) before or after school or on weekends.	(A)	(B)	(C)	(D)	(E)

How true do you feel these statements are about you personally...

		Definitely NO!	No	Yes	Definitely YES!	Don't know
42.	I have goals and plans for the future.	(A)	(B)	(C)	(D)	(E)
43.	I plan to graduate from high school.	(A)	(B)	(C)	(D)	(E)
44.	I plan to go to college or some other school after high school.	(A)	(B)	(C)	(D)	(E)
45.	I know where to go for help with a problem.	(A)	(B)	(C)	(D)	(E)
46.	I can work out my own problems.	(A)	(B)	(C)	(D)	(E)
47.	I can do most things if I try.	(A)	(B)	(C)	(D)	(E)
48.	I can work with someone who has opinions that are different than mine.	(A)	(B)	(C)	(D)	(E)
49.	I enjoy working with other students my age.	(A)	(B)	(C)	(D)	(E)
50.	I try to understand how other people feel and think.	(A)	(B)	(C)	(D)	(E)

PLEASE TURN TO THE BACK OF YOUR SCANTRON FORM.

51.	There is a purpose to my life.	(A)	(B)	(C)	(D)	(E)
52.	I like coming to school most days.	(A)	(B)	(C)	(D)	(E)
53.	I can speak a language other than English.	(A)	(B)	(C)	(D)	(E)
54.	I have a close relationship with at least one of my teachers or school administrators.	(A)	(B)	(C)	(D)	(E)

How to answer these questions:Mark Ⓐ for **NO!** if you think the statement is *definitely not true* for youMark Ⓑ for **No** if you think the statement is *mostly not true* for youMark Ⓒ for **Yes** if you think the statement is *mostly true* for youMark Ⓓ for **YES!** if you think the statement is *definitely true* for you

In my home, there is a parent or some other adult who...

		Definitely NO!	No	Yes	Definitely YES!	Don't know
55.	expects me to follow the rules.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
56.	is interested in my school work.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
57.	believes that I will be a success.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
58.	always wants me to do my best.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
59.	wants me to go to college or some other school after high school.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

**Mark all answers with heavy pencil marks inside the
circles on the Scantron form.**

60. How satisfied are you with *the quality* of the education you have received so far in Tennessee?

- Ⓐ Very satisfied
- Ⓑ Somewhat satisfied
- Ⓒ Neither satisfied nor dissatisfied
- Ⓓ Somewhat dissatisfied
- Ⓔ Very dissatisfied

61. What is the highest level of education you plan to obtain in your life?

- Ⓐ A high school degree
- Ⓑ A vocational or technical certificate
- Ⓒ A 2-year degree (associate's)
- Ⓓ A 4-year degree (bachelor's)
- Ⓔ An advanced degree after my 4-year degree (master's and/or doctoral)
- Ⓕ A law degree
- Ⓖ A medical degree
- Ⓗ I haven't decided yet

**62. What do you plan to do during the first year *after* you graduate from high school?
(Select all that apply.)**

- Ⓐ Take some time off
- Ⓑ Get married
- Ⓒ Join the military
- Ⓓ Get a job or continue the job I have now
- Ⓔ Begin vocational or technical school program
- Ⓕ Begin an associate's degree program
- Ⓖ Begin a bachelor's degree program
- Ⓗ Begin another professional degree program like veterinary school, dentistry
- Ⓘ Other
- Ⓢ I haven't decided yet

How important do you feel *education* is to the following opportunities? Please rate education as very important, somewhat important, or not important at all to...

		Very important	Somewhat important	Not important at all	Don't know
63.	fuller enjoyment of life's experiences	(A)	(B)	(C)	(D)
64.	getting a job	(A)	(B)	(C)	(D)
65.	having more choices in what job you could get	(A)	(B)	(C)	(D)
66.	earning more money in the future	(A)	(B)	(C)	(D)
67.	being able to start your own business	(A)	(B)	(C)	(D)
68.	being self-sufficient	(A)	(B)	(C)	(D)
69.	learning how to tackle obstacles in your life	(A)	(B)	(C)	(D)
70.	developing an awareness of other cultures	(A)	(B)	(C)	(D)
71.	being able to provide for your family	(A)	(B)	(C)	(D)

YOU ARE NOW ON QUESTION 72!
Please check your Scantron form.

Next, please rate the following characteristics as very important, somewhat important, or not important at all to *getting what you want out of life...*

		Very important	Somewhat important	Not important at all	Don't know
72.	coming from a wealthy family	(A)	(B)	(C)	(D)
73.	having educated parents	(A)	(B)	(C)	(D)
74.	having a good education yourself	(A)	(B)	(C)	(D)
75.	ambition	(A)	(B)	(C)	(D)
76.	natural ability	(A)	(B)	(C)	(D)
77.	hard work	(A)	(B)	(C)	(D)
78.	knowing the right people	(A)	(B)	(C)	(D)
79.	a person's race	(A)	(B)	(C)	(D)
80.	a person's gender	(A)	(B)	(C)	(D)

81. Do you have a computer or laptop at home?

- Ⓐ Yes
- Ⓑ No

82. Do you have access to the Internet at home?

- Ⓐ Yes
- Ⓑ No

83. Compared with other American families, would you say that your family's income is far below average, slightly below average, just about average, slightly above average, or far above average?

- Ⓐ Far below average
- Ⓑ Slightly below average
- Ⓒ Just about average
- Ⓓ Slightly above average
- Ⓔ Far above average
- Ⓕ I'm not sure

STOP

PLEASE READ THIS BEFORE YOU CONTINUE.

If you do *not* plan to continue your formal education within the first year after you graduate from high school, answer Questions 84-86 on the following page.

If you do plan to continue your formal education within the first year after you graduate from high school, fill in Ⓢ to indicate "This question does not apply to me" for Questions 84-86 and then proceed with Question 87 to complete the survey.

84. In what state do you plan to live after high school?

- (A) Tennessee
- (B) Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, OR Vermont
- (C) New Jersey, New York, OR Pennsylvania
- (D) Indiana, Illinois, Michigan, Ohio, OR Wisconsin
- (E) Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, OR South Dakota
- (F) Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, OR West Virginia
- (G) Alabama, Kentucky, OR Mississippi
- (H) Arkansas, Louisiana, Oklahoma, OR Texas
- (I) Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, OR Wyoming
- (J) Alaska, California, Hawaii, Oregon, OR Washington
- (K) Outside of the US
- (T) This question does not apply to me

85. Please choose any reasons from the following list that describe why you do not plan to continue your education as soon as you graduate from high school? (Select all that apply.)

- (A) I never thought about it
- (B) I don't see the point
- (C) I don't like school
- (D) My health won't allow it
- (E) My grades are too low
- (F) It will cost me too much money
- (G) It will cost my family too much money
- (H) The job I want does not require me to have any more education
- (I) I want to work and earn some money first
- (J) I want to travel
- (K) I want to start a family
- (L) I want to join the military
- (M) I do not have support from my teachers or administrators
- (N) I do not have support from my parents or other family members
- (O) There's just no reason for me to go to college
- (T) This question does not apply to me

86. What would you say is the *first and biggest reason* why you do not plan to continue your education after high school? (Select only one.)

- (A) I never thought about it
- (B) I don't see the point
- (C) I don't like school
- (D) My health won't allow it
- (E) My grades are too low
- (F) It will cost me too much money
- (G) It will cost my family too much money
- (H) The job I want does not require me to have any more education
- (I) I want to work and earn some money first
- (J) I want to travel
- (K) I want to start a family
- (L) I want to join the military
- (M) I do not have support from my teachers or administrators
- (N) I do not have support from my parents or other family members
- (O) There's just no reason for me to go to college
- (T) This question does not apply to me

If you do *not* plan to continue your formal education within the first year after you graduate from high school, you have completed the survey. Thank you for your participation.

If you do plan to continue your formal education within the first year after you graduate from high school, please continue with Question 87 to complete the survey.

**87. In what state or region do you plan to go to college?
(If you are applying to colleges in multiple states, please choose the state in which the college you *most want to go to* is located.)**

- (A) Tennessee
- (B) Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, OR Vermont
- (C) New Jersey, New York, OR Pennsylvania
- (D) Indiana, Illinois, Michigan, Ohio, OR Wisconsin
- (E) Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, OR South Dakota
- (F) Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, OR West Virginia
- (G) Alabama, Kentucky, OR Mississippi
- (H) Arkansas, Louisiana, Oklahoma, OR Texas
- (I) Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, OR Wyoming
- (J) Alaska, California, Hawaii, Oregon, OR Washington
- (K) Outside of the US

**88. If you want to go to college *outside* of Tennessee, why?
(Select all that apply.)**

- (A) I plan to stay *in* Tennessee
- (B) Your scholastic ability
- (C) Cost
- (D) Scholarship availability
- (E) Program availability
- (F) Your athletic ability
- (G) Location
- (H) Reputation of the out-of-state institution
- (I) Quality of the institution
- (J) Other

**89. If you want to go to college *in* Tennessee, why?
(Select all that apply.)**

- (A) I plan to go to college *outside* of Tennessee
- (B) Your scholastic ability
- (C) Cost
- (D) Scholarship availability
- (E) Program availability
- (F) Your athletic ability
- (G) Location
- (H) Reputation of the in-state institution
- (I) Quality of the institution
- (J) Other

90. What program do you want to study?

- Ⓐ I haven't decided
- Ⓑ Architecture
- Ⓒ Arts
- Ⓓ Astronomy, biology, botany, chemistry, physics
- Ⓔ Automotive repair
- Ⓕ Business
- Ⓖ Communications or information
- Ⓗ Computer science
- Ⓘ Education
- Ⓢ Engineering
- Ⓚ Music
- Ⓛ Nursing
- Ⓜ Pre-law
- Ⓝ Pre-med
- Ⓖ Philosophy, political science, psychology, religious studies, sociology, or social work
- Ⓟ Other

91. Will you be the first member of your immediate family to attend college?

- Ⓐ Yes
- Ⓑ No
- Ⓒ Not sure

**92. How do you plan to pay for your future education?
(Select all that apply.)**

- Ⓐ Student loans
- Ⓑ Lottery scholarships
- Ⓒ Academic scholarships
- Ⓓ Athletic scholarships
- Ⓔ Your own savings
- Ⓕ Your parent's or parents' savings
- Ⓖ Gifts or inheritances
- Ⓗ Haven't thought about it yet

93. Have you or your parents already started saving for your future education?

- Ⓐ Yes
- Ⓑ No
- Ⓒ Don't know

**Those are all of the questions we have for you.
Thank you very much for your participation.**

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Appendix B

Tables

Appendix Table B1. Five external and internal factors

Factors by Survey Question	Loading
School Support (External)	0.83427
At my school, there is a teacher or some other adult who always wants me to do my best.	0.82668
At my school, there is a teacher or some other adult who believes I will be a success.	0.81652
At my school, there is a teacher or some other adult who tells me when I do a good job.	0.78347
At my school, there is a teacher or some other adult who listens to me when I have something to say.	0.76415
At my school, there is a teacher or some other adult who really cares about me.	0.71580
At my school, there is a teacher or some other adult who notices when I'm not there.	0.55753
I have a close relationship with at least one of my teachers or school administrators.	
Home Support (External)	
In my home, there is a parent or some other adult who always wants me to do my best.	-0.90656
In my home, there is a parent or some other adult who believes that I will be a success.	-0.82801
In my home, there is a parent or some other adult who wants me to go to college or some other school after high school.	-0.79554
In my home, there is a parent or some other adult who expects me to follow the rules.	-0.72533
In my home, there is a parent or some other adult who is interested in my school work.	-0.71229
Character (Internal)	
During the school year, I do things that make a positive difference in my community.	0.85438
During the school year, I do things that make a positive difference to other students.	0.79597
Self-efficacy (Internal)	
I can do most things if I try.	0.72754
I can work with someone who has opinions that are different than mine.	0.62226
I have goals and plans for the future.	0.60104
I try to understand how other people feel and think.	0.59085
There is a purpose to my life.	0.57331
I know where to go for help with a problem.	0.55384
I can work out my own problems.	0.53235
I enjoy working with other students my age.	0.53195
School Assets (External)	
I am happy to be at this school.	0.80294
I feel close to people at this school.	0.60427
I feel safe in my school.	0.57957
I like coming to school most days.	0.56978
The teachers at this school treat students fairly.	0.55208
This school challenges me.	0.51700

Appendix Table B2. Profile of student sample

	Overall	
	Number	Percent
Gender		
Male	5,192	47.5
Female	5,746	52.5
High School		
Public	10,766	98.1
Private	210	1.9
National Origin		
Hispanic	427	4.1
Non-Hispanic	10,012	95.9
Race		
White	8,005	73.6
Non-White	2,876	26.4
Family Income		
Far below average	673	7.3
Slightly below average	1,510	16.4
Just about average	3,574	38.7
Slightly above average	2,854	30.9
Far above average	616	6.7
Have a Computer at Home		
No	1,392	13.0
Yes	9,298	87.0
Have Internet Access at Home		
No	2,190	20.6
Yes	8,450	79.4
Last Year's Grades		
Mostly As	3,188	29.4
Mostly Bs	4,355	40.2
Mostly Cs	2,751	25.4
Mostly Ds	426	3.9
Mostly below Ds	115	1.1
Taking AP and/or College Prep Courses		
Yes	4,183	38.5
No	6,671	61.5
Taken the ACT		
Yes (one or more times)	3,085	29.0
No	7,553	71.0
ACT Score (if taken)		
At or above TN median ACT score	1,935	18.2
Below TN median ACT score (or did not take)	8,703	81.8

Appendix Table B2. continued

	Overall	
	Number	Percent
Working Part-Time for Pay		
Yes	5,819	53.9
No	4,985	46.1
Involvement in Student Government		
Yes	1,484	13.8
No	9,305	86.2
Value Education for Personal Development		
Yes	10,499	97.3
No	294	2.7
Value Education for Financial Security		
Yes	10,606	98.3
No	186	1.7
School Support		
High	8,839	80.8
Low	2,106	19.2
Home Support		
High	10,258	94.2
Low	634	5.8
Self-efficacy		
High	10,242	93.6
Low	700	6.4
School Assets		
High	6,500	59.3
Low	4,456	40.7
Character		
High	5,121	49.6
Low	5,205	50.4

Appendix Table B3. Profile of student sample by behavioral intention

	Intend to Continue Education		Do Not Intend to Continue Education	
	Number	Percent	Number	Percent
Gender				
Male	2,534	40.7	2,658	56.5
Female	3,698	59.3	2,048	43.4
High School				
Public	6,100	97.7	4,666	98.6
Private	146	2.3	64	1.4
National Origin				
Hispanic	190	96.9	237	5.4
Non-Hispanic	5,872	3.1	4,140	94.6
Race				
White	4,675	75.4	3,330	28.9
Non-White	1,523	24.6	1,353	71.1
Family Income				
Far below average	270	4.9	403	10.9
Slightly below average	798	14.4	712	19.3
Just about average	2,118	38.3	1,456	39.4
Slightly above average	1,948	35.2	906	24.5
Far above average	396	7.2	220	6.0
Have a Computer at Home				
No	551	8.9	841	18.6
Yes	5,622	91.1	3,676	81.4
Have Internet Access at Home				
No	945	15.4	1,245	27.8
Yes	5,211	84.6	3,239	72.2
Last Year's Grades				
Mostly As	2,433	39.4	755	16.2
Mostly Bs	2,556	41.4	1,799	38.6
Mostly Cs	1,067	17.3	1,684	36.2
Mostly Ds	93	1.5	333	7.1
Mostly below Ds	28	0.5	87	1.9
Taking AP and/or College Prep Courses				
Yes	3,017	48.7	1,166	25.0
No	3,179	51.3	3,492	75.0
Taken the ACT				
Yes (one or more times)	2,309	38.3	776	16.8
No	3,715	61.7	3,838	83.2
ACT Score (if taken)				
At or above TN median ACT score	1,564	26.0	4,243	92.0
Below TN median ACT score (or did not take)	4,460	74.0	371	8.0
Working Part-Time for Pay				
Yes	3,449	55.8	2,370	51.2
No	2,734	44.2	2,251	48.7

Appendix Table B3. continued

	Intend to Continue Education		Do <i>Not</i> Intend to Continue Education	
	Number	Percent	Number	Percent
Involvement in Student Government				
Yes	1,027	16.6	457	9.9
No	5,155	83.4	4,150	90.1
Value Education for Personal Development				
Yes	6,103	98.6	4,396	95.5
No	86	1.4	208	4.5
Value Education for Financial Security				
Yes	6,150	99.4	4,456	96.8
No	38	0.6	148	3.2
School Support				
High	5,443	87.2	3,396	72.2
Low	797	12.8	1,309	27.8
Home Support				
High	6,064	97.6	4,194	89.8
Low	159	2.4	475	10.2
Self-efficacy				
High	6,088	97.6	4,154	88.4
Low	153	2.4	547	11.6
School Assets				
High	4,191	67.1	2,309	49.0
Low	2,051	32.9	2,405	51.0
Character				
High	3,500	59.0	1,621	36.9
Low	2,432	41.0	2,773	63.1

Vita

Stacia E. Couch was born in Cincinnati, Ohio but lived most of her formative years in Greer, South Carolina. She graduated from Riverside High School in 1990. Stacia received her Bachelor of Arts degree in English from Clemson University in 1993 and an ABA-approved paralegal certificate from the National Center for Paralegal Training in Atlanta in 1994. She served as a paralegal for six years, two in Charleston, South Carolina and four in Tucson, Arizona at Snell & Wilmer, LLP. During that time, Stacia managed an extensive caseload for multiple attorneys and learned to effectively communicate with clients, the court, colleagues, and her staff.

In July, 2001, Stacia returned to the southeast to pursue a career and a degree in higher education. She has worked full-time for the past five and one-half years in creative and research capacities at the Center for Business and Economic Research in the College of Business Administration at the University of Tennessee. In May, 2004, Stacia began the Master of Science program in the College of Communication and Information with a primary concentration in Communication Studies. In the Spring of 2006, Stacia was the recipient of both the College of Business Administration Staff Award for Excellence in Creativity and Innovation and the College of Communication and Information Master's Student of the Year Award.

Stacia has 12 years of project and people management experience in a wide array of fields, including law, public policy, and communication. Her research centers around government communication with its constituents and stakeholders and to that end, Stacia intends to further her career in Washington, D.C. providing appropriate and useful research to this country's policy- and decision-makers.