

## ABSTRACT

Title of Dissertation: THE ASSOCIATIONS AMONG YOUTH CHARACTERISTICS, SECONDARY SCHOOL EXPERIENCES, AND ENROLLMENT IN TWO- AND FOUR-YEAR COLLEGES AMONG YOUTH WITH DISABILITIES

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The purpose of this study was to explore the associations between school program and services, high school achievement characteristics, and individual and household characteristics and enrollment in two- and four-year colleges among youth with disabilities. Variables related to youth characteristics and secondary school experiences were identified from the first 5 data collection points of the National Longitudinal Transition Study 2 (NLTS2) database. Chi-squares, t-tests, and logistic regression analyses were used in this study.

The results in this study showed that individual and household, high school achievement, and school program characteristics significantly predicted college enrollment among youth with disabilities. The model of variables including individual,

household, parental, high school achievement, self-determination, and school program characteristics correctly classified 86.4% of the college enrollers in the analytic sample. These findings confirm the appropriateness of categories included in the NLTS2 Conceptual Framework.

Additionally, the study found that high school achievement characteristics such as graduating from high school, participating in extra curricular activities, and experiencing financial management/ responsibility had the most consistent, positive impact on the probability of enrolling in two- and four-year colleges. Additionally, youth characteristics such as disability category, household income, and parental level of education significantly impacted the probability of enrolling in colleges. Finally, participating in vocational education, having a postsecondary goal to attend college, and taking a leadership role in one's transition planning process significantly increased the probability of the youth enrolling in college. The findings emphasize the importance of obtaining a high school diploma, participating in organized activities outside of the classroom, experiencing a level of autonomy or independence, and taking a leadership role in the transition planning process while in high school for youth with disabilities.

THE ASSOCIATIONS AMONG YOUTH CHARACTERISTICS, SECONDARY  
SCHOOL EXPERIENCES, AND ENROLLMENT IN TWO- AND FOUR-YEAR  
COLLEGES AMONG YOUTH WITH DISABILITIES

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## DEDICATION

For Ross Berman and Tuffy, Joe, and Lizzy Miceli who have supported me throughout this process; each providing love and encouragement in his or her own special way.

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## LIST OF ABBREVIATIONS

ADA: the Americans with Disabilities Act of 1990  
AYP: adequate yearly progress  
B&B: Baccalaureate and Beyond Longitudinal Study  
BPS: Beginning Postsecondary Students Longitudinal Study  
CATI: computer-assisted telephone interview  
CTE: career and technical education  
EAHCA: the Education of All Handicapped Children Act  
EHA: the Education of the Handicapped Act  
ESEA: the Elementary and Secondary Education Act  
FAPE: free appropriate public education  
IDEA: the Individuals with Disabilities Education Act  
IEP: individualized education program  
IES: Institute of Educational Science  
LD: learning disability(ies)  
LEA: local education agency  
LRE: least restrictive environment  
NCLB: the No Child Left Behind of 2001  
NCSET: National Center on Secondary Education and Transition  
NELS: National Education Longitudinal Study  
NLTS: National Longitudinal Transition Study  
NLTS2: National Longitudinal Transition Study 2  
NLSY: National Longitudinal Survey of Youth  
NPSAS: National Postsecondary Student Aid Study  
OCR: Office of Civil Rights  
OSEP: Office of Special Education Programs  
OSERS: Office of Special Education and Rehabilitation Services  
PL: public law  
SAT: Scholastic Aptitude Test  
Sec. 504: Section 504 of the Vocational Rehabilitation Act of 1973  
SAM: School Attitude Measure in the Woodcock-Johnson Research Edition  
SPSS: the Statistical Package of the Social Sciences  
SRI: Stanford Research Institute International  
SSCS: the Student Self-Concept Scale in the Woodcock-Johnson Research Edition

## CHAPTER I: OVERVIEW

Obtaining a college degree is increasingly important in terms of adult success for individuals with and without disabilities. Youth with disabilities who attend college have better jobs, higher lifetime wages, and greater job satisfaction (Dickinson & Verbeck, 2002; Madaus, 2006; Vogel & Adelman, 2000; Wehman & Yasuda, 2005). Further, research has determined that enrolling in two- and four-year colleges reduces inequalities in postschool outcomes such as employment (e.g., job attainment, satisfaction, and maintenance), earnings, and graduate school enrollment between youth with and without disabilities (Dickinson & Verbeck; Horn & Berktold, 1999; Vogel & Adelman).

The special education community has been concerned with improving the postschool outcomes of youth with disabilities for over 20 years (Stodden, Dowrick, Gilmore, & Galloway, 2003). Beginning during the 1980's, the federal government funded a number of projects to investigate strategies leading to better postschool outcomes, including assessing youths' transition needs and providing career planning. More recently, the federal government has supported improved outcomes through legislative changes and technical assistance (Sitlington & Clark, 2006; Stodden, Dowrick, et al.).

Though there is evidence of improvements in some of the postschool outcomes of youth with disabilities, such as the percentage of those with disabilities who have worked for pay and of those who earned more than the federal minimum wage, college enrollment rates remain low (Wagner, Newman, Cameto, & Levine, 2005). Youth with disabilities enroll in two- and four-year colleges and universities at a far lower rate than their peers without disabilities (Johnson, Stodden, Emanuel, Luecking, & Mack, 2002;

National Center on Secondary Education and Transition [NCSET], 2004; National Council on Disability, 2000, 2004a; Stodden, Dowrick, et al., 2003; Wagner, Newman, Cameto, & Levine, 2005). The National Council on Disability (2000) identified the low rate of participation in postsecondary education among youth with disabilities as a persistent problem, especially when compared to the enrollment rates of youth without disabilities.

A report on data obtained through the National Longitudinal Transition Study 2 (NLTS2:00/03), a nationally representative study of adolescents with disabilities who received special education under the Individuals with Disabilities Education Act (IDEA), indicated that 19% of these youth with disabilities were enrolled in some type of postsecondary education institution in 2003, compared to 40% of youth without disabilities, which was based on data from National Longitudinal Survey of Youth (NLSY:97/00; Wagner, Newman, Cameto, Garza, & Levine, 2005). The report also indicated that among the 19% who were attending some type of postsecondary institution in the NLTS2 study, only 9.7% of the youth with disabilities were enrolled in two-year colleges in 2003, compared to 12.2% of youth without disabilities in 2000 data from NLSY. Further, an additional 5.7% of the youth with disabilities in NLTS2 were enrolled in four-year colleges in 2003 compared to 28.3% of youth without disabilities in 2000 data from NLSY.

In this chapter, I provide an overview of the study by discussing the rationale, significance, and methods for investigating college enrollment among youth with disabilities. First, I discuss the rationale and purpose of the study by providing an overview of the characteristics of youth with disabilities who enroll in two- and four-year

colleges; the policies that support college enrollment among this population; and the previous research conducted in this area. Second, I provide an overview of the purpose and methodology of the study by discussing research questions, the NLTS2 dataset, and data analysis methods. Third, I discuss the significance of this study to the field of special education.

### Characteristics of Youth with Disabilities who Enroll in College

The only available national data which describes the characteristics of youth with disabilities at the point of enrollment in a two- or four-year college comes from the NLTS2:00/03 and the National Education Longitudinal Study (NELS:88/00), both of which have been funded by the US Department of Education. Other studies which provide national data on college enrollment (i.e., National Postsecondary Student Aid Study [NPSAS:96], Beginning Postsecondary Students Longitudinal Study [BPS:90/94], Baccalaureate and Beyond Longitudinal Study [B&B:93/94]) have focused on youth with disabilities who are already enrolled in a college or university and who have self-identified as having a disability (Horn & Berkold, 1999). Additionally, these studies as well as NELS have not included youth from all disability categories nor have the studies used definitions which correspond to those categories used within the IDEA (Wolanin & Steele, 2004).

Though the NLTS2:00/03 report indicated that 19% of youth with disabilities enrolled in some type of postsecondary education in 2003, it also reported that a total of 31.9% of youth with disabilities enrolled in some type of postsecondary education within two years of leaving high school (Wagner, Newman, Cameto, & Levine, 2005). This report stated that 20.8% of youth with disabilities in that sample enrolled in a two-year

college within two years of leaving secondary school and 9.6% enrolled in a four-year college. The report also indicated that females were more likely to enroll in two-year colleges while males were more likely to enroll in four-year institutions. Also, youth with visual impairments and hearing impairments were more likely to enroll in both two- and four-year institutions than youth with any other disabilities.

The NLTS2:00/03 report also indicated that youth with disabilities who had graduated from high school were more likely to enroll in college than youth who had dropped out of high school as were older youth (i.e., 19-year-olds) with disabilities and those from wealthier households. Finally, white youth with disabilities were more likely to have enrolled in two-year colleges than either African American or Hispanic youth. However, African American youth with disabilities were more likely to enroll in four-year colleges than either white or Hispanic youth with disabilities (Wagner, Newman, Cameto, & Levine, 2005). These descriptive results provided a snapshot at one point in time of the characteristics of youth with disabilities who are choosing to enroll in college. Since the NLTS2 report only provided descriptive results, research should be conducted on the relationships between youth characteristics and enrollment in colleges among this population. Identifying significant relationships between specific youth characteristics and college enrollment may help to support increased college enrollment among youth with disabilities. Several federal laws and programs have provisions which can aid youth with disabilities who seek to enroll in higher education.

#### Policies Supporting College Enrollment among Youth with Disabilities

There are four major federal laws that support access to two- or four-year colleges among youth with disabilities. These include two important civil rights laws, Public Law

(PL) 101-336, the Americans with Disabilities Act (ADA) and Section 504 of PL 93-112, the Vocational Rehabilitation Act (Sec. 504), which require a non-discriminatory college admission process for people with disabilities. Additionally, PL 108-446, IDEA and, PL 107-110, Title 1 of the Elementary and Secondary Education Act (No Child Left Behind [NCLB]) provide supports which prepare youth with disabilities for college enrollment within the secondary school setting. The IDEA provides eligible youth with disabilities an entitlement to individually designed special education and related services including transition services and supports that help them access the general education curriculum and obtain postsecondary goals. Finally, the NCLB and state-driven standards based reforms have supported the access to general education coursework for youth with disabilities which has resulted in their increased participation in specific subject matter classes (National Council on Disability, 2004a; Stodden, Galloway, & Stodden, 2003).

*Sec. 504 and the ADA*

The two civil rights laws, Sec. 504 and the ADA, support the enrollment of youth with disabilities in colleges or universities through the requirement that otherwise qualified individuals with disabilities receive reasonable accommodations designed to provide access to educational programs and facilities (Yell, 1998). The right to accommodations is extremely important to youth who are already enrolled in college but can also be quite important during the college admission process. For instance, an otherwise qualified youth with a disability may be allowed extra time on a college entrance exam (e.g., Scholastic Aptitude Test [SAT]) to off set the impact of his/her disability (Thomas, 2000). Additionally, these laws require colleges to apply non-discriminatory practices in the college application process of otherwise qualified

individuals with disabilities. For instance, colleges may not use college admission standards that discriminate against individuals with disabilities.

It is important to note however, that these laws are intended to provide access to the same opportunities that a youth without a disability has when applying to college. Nothing in either statute requires that programs alter their admission standards or ensue undue hardships to meet the requirements of Sec. 504 and the ADA. The reasonable accommodations under these laws are to provide a level playing field for youth with disabilities and not to provide an unfair advantage for these youth (*Price v. National Board of Medical Examiners*, 1997; Thomas, 2000).

#### *The IDEA*

In contrast to Sec. 504 and the ADA, the IDEA entitles those youth who are eligible for services under this law to a free and appropriate public education (FAPE). The determination of what is appropriate is based on individualized assessments and reflected in the content of the Individualized Education Program (IEP). The IEP specifies the specially designed instruction and other services that will provide meaningful educational benefit to the student in a way that meets his/her individual needs (Yell, 2006). Historically, IEP teams have developed parallel programs or separate educational services for students with disabilities. IEP goals were either very broad and general or highly specific and generally ignored or were inconsistent with what was being taught in the general education courses (Pugach, 1982; Smith, 1990). However, as noted earlier, policymakers, professionals, and advocates began to be very concerned about the educational outcomes of youth with disabilities in the mid-1980s. As a result, several revisions were made to the IDEA beginning in 1990 that were designed to improve the

postschool outcomes. These include the addition of transition services and the increasing emphasis on ensuring that students with disabilities have access to the general education curriculum.

### *IEPs and Transition Services*

The transition service requirements within the IDEA are intended to prepare youth with disabilities for a successful move from high school to postschool activities, including enrollment in college. As defined in IDEA, transition services are a coordinated set of activities focused on improving the academic and functional achievement of youth with disabilities as they move from high school to postschool activities such as college. According to Section 602 of IDEA, transition services include instruction, related services, community experiences, and development of employment and postschool adult living objectives (IDEA, 2004). Transition planning occurs as part of the IEP process and requires the IEP team to create a plan for how the youth will achieve the desired postschool outcomes (Wehman, 2006). This planning process must take into consideration what the youth needs and wants to achieve after high school. Transition services have been required since the 1990 reauthorization of the IDEA; however, among the recent changes to these provisions there has been a focus on improving the academic achievement the youth to facilitate a successful transition from high school to postschool life. The IDEA Improvement Act of 2004 altered the focus of transition services to include improving the academic and functional achievement of the youth with disabilities to facilitate the youth's movement from high school to postschool activities.

Despite the efforts to improve the transition process, research has found that: (a) few youth attend their IEP meetings; (b) transition plans often include vague statements,

lack long-range planning, and exclude important skills such as self-advocacy; (c) IEP team members do not understand the IDEA mandates; and (d) school staff feel pressure to select either an academic or vocational training curricula for the youth (Powers, Gil-Kashiwabara, Geenen, Powers, Balandran, & Palmer, 2005). The provision in IDEA that requires access to the general education curriculum for youth with disabilities supports access to the academic curriculum and college enrollment as well. While the transition requirements of IDEA are important, the policies that emphasize curriculum access are particularly critical to enhancing college enrollments among youth with disabilities.

#### *IEPs and Access to the General Education Curriculum*

The IDEA requirement which provides access to the general education curriculum supports academic opportunities and experiences for youth with disabilities similar to those for youth without disabilities. Similar academic opportunities and experiences are especially important since youth with and without disabilities must meet the same college admission requirements. Beginning with the 1997 amendments to the IDEA, there has been an increasing shift toward a focus on academic achievement and curriculum access for students with disabilities. As an illustration of how the IDEA has shifted its focus, the 2004 amendments to the IDEA state that,

Disability is a natural part of the human experience and in no way diminishes the right of individuals to participate or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities. (IDEA, 20 USC §1401(c)(1))

In 2004, the IDEA also required that students with disabilities receive access to the general education curriculum in regular education classrooms. These requirements coupled with the mandate that students with disabilities participate in all state and district assessments and that their test results be reported have forced a greater focus on academic achievement. The IDEA provisions are further supported by the accountability requirements of NCLB.

### *The NCLB and Accountability*

The provisions that address school accountability for the academic performance on youth with disabilities in the NCLB support the IDEA requirements that these students have access to subject matter content which, in turn, should enhance their qualifications to apply to college. Specifically, NCLB requires states to implement a statewide accountability system which includes the same academic content and achievement standards for youth with and without disabilities (Yell & Drasgow, 2005). Further, the law requires states to levy consequences on schools whose youth with disabilities do not make adequate yearly progress (AYP) on grade-level reading and mathematic standards and assessments. Since schools are being held accountable for the performance of youth with disabilities on reading and math assessments aligned with general education, grade-level academic standards, schools should provide these youth with access to and facilitate progress in the grade-level, general education curriculum.

Separate from the NCLB, but equally important, are the increased graduation requirements being adopted by states as part of their overall accountability model. According to a recent survey of the 50 states and the District of Columbia conducted by the National Center on Educational Outcomes, in the past three years, 28 states increased

their graduation requirements to receive a standard diploma for both youth with and without disabilities (Johnson, Thurlow, & Stout, 2007). These new policies put further attention on academics and the need to ensure that youth with disabilities receive an opportunity to learn all of the important content expected of their peers without disabilities. Further, despite the efforts to both support and protect youth with disabilities, the enrollment in college is low. Therefore, it is important to examine those factors that research has shown are related to college enrollment among this population.

#### Research on Factors Associated with College Enrollment

A review of the empirical research pertaining to factors that relate to college enrollment among youth with disabilities provides little conclusive evidence about which youth characteristics or secondary school experiences or achievements may promote enrollment. The majority of the research was conducted during the 1980's and 1990's on enrollment in postsecondary education which often included vocational education and sometimes even JobCorps and the military. Further, the existing research primarily has been descriptive and has not included many multivariate analyses which allow for the identification of predictors of college enrollment. Finally, the studies have not investigated the effects of important school experiences or factors such as self-determination instruction and exposure to the general education curriculum on enrollment in college.

For example, some studies have investigated the differences between or among youth with disabilities who enrolled or have not enroll in postsecondary education in terms of youth characteristics and high school experiences (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller, Rzonca, & Snider,

1991; Miller, Snider, & Rzonca, 1990; Murray, Goldstein, Nourse, & Edgar, 2000). However, many of these studies have defined their dependent measure of postsecondary enrollment to include enrollment in two- and four-year colleges, adult education, and vocational training (Blackorby & Wagner; Fairweather & Shaver, 1990, 1991; Halpern, Yovanoff, Doren, & Benz, 1995; Levine & Edgar; Miller et al., 1990, 1991; Murray et al.). Thus, it is not possible to determine which factors might be related only to enrollment in colleges or universities.

The research is also dated. The majority of the studies included youth who attended high school in the late 1980's and the early 1990's, prior to the increased emphasis on improving educational outcomes, access to the general education curriculum, and the transition of youth with disabilities from high school to college. Further, the studies often included primarily youth with learning disabilities (LD; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000; Rojewski, 1999). Additionally, the studies failed to address the effects of some new strategies that are recommended for use with secondary youth with disabilities as part of promoting a successful transition to college. These include developing skills such as self-determination, self-advocacy, and knowledge of one's disabilities (Gartin, Rumrill, & Serebreni, 1996; Gil, 2007; Johnson et al., 2002; NCSET, 2004; National Council on Disability, 2004a; Stodden, Dowrick, et al., 2003; Stodden, Galloway, & Stodden, 2003; Thoma & Wehmeyer, 2005; Wehman, 2006; Wolanin & Steele, 2004).

Even with these limitations, the available research literature does provide some evidence of significant relationships between various individual youth characteristics, such as cognitive skills and disability (Halpern et al., 1995; Rojewski, 1999; Wagner,

Blackorby, Cameto, & Newman, 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005), family status such as income level, and parental expectations (Fairweather & Shaver, 1990, 1991; Wagner & Blackorby, 1996; Wagner et al., 1993) and enrollment in postsecondary education. Secondary school services and programs, such as courses taken, transition goals, and contact with colleges, have also been found to relate to postsecondary enrollment (Halpern et al.; Miller et al., 1990, 1991; Rojewski; Wagner & Blackorby; Wagner et al., 1993) as have high school academic achievement, school completion, and group membership (Fairweather & Shaver, 1990, 1991; Miller et al., 1990; Rojewski; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine). Finally, one study (Wagner et al.) provided a conceptual framework of factors relating to postschool outcomes (e.g., enrolling in postsecondary education).

One study found a relationship between the proportion of the student body below the poverty level and whether or not a youth with a disability enrolls in a two- or four-year college (Wagner et al., 1993) and several have found that the amount of time between leaving high school and enrolling in college is an important factor (Blackorby & Wagner, 1996; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine, 2005).

In addition to the other limitations, few studies have explored the associations among multiple variables and their contribution to the desired outcome of college enrollment. Further, only one study discussed a conceptual framework of factors relating to postsecondary enrollment (Wagner et al., 1993). The NLTS2 Conceptual Framework (Wagner, Kutash, Duchnowski, & Epstein, 2005) found in the NLTS2 documentation is almost identical to the conceptual framework found in Wagner et al. Overall, this body of literature does not provide a good knowledge base on the predictors of enrollment in two-

or four-year colleges among youth with disabilities for practitioners and policy makers. This current study fills the methodological gaps in this body of literature.

### Purpose of Study

Given the limitations noted in the existing research, the purpose of this study was to explore the associations between school program and services, high school achievement characteristics, and individual and household characteristics and enrollment in two- and four-year college among youth with disabilities. The study utilized a subsample of youth with disabilities transitioning from high school to postsecondary life drawn from the NLTS2 database.

Using this dataset offered certain advantages. The NLTS2 database provided information on a nationally representative sample of youth with disabilities who were in secondary school in 2000 or later. Most importantly, the dataset provided information on self-determination and self-advocacy skills as well as academic and classroom performance. The dataset provided a full picture of these youths' progression through high school to college. The NLTS2 dataset provided an opportunity to explore how college enrollment varies among youth with disabilities who have received special education and related services within a current achievement-focused policy context.

### The NLTS2 Dataset

The US Department of Education-funded NLTS2 dataset offered several advantages. First, it is current (i.e., data collection began in 2001 and ends in 2010) and special care was taken to accurately represent all of the federal disability categories under IDEA in the NLTS2 sample. Second, the data were collected through a longitudinal design, multiple data collection methods, and from multiple perspectives (i.e., youth,

parent, teacher, and principal). The NLTS2 provided data on individual and household characteristics, school program and experiences, high school achievement characteristics, and postschool outcomes (Wagner, Kutash, et al., 2005). Also, as noted above, it included variables related to strategies, such as self-determination skills. Finally, the NLTS2 research design provided a conceptual framework, similar to the one offered in Wagner et al. (1993), which identified six categories of variables considered to impact postschool outcomes, including enrollment in colleges, among youth with disabilities. I used this conceptual model to organize my independent variables. See Figure 1 for the NLTS2 Conceptual Framework (Wagner, Kutash, et al.).

INSERT FIGURE 1 ABOUT HERE

#### *The Sample*

I used a subset of the NLTS2 sample to investigate the associations among these factors and college enrollment. The NLTS2 is a longitudinal study investigating the educational, vocational, social, and personal experiences of youth with disabilities as they transition from high school to adult life. The nationally representative sample included almost 12,000 youth with disabilities who were between the ages of 13 -16 and were receiving special education services in December of 2000. The sample represented the 12 federal special education disability categories which are appropriate for this age range. The independent, nonprofit research institute Stanford Research Institute International (SRI) has collected data through Parent and Youth Interviews, direct assessments, Teacher Surveys, School Program Surveys, School Background Surveys, and high school transcripts. By the end of the NLTS2 study, there will be a total of seven data collection points. The base year was 2001 and the study will end in 2010 (NCSET, 2002). I used a

subsample of youth with disabilities from NLTS2 who had been out of high school for up to four years in 2005. Due to missing data, I used five analytic samples to preserve the statistic power of the results and provide the opportunity to investigate all the variables of interest.

### *Data Collection Instruments*

I used data collected from numerous data collection points and instruments. I used data collected in the first 5 data collection points (i.e., 2000-01, 2001-02, 2002-03, 2003-04, and 2004-05, respectively). SRI collected the data through Parent Interviews in 2000-01 during the first data collection point, in 2002-03 during the third data collection point, and in 2004-05 during the fifth data collection point (SRI International, 2000a). During the third and fifth data collection, SRI interviewed youth as well. They collected data through direct assessments and School Program Surveys in 2001-02 during the second data collection point and in 2003-04 during the fourth data collection point. I used data SRI collected in the Parent and Youth Interviews in 2005 as the dependent variable (i.e., ever enrolled in a two- or four-year college after leaving high school). I used data obtained from all five data collection points as the independent variables. I provide a further description of these variables in chapter 3.

This study utilized data collected from various perspectives (i.e., youth, parents, and school staff) on a nationally representative sample of youth with disabilities who attended high school in at least year 2000. I used a subsample of these youth in NLTS2 who have been out of high school for up to four years in 2005 to investigate the associations among individual and household characteristics, school program and services, high school achievement characteristics, and enrollment in two- and four-year

colleges among youth with disabilities in the current context of policy and secondary practice. I chose this subsample to include the widest range and largest number of youth with disabilities for whom enrolling in college would be appropriate. Further, the four year time frame allowed the study to capture youth who enrolled in college directly after leaving secondary school as well as youth who delayed their enrollment in college since at least one study has found that youth with disabilities are likely to delay enrollment in college (Wolanin & Steele, 2004).

Though I chose a base subsample that included the largest number of youth with disabilities for whom enrolling in college was appropriate, I had to use five analytic samples in order to investigate the associations among all the characteristics and experiences with the highest level of statistical power possible. Due to missing data on key independent variables, my analytic samples ranged from 2910 to 448 cases. Each research questions was matched to one of the five different analytic samples for research questions 2 through 6, and all five analytic samples were used to answer research question 1.

### Research Questions

The following research questions were addressed in this study

1. Research Question 1: How do youth with disabilities who enrolled in a two- or four-year college compare to those who have not enrolled on select individual and household, parental, school program, and high school achievement characteristics?

2. Research Question 2: What is the association between select individual and household characteristics and two- and four-year college enrollment among youth with disabilities?
3. Research Question 3: What is the association between select parental characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual and household characteristics?
4. Research Question 4: What is the association between select high school achievement characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, and parental characteristics?
5. Research Question 5: What is the association between self-determination skills and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?
6. Research Question 6: What is the association between select school program characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

Using the NLTS2 Conceptual Framework, I provide the list of individual characteristics and experiences which were examined in this study in Figure 2.

INSERT FIGURE 2 ABOUT HERE

Methodology

I analyzed the data through chi-square tests, t-tests, and logistic regression analysis to evaluate the association between each factor and enrollment in two- and four-year colleges among youth with disabilities. I used the chi-square tests to determine whether the percentage of youth with disabilities who enroll in two- and four-year colleges differed from the percentage of youth with disabilities who have not enrolled on the various factors. I adjusted the significance level for the chi-square analyses with the Sidak (1967) technique to limit the Type I error. I used the t-tests to determine whether the mean scores on the continuous variable (i.e., self-determination skills score) differed between those who enrolled in college and those who have not enrolled. I used logistic regression analysis to evaluate the associations among all factors as a model for predicting two- and four-year college enrollment as well as the individual associations of each characteristic or experience on enrollment in colleges among youth with disabilities.

#### Significance of the Study

The findings from the study provided an opportunity to examine relationships between pre-collegiate experiences, individual characteristics, and enrollment in two- and four-year colleges among youth with disabilities. The study is particularly important because it provides an analysis of these factors in the current context of policy and secondary practice. The study evaluated the associations between pre-collegiate experiences which are aligned with more recent reauthorizations of the IDEA and the NCLB (e.g., transition services, access to general education curriculum, and accountability for the performance of youth with disabilities on general education standards and assessments) and college enrollment. Further, it evaluated the association between self-determination skills and college enrollment. Understanding the associations

of these factors and college enrollment contributes to the knowledge base of predictors of enrollment among youth with disabilities for practitioners and policy makers. Finally, it contributes considerations for policy implementation which may facilitate higher rates of college attendance among youth with disabilities.

### Chapter Summary

Since college enrollment has the ability to improve postschool outcomes in the areas of employment, earnings, job satisfaction, and graduate education for youth with disabilities and to equalize postschool outcomes between youth with and without disabilities, researchers in the field should identify ways to improve access to college enrollment for youth with disabilities. Federal mandates have been enacted to improve the college preparation for youth with disabilities (i.e., the NCLB and the IDEA) and to eliminate discrimination in the college application process (i.e., Sec. 504 and the ADA); however, a gap still exists in the number of youth with and without disabilities who enroll in two- and four- year colleges. Further, the youth with disabilities who have enrolled in college possess specific characteristics, which brings into question whether all youth with disabilities have equal access to college enrollment. The special education literature provided limited information on the pre-collegiate factors associated with enrollment in two- and four-year colleges and failed to evaluate the effects of having self-determination skills on college enrollment. This study investigated the associations among individual and household characteristics, school program and services, high school achievement characteristics, and college enrollment in order to facilitate a knowledge base for practitioners and policy makers to support improved access to two- and four-year colleges among youth with disabilities.

## Definition of Terms

College - An institute of higher education that grants bachelors and/or associates degrees. This term references both two- and four-year colleges, as well as universities, unless otherwise specified.

High school – The educational building or the period of time in which a youth is enrolled in grades 9 through 12.

Individual with Disabilities Education Act (IDEA) – The major, federal disability education law originally enacted in 1975 under the title of Education for All Handicapped Children Act (EAHCA). IDEA entitles children with disabilities, birth to age 21, to a free appropriate public education (FAPE) in the least restrictive environment (LRE) in compliance with an individualized education plan (IEP) and procedural safeguards.

No Child Left Behind Act of 2001 (NCLB) - The major, federal general education law that requires states to develop and implement statewide academic standards, statewide assessments, and statewide accountability system.

Postschool/ postsecondary – The time period after leaving high school. The time period can begin with graduating from high school or discontinuing attendance at a high school.

Postschool/ postsecondary outcomes – Accomplishments or achievements made once leaving high school. These accomplishments or achievements could include, but are not limited to, enrolling in postsecondary education, being employed, living independently, and participating in community living and leisure activities.

Postsecondary education – Educational activities youth engage in after leaving high school. The activities could include two- or four-year college, vocational technical

training, adult education, job corps, military, private training program, apprenticeship program, or sheltered workshop/ rehabilitation facility.

Pre-collegiate – Factors, variables, experiences, or characteristics which were evident or happened before enrolling in college.

Secondary school – The educational building or the time period of time in which a youth is enrolled in grades 7 through 12.

Youth – A young person between 13 and 21 years of age.

Youth with a disability – A young person between 13 and 21 years of age who (a) has one or more of the following impairments: mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (b) has received special education services during his/her K-12 education, unless otherwise specified in text. For instance, the definition of disability in under the civil rights laws is a physical or mental impairment that substantially limits at least one major life activity, which is specified in the text.

## CHAPTER II: REVIEW OF LITERATURE

The purpose of this study was to investigate the associations among school program and services, high school achievement characteristics, individual and household characteristics, and enrollment in two- or four-year colleges among youth with disabilities. The study analyzed a subsample of youth with disabilities, represented by five analytic samples, in the NLTS2 dataset. In the following sections I provide an overview of the benefits of the college experience for youth with disabilities. I then discuss the federal policies that promote college enrollment among youth with disabilities and describe the characteristics of youth with disabilities who enroll in two- and four-year colleges. Finally, I review the empirical research on factors relating to enrollment in postsecondary education among youth with disabilities.

### Benefits of College Experience for Youth with Disabilities

Since the mid 1980's researchers and policy makers have focused on improving postschool outcomes among youth with disabilities such as increasing employment rates and independent living (National Council on Disability, 2000). These efforts have led people to recognize that if we are to close the income and employment gaps between individuals with and without disabilities, we need to enhance opportunities for postsecondary education, particularly enrollment in two- or four-year colleges (Dickinson & Verbeck, 2002; Horn & Berktold, 1999; Vogel & Adelman, 2000).

Various scholars, researchers, government agencies, and organizations have promoted the idea of using postsecondary education and college to improve postsecondary outcomes of youth with disabilities (Johnson et al., 2002; NCSET, 2004; National Council on Disability, 2004a, 2004b; Wehman, 2006). In fact, the National

Council on Disability has stated in different reports that, “whenever possible, higher education is key to the economic prospects and aspirations for independence of youth with disabilities” (2004b, p.69) and that “education and training after high school is becoming more important for all students, especially for students with disabilities” (2004a, p.52). The need for a college education is not solely dictated by the opinions and statements of scholars and agencies; it is documented within the special education research as well.

Obtaining a college degree is increasingly important in terms of adult success for individuals with and without disabilities. Research has shown that youth with disabilities who attend college have better jobs and higher lifetime wages (Dickinson & Verbeck, 2002; Madaus, 2006; Vogel & Adelman, 2000; Wehman & Yasuda, 2005). In addition, they have greater job satisfaction (Dickinson & Verbeck; Madaus; Vogel & Adelman; Wehman & Yasuda). For example, individuals with LD who are community college and university graduates are more likely to engage in full-time employment, earn between \$30,001 and \$40,000 a year, and receive full employee benefits than youth with LD who did not graduate from college (Madaus).

Additionally, research has demonstrated that enrolling in two- and four-year colleges reduces some of the postschool inequalities between youth with and without disabilities (Dickinson & Verbeck, 2002; Horn & Berktold, 1999; Vogel & Adelman, 2000). For instance, Horn and Berktold found that college graduates with and without disabilities had similar employment outcomes and graduate school enrollment rates in 1994. Vogel and Adelman conducted telephone interviews with adults with LD and adults without disabilities 8 -15 years after they had enrolled in a four-year college. They

found no significant differences between the two groups in employment attainment, job satisfaction, job maintenance, the number of jobs held by those who were employed full time, the occupation categories in which employed, and mean salaries. Dickinson and Verbeck found a small wage gap between college graduates with and without LD they surveyed but concluded the majority of this gap was explained by productivity characteristics, such as holding a college degree in a certain field.

Even though studies have shown a relationship between a college education and improved employment outcomes, earnings, and graduate school enrollment (Dickinson & Verbeck, 2002; Horn & Berktold, 1999; Madaus, 2006; Vogel & Adelman, 2000; Wehman & Yasuda, 2005), youth with disabilities continue to significantly lag behind their peers without disabilities in terms of college enrollment (Wagner, Newman, Cameto, Garza, & Levine, 2005; Wolanin & Steele, 2004). For instance, as noted in chapter 1, a report using NLTS2 data indicated that only 9.7% of the youth with disabilities in the study's sample were enrolled in two-year colleges in 2003 compared to 12.2% of youth without disabilities who participated in NLSY in 2000 and another 5.7% of the youth with disabilities were enrolled in four-year colleges compared to 28.3% of youth without disabilities who participated in NLSY in 2000 (Wagner, Newman, Cameto, Garza, & Levine). Further, the authors reported that youth with mental retardation, emotional disturbance, and multiple disabilities and/or deaf-blindness; youth with disabilities who dropped out of high school; youth with disabilities between the ages of 15 -18; males with disabilities; African American and Hispanic youth with disabilities; and youth with disabilities from low or middle income households accessed college at rates less than 20% (Wagner, Newman, Cameto, & Levine). Factors associated with

enrollment in two- and four-year colleges among youth with disabilities should be identified in order to increase the college enrollment rate.

#### Characteristics of Youth with Disabilities who Enroll in College

There are limited national data on which youth with disabilities enroll in two- and four-year colleges. The National Longitudinal Transition Study (NLTS), NLTS2, and NELS are the only datasets that include information on youth with disabilities who were identified while in secondary school. Other national datasets (e.g., NPSAS, BPS, B&B) offer college enrollment rates of youth with disabilities who are already enrolled in college and who self-identified as having a disability. Further, these datasets do not include youth from all the disability categories specified in the IDEA. The NELS dataset also does not provide information on youth from all 12 federal disability categories. However, the NLTS2 dataset is nationally representative and includes youth from all disability categories eligible for special education and related services who attended secondary school in 2000.

According to a descriptive report using data obtained from NLTS2, approximately 1,300 youth with disabilities in their original sample of 11,272 had exited secondary school by 2003 (Wagner, Newman, Cameto, & Levine, 2005). Among this subsample of youth, 31.9% of 1,029 youth had enrolled in some type of postsecondary education and approximately 72% of 288 youth had enrolled as full-time students. Of 1,029 youth, about 21% had enrolled in two-year colleges and 10% had enrolled in four-year colleges. An additional 6% had enrolled in some other type of postsecondary vocational/ technical/ business school. The percentages reported in the Wagner, Newman, Cameto, and Levine

report and discussed in this section below represented small samples ranging from 196 to 1 youth.

#### *Characteristics by High School Exit Status*

Youth with disabilities who completed high school with a diploma or certificate of completion have enrolled in two- and four-year college at higher percentages than high school dropouts within an approximate sample of 966 out-of-school youth (Wagner, Newman, Cameto, & Levine, 2005). Approximately 28% of the high school completers with disabilities had enrolled in two-year colleges, and another 13% of these youth had enrolled in four-year colleges. Only 1.3% of youth with disabilities who had dropped out of high school had enrolled in two-year colleges.

#### *Characteristics by Disability Category*

Youth with certain disabilities enrolled in college at different rates. For instance, youth with visual and hearing impairments enrolled in two- and four-year colleges at higher percentages than youth with other disabilities, 39% and 41% for youth with visual impairments and 36% and 37% for youth with hearing impairments (Wagner, Newman, Cameto, & Levine, 2005). Similarly, approximately 37% of out-of-school youth with hearing impairments had enrolled in two-year colleges, and 36% of these youth enrolled in four-year colleges. Out-of-school youth in the NLTS2 sample who were identified as having other health impairments, speech/language impairments, learning disabilities, and orthopedic impairments also had enrolled in two-year colleges at rates above 20% (29.6%, 25.6%, 23.4%, and 20%, respectively). Less than 10% of any of the other disability categories had enrolled in a two- or four-year college.

#### *Characteristics by Age*

Youth with disabilities in the NLTS2 sample also differed in college enrollment in terms of age. All 1,300 youth in the sample were between the ages of 15 and 19 in 2003 when the enrollment data were collected and older youth enrolled in two- and four-year colleges at a higher percentage than younger youth with disabilities (Wagner, Newman, Cameto, & Levine, 2005). For instance, approximately 33% of out-of-school youth with disabilities who were 19 had enrolled in two-year colleges and approximately 13% had enrolled in four-year colleges. In comparison, only about 10% of youth age 18 had enrolled in two-year colleges and a similar percentage of youth ages 15 to 17 had enrolled in four-year colleges. However, only 4% of youth age 18 had enrolled in four-year colleges. Further, less than 1% of youth ages 15 to 17 had enrolled in two-year colleges.

#### *Characteristics by Race/ Ethnicity and Gender*

A higher percentage of females with disabilities enrolled in two-year colleges while males with disabilities were more likely to have enrolled in four-year colleges (Wagner, Newman, Cameto, & Levine, 2005). Approximately 24% of females and approximately 19% of males with disabilities had enrolled in two-year colleges while 11% of the males with disabilities and 6% of the females had enrolled in four-year colleges.

White youth with disabilities in the NLTS2 sample enrolled in two-year colleges at a higher percentage (25%) than African American (14%) or Hispanic (13%) youth with disabilities. However, African American youth with disabilities enrolled in four-year colleges at a higher percentage (12%) than either white (11%) or Hispanic (2%) youth with disabilities.

### *Characteristics by Household Income*

Wagner, Newman, Cameto, and Levine (2005) reported the percentages of youth with disabilities who had enrolled in two- or four-year colleges according to three categories of household income: lowest, middle, and highest. The authors did not provide the definitions for each of these categories. However, they found that youth with disabilities from wealthier households had enrolled in two- and four-year colleges at higher percentages than the other youth. Approximately 27% of youth with disabilities from households with the highest annual incomes had enrolled in two-year colleges and 16% had enrolled in four-year colleges. In comparison, approximately 17% and less than 1% of youth with disabilities from households with middle incomes had enrolled in two- and four-year colleges, respectively. Only 11% of youth with disabilities from the lowest income households had enrolled in a two-year college and 5% had enrolled in a four-year college.

### *Summary of Characteristics*

In summary, higher percentages of youth with disabilities who have the following characteristics have enrolled in both two-year or four-year colleges: (a) high school completers; (b) youth with visual or hearing impairments; (c) age 19; and (d) youth who were from more affluent households. Female and white youth with disabilities were more likely to enroll in two-year colleges, and male and African-American youth with disabilities were more likely to enroll in four-year colleges. The NLTS2 data provided evidence that youth with disabilities who possess specific characteristics enrolled in two- and four-year colleges. However, a limitation of these findings is small sample sizes. Wagner, Newman, Cameto, and Levine (2005) derived these percentages from samples

often including less than 100 participants. Further, the report did not provide a statistical analysis of these unequal enrollment rates among youth with different characteristics; further research should be conducted on the effects of these individual and household characteristics on college enrollment for these youth. In the next section I describe key laws and policies that support college enrollment among youth with disabilities.

#### Policies Supporting College Enrollment Among Youth with Disabilities

The policy and legal foundations that support college enrollment among youth with disabilities are found in two civil rights laws, Sec. 504 of the Vocational Rehabilitation Act of 1973, PL 93-112, and the ADA, PL 101-336, as well as the IDEA, PL 108-446, and the Elementary and Secondary Education Act (ESEA), specifically the 2001 reauthorization referred to as the NCLB, PL 107-110. Provisions in both of the IDEA and the NCLB promote college preparation among youth with disabilities through access to the general education curriculum, participation in state assessments, and high expectations for academic performance. Further, the IDEA of 1990, 1997, and 2004 clearly support college enrollment among these youth by including postsecondary education as one of the outcomes listed in the definition of transition services. The IDEA 2004 goes even further by including postsecondary education as one of the purposes of the law and by requiring states to report on the graduation rates and postschool outcomes of youth with disabilities.

Sec. 504 and the ADA prevent discrimination against persons with disabilities in the college application and admission process (Simon, 2001; Thomas, 2000). These laws also entitle individuals with disabilities to accommodations once enrolled in college. In

this section, I provide an overview of the provisions in Sec. 504, the ADA, the IDEA, and the NCLB that support college enrollment among youth with disabilities.

*Sec. 504 and the ADA*

Both Sec. 504 and the ADA protect individuals with disabilities from discrimination in educational, employment, and community settings (Yell, 2006). They support enrollment in college by requiring non-discriminatory practices and reasonable accommodations in the college application process (Simon, 2001; Thomas, 2000). These laws require entities or institutions to provide qualified individuals with disabilities reasonable accommodations to ensure non-discriminatory behavior. Sec. 504 extends anti-discrimination protections to any college or university with a program that receives federal funds. Title III of the ADA expands the anti-discrimination requirements to institutions or colleges which do not receive federal funding such as private universities and colleges and prohibits public entities such as public colleges from denying qualified individuals with disabilities the right to benefit from services, programs, and activities. Title III of the ADA further prohibits private entities that own public accommodations, such as private colleges, from discriminating against these individuals (Thomas).

Under the ADA and Sec. 504, colleges cannot discriminate against an otherwise qualified individual with a disability during the college application process. These laws require colleges and universities to provide qualified individuals with disabilities the following: (a) the opportunity to participate in programs or activities; (b) aids and services that are equal to and as effective as those provided to others; (c) aids and services that allow the youth meaningful access to program or activities; and (d)

reasonable accommodations. These obligations extend to all services, benefits, programs, opportunities, and activities of the college (Simon, 2001).

To be protected against discrimination in employment or college admissions under Sec. 504 or the ADA, the individual must meet two criteria: (a) have a physical or mental impairment that substantially limits one or more major life activities or an individual who is regarded or has a record of having such an impairment; and (b) be considered otherwise qualified. In terms of college admissions, a youth is, “otherwise qualified” if he/she can meet program requirements, both academic and technical, while being provided reasonable accommodations, such as auxiliary aids or services (Thomas, 2000). A 1979 Supreme Court ruled that Sec. 504, “imposes no requirement upon an educational institution to lower or effect substantial modifications of its standard to accommodate handicapped person” (*Southeastern Community College v. Davis*, 1979, p.2). Thus, the “otherwise qualified” requirement implies that youth with disabilities are held to the same admission standards as youth without disabilities when applying to college. They must meet the standards for academic performance in high school and on college entrance examinations. The courts do not consider admission standards which have been validated as successful predictors of college achievement, such as academic performance in high school and college entrance exams, as discriminatory towards youth with disabilities (*Mallet v. Marquette*, 1995; Thomas; *Southeastern Community College v. Davis*).

Though colleges are not required to lower admission standards for individual with disabilities, they are required to provide reasonable accommodations to these individuals during the admission process as well as after they enroll. The term reasonable

accommodations refers to, “the modifications of educational programs and facilities to make them accessible to person with disabilities” (Yell, 1998, p. 102). An accommodation is designed to offset the impact of the disability not provide advantages to youth with disabilities. A federal district decision articulated that the ADA is not designed to allow individuals to advance through a “backdoor;” instead it is aimed at helping capable people with unrelated disabilities through the “front door” (*Price v. National Board of Medical Examiners*, 1997). Individuals with disabilities are only entitled to reasonable accommodations and non-discriminatory admission processes if they disclose their disability to the appropriate entity (Yell). During the college admission process, reasonable accommodations are most relevant to college entrance or admission tests.

While Sec. 504 and the ADA protect youth who have disabilities and are otherwise qualified from discrimination, there are limitations to these protections. If the necessary accommodation imposes excessive financial and administrative burdens or requires a fundamental alternation in a program, the institution is not required to provide it (*Alexander v. Choate*, 1985; Simon, 2001; *Southeastern Community College v. Davis*, 1979; Thomas, 2000; Yell, 2006). Additionally, if an admission standard has been validated as a successful predictor of college achievement, the standard is not considered discriminatory (Thomas). In other words, though youth with disabilities are provided reasonable accommodations, they are held to the same standards as youth without disabilities in the college admission process. Finally, an individual with a disability is only protected through Sec. 504 and the ADA if he/she self-identifies the disability to the proper entities and provides appropriate documentation of the disability (Simon;

Thomas). The self-disclosure requirement emphasizes the importance of having self-determinations and self-advocacy skills for youth with disabilities who plan to enroll in a college.

### *The IDEA*

The IDEA supports college enrollment through provisions surrounding the content of IEPs and the system of state monitoring. Specifically, the IEP provisions require schools to provide youth with disabilities access to the general education curriculum and transition services. The system of state monitoring requires states to collect and report data on key performance indicators related to the education of youth with disabilities. Two of the indicators are graduation rate and postschool outcomes. Together these requirements should improve the preparation of youth with disabilities to enroll in two- and four-year colleges (Madaus & Shaw, 2006; Stodden, Galloway, & Stodden, 2003). However, the implementation of these policies may hinder realization of this postschool outcome (Madaus & Shaw; Powers et al., 2005).

### *State Monitoring*

The IDEA monitoring requirements for states support college enrollment through data collection and monitoring of key performance indicators. The IDEA 2004 requires states to collect and report data on 20 priority areas or indicators which pertain to the implementation of this law. Three of these indicators support college enrollment: high school graduation, transition services, and postschool outcomes. States are required to collect and report data on the following indicators: (a) “percent of youth with IEPs graduating from high school with a regular diploma compared to percent of all youth in the State graduating with a regular diploma;” (b) “percent of youth aged 16 and above

with an IEP that includes coordinated, measurable, annual IEP goals and transition services that will reasonably enable the student to meet the post-secondary goals;” and (c) “percent of youth who had IEPs, are no longer in secondary school and who have been competitively employed, enrolled in some type of postsecondary school, or both, within one year of leaving high school” (Regional Resource & Federal Center Network, 2007).

These indicators support college enrollment by required monitoring of graduation rates, quality of transition services, and achievement of postschool outcomes such as college enrollment as well as employment. The data collected through this monitoring should focus attention to the methods of implementing the provisions related to access to the general education curriculum and transition services.

#### *IEPs and Transition Services*

The IEP is designed to dictate the youth’s special education program and to provide an education that offers meaningful educational benefit to the youth (Yell, 2006). Among other requirements, a youth’s, age 16 or older, IEP must have a statement of transition services which will enable him/her to successfully move from high school to adult life. The IEP requirements promote preparation for college enrollment for youth with disabilities by facilitating skills and knowledge in essential academic and nonacademic areas associated with college enrollment (e.g., self-determination skills, independent living skills, knowledge of support services after high school) through transition services.

Although the IDEA provisions related to transition services was originally incorporated into the IDEA Amendments of 1990, a federal emphasis on helping youth with disabilities transition from high school to adult life began in the early 1980’s. The

Education of the Handicapped Act (EHA) Amendments of 1983 (PL 98-199) and 1986 (PL 99-457) were the first times that the federal government focused on facilitating the transition from high school to postsecondary life among youth with disabilities (National Council on Disability, 2000; Neubert, 2006; Stodden, Dowrick, et al., 2003). The EHA Amendments of 1983 authorized funding to develop and support school-to-work transition services through model demonstration projects, research projects, and personnel preparation programs (Rusch & Phelps, 1987). The EHA Amendments of 1986 provided continued funding of those projects and additional funding to investigate postschool outcomes for youth with disabilities who dropped out of school (Neubert).

Will (1985), the Assistant Secretary of the Office of Special Education and Rehabilitation Services (OSERS) at the time, defined transition as, “an outcome-oriented process encompassing a broad array of services and experiences that lead to employment” (p.4). It is, “a period that includes high school, the point of graduation, additional post-secondary education or adult services, and the initial years in employment” (Will, p.4). Although postsecondary education was acknowledged in this concept of transition, only 15 of the 64 federally-funded projects to address transition and postsecondary services in 1984 were intended, “to stimulate higher education (postsecondary, vocational, technical, continuing, or adult education) opportunities for persons with mild disabilities” (Rusch, Hughes, & Kohler, 1991, p.19). However, the goals of transition services evolved quickly from employment to a broader concept of postschool outcomes which included three pillars: employment, residential environment (e.g., satisfaction with one’s home, quality and safety of the neighborhood, availability of

community services and recreational opportunities), and social and interpersonal networks (Halpern, 1985).

The IDEA Amendments of 1990 (PL 101-476) was the first time transition services were required to be included in youths' with disabilities IEPs. The IDEA 1990 defined transition services as a, "coordinated set of activities for a student, designed within an outcome-orient process that promotes movement from school to post school activities, including postsecondary education, vocational training, integrated employment, including supported employment, continuing adult education, adult services, independent living or community participation" (IDEA, 20 U.S.C. 1401 §602(a)(19)). This law also required that a youth's IEP contain a statement of needed transition services by age 16. The definition provided a wide range of possible postschool activities which included postsecondary education.

In Section 614 of the IDEA Amendments of 1997 (PL 105-47), Congress expanded the transition mandate to include a statement of the youth's course of study (e.g., participation in advanced-placement courses or a vocational education program) in the IEP by age 14 and a statement of needed transition services including a statement of the interagency responsibilities by age 16. These provisions required IEP teams to discuss possible postschool activities, decide on an appropriate course of study for the desired postschool outcome(s), and design a plan to prepare or provide the youth with access to the appropriate course of study by age 14 (Neubert, 2006). By age 16, the IEP team needed to further design the transition services to include possible interagency partners and supports for life after high school.

Congress significantly altered the transition provisions in the IDEA Improvement Act of 2004 (PL 108-446). The definition of transition services changed to a “result-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation” (IDEA, 20 U.S.C. 1401 § 602(34)). Section 602 of the IDEA 2004 requires IEP teams to account for a youth’s needs, strengths, preferences, and interests when designing the coordinated set of activities, which may include instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation.

Congress also eliminated the mandate for a statement of the course of study by age 14 and modified the wording around the transition statement required by age 16. Section 614 of the IDEA Improvement Act of 2004 requires a youth’s IEP to include appropriate measurable postsecondary goals related to training, education, employment, and, where appropriate, independent living skills and the transition services needed to assist the child in reaching those goals. Though the IDEA 2004 eliminated the requirement for a course of study at age 14, it may have otherwise strengthened the transition requirement for youth by requiring the measurable postsecondary goals that are linked to appropriate transition assessments and services (Madaus & Shaw, 2006).

Prior to the IDEA 2004, Powers and colleagues (2005) evaluated the transition components of 399 IEPs for youth with disabilities and found that: (a) the majority of

transition goals provided little information on the specific achievements targeted; (b) on average, only one action step accompanied the transition goal; (c) approximately one fifth of the transition goals provided evidence of the youth's preferences or interests; (d) a little less than half of the transition goals either cited only the youth as responsible for the action steps or did not cite anyone; and (e) few IEPs reflected effective transition practices (e.g. school-based extracurricular activities, self-determination training, person-center career planning). Powers et al. also offered hope that the IDEA 2004 would result in transition services and planning with more explicit transition goals, greater effort to developing more detailed action plans, greater correspondence between goals and services, and reduced narrowing of the curriculum (e.g., either academic-focused curriculum or functional-focused curriculum). The inclusion of measurable postsecondary goals should facilitate more explicit transition goals. Further, the requirement to track and report progress on measurable goals should increase the accountability for achieving these postsecondary goals and should result in greater efforts to develop, coordinate, and implement detailed action plans to meet these goals. The reauthorization should facilitate high levels of correspondence between postsecondary goals and transition services (Powers et al.).

Although there have been problems with implementing transition services, the likelihood of postsecondary education as a transition goal has increased since the 1990's. For example, Grigal and colleagues (Grigal, Test, Beattie, & Wood, 1997) evaluated the transition component of the IEPs of 94 youth with LD, mild mental retardation, moderate mental retardation, and emotional/ behavioral disorders and found that 30.9% included a transition goal in postsecondary education. Powers and colleagues (Powers et al., 2005)

evaluated the transition components a few years later in 2001-02 and found that 44.6% included a transition goal in postsecondary education. The requirement for transition services, as well as the requirement for access to the general education curriculum, in the IDEA 2004 emphasizes the need for academic and functional preparation for adult life.

### *IEPs and Access to the General Education Curriculum*

In addition to requiring transition services, the IDEA promotes college enrollment through access to the general education curriculum. A youth's IEP must include special education and related services as well as measurable annual goals which enable the youth to be involved in and progress in the general education curriculum. Further, the IEP requirements promote preparation for college enrollment for youth with disabilities by raising expectations for academic performance through access to the general education curriculum.

The IDEA requires youth with disabilities to have access to the general education curriculum. It also requires that these youth participate in state- and district-wide assessments which are aligned with the general education curriculum. Improving academic preparation has been particularly important since new requirements to access the general education curriculum were added in the IDEA Amendments of 1997 and were further strengthened with the passage of the NCLB and the IDEA Improvement Act of 2004. Together, the NCLB and the IDEA 2004 work to raise the expectations of youth with disabilities to reach proficient on academic content and curricula. There is an expectation that these higher expectations will foster improved performance on academic content in high school, as well as at other grade levels, thereby, improving the academic preparation of youth with disabilities and supporting college enrollment.

The expectations of youth with disabilities and their parents to enroll in college have increased as access to the general education has increased (Grigal & Neubert, 2004; Wehman & Yasuda, 2005). For example, Grigal and Neubert surveyed 234 parents of secondary-level youth with high and low incidence disabilities on postschool expectations and found that between 57.9% and 63.2% of parents wanted their youth to enroll in college. Further, the majority of parents with youth with low incidence disabilities wanted their child to attend a four-year college (36.2%) and the majority of parents with youth with high incidence disabilities wanted their child to attend a community college (34.9%). Since the IDEA Amendments of 1997, it seems that more parents expect or desire their child to go to college, regardless of the type of disabilities the child has.

#### *The NCLB and Accountability*

The NCLB supports college enrollment among youth with disabilities by holding schools and districts accountable for the performance of youth with disabilities in general education content standards. The accountability provisions in the NCLB further strengthened the IDEA provisions for access to the general education curriculum. Further, the NCLB requires schools be held accountable for the graduation rate of all students.

The NCLB requires states to design and implement an accountability plan which hold schools accountable for the performance of students in grades 3-8 and once in high school on grade-level content standards (Yell & Drasgow, 2005). The state accountability plan must have the same academic standards and assessments for all students, including students with disabilities. However, states are required to provide an alternate assessment

for students with disabilities whom the general assessment, with accommodations, is not appropriate. Additionally, the state must hold the school accountable for the performance on the subgroup of students with disabilities on these academic standards and assessments. If the subgroup of students with disabilities does not meet the annual benchmark for progress, otherwise known as AYP, the school can be subject to consequences such as offering school choice or providing supplemental educational services (e.g., tutoring outside of school).

While the NCLB requires school-level accountability, more states are taking high-stakes accountability one step farther and embracing the idea of student accountability as well (McLaughlin & Emblar, 2006). This student accountability often takes the form of using passing scores on one or multiple high school assessments as a graduation requirement for all youth. The National Center on Educational Outcomes surveyed 50 states and the District of Columbia and found that 27 states and the District of Columbia have increased their graduation requirements to receive a standard diploma of youth with and without disabilities (Johnson et al., 2007). Further, Kentucky was the one state that increased graduation requirements for solely youth with disabilities. In 2006-07, 21 states required youth with and without disabilities to pass an examination for a standard high school diploma. Eighteen of these states required the same passing score on the exit exam for youth with and without disabilities. Though many states offered special exemptions, waivers, alternate assessments, or alternate graduation requirements for youth with disabilities, there is pressure for youth with disabilities to meet these increasing expectations. Access to the general education required by the IDEA and accountability

for the performance of youth with disabilities required by the NCLB may facilitate these improvements.

The NCLB places high stake accountability on schools to improve youths' with disabilities performance and achievement on general education standards in high school. This policy has raised the expectations of youth with disabilities from a substandard academic achievement to high-quality academic standards in the general education curriculum (McLaughlin & Embler, 2006). In addition, states are placing high stakes accountability on youth to achieve passing scores on high school assessments in order to graduate. Access, progress, and achievement in the general education curriculum are essential for youth with disabilities to meet college admission requirements and prepare for the academic challenges in two- and four-year colleges.

#### *Summary of Policies*

A number of significant changes have occurred in the policies supporting youth with disabilities enrollment in two- and four-year colleges since the early 1970's. In 1973 Sec. 504 of the Vocational Rehabilitation Act protected against the discrimination of individuals with disabilities in colleges and universities that received public funds. In the mid 1980's, Congress authorized federal funding for demonstration and research projects on youth with disabilities transitioning to postsecondary education. In 1990, Congress passed both the IDEA Amendments of 1990 and the ADA. These laws promoted planning for youth with disabilities' adulthood through transition services and extended the anti-discrimination protections to private colleges and universities. The IDEA Amendments of 1997 required that youth with disabilities have access to the general education curriculum and increased the focus on accountability for these youth through

requiring participation in state- and district-wide assessments. Transitions services also were increased.

In 2001, Congress passed the NCLB, a general education policy which requires the inclusion of youth with disabilities in state, district, and school accountability systems, thus raising the academic expectations of youth with disabilities. Finally, the IDEA Improvement Act of 2004 further promotes college preparation for youth with disabilities by aligning special education policy with the NCLB requirements and by expanding the statement of transition services to include measurable postsecondary goals. Together these policies support college enrollment among youth with disabilities. However, the implementation of these policies may hinder the realization of this postschool outcome.

Though some research has investigated the relationship between the practices used to implement these policies and enrollment in postsecondary education (Halpern et al., 1995; Miller et al., 1990, 1991; Wagner et al., 1993; Wagner & Blackorby, 1996), more research should be conducted to determine the effects of transition goals, coordinated activities (i.e., transition services), transition planning, and access to the general education curriculum in the current context of policy and practice. In the following section, I review the empirical literature pertaining to the factors associated with enrollment of youth with disabilities in two and four-year colleges.

#### Research on Factors Associated with College Enrollment

In order to determine what is known about factors that support college enrollment among youth with disabilities, I conducted a review of the empirical literature on the topic. However, due to the small number of studies on college enrollment, I expanded my

literature review to include enrollment in postsecondary education. I identified 12 studies which met my criteria. In the following section I review these 12 empirical studies that investigated factors that are associated with enrollment in postsecondary education among youth with disabilities and/or differences between youth with disabilities who enroll and those who have not enrolled in postsecondary education based on two sets of evaluation criteria (Isaac & Michael, 1997; Thompson, Diamond, McWilliam, Snyder, & Snyder, 2005). I also describe my search methods and findings in this section.

### *Search Methods*

I employed a two-step search method to identify studies related to youth with disabilities enrolling in postsecondary education. The initial search was conducted on the computerized ERIC database using numerous search terms in various combinations. The most productive search terms were college, postschool outcomes, attendance, enrollment, postsecondary education, and disability. I used the descriptor postsecondary education to represent two- and four-year colleges as well as other postsecondary educational academic or training programs to capture as many studies as possible. This method resulted in 20 studies. I then applied the following criteria for inclusion: (a) postsecondary enrollment was the dependent variable; (b) pre-collegiate factors (i.e., individual characteristics, high school experiences) associated with postsecondary enrollment were included as independent variables; and (c) youth with disabilities were included in the analytic sample. I eliminated 12 studies that investigated aspects or characteristics of college experiences (e.g., disability support services provided in the college setting) and did not include pre-college experiences (e.g., high school program, graduation from high school, and special education services in high school). Eight studies

met these criteria. Due to the small number of studies meeting these criteria, I did not use other common inclusion criteria such as being published in a peer-reviewed journal or published within a specific time frame.

I then conducted an ancestral search of the eight studies obtained in the first step of the search and the additional literature references in the previous sections of this chapter. I searched the reference lists for additional literature that appeared relevant to my inclusion criteria. I found four additional studies through the ancestral search, resulting in a total of 12 studies, which I critically review in the following section. I provide an overview of these studies' characteristics in Table 1.

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#### *Review of Empirical Studies*

A critical review of relevant literature in the field should be used to design potential research questions, variables of interest, instruments, and procedures in order to make a significant contribution to the field (Boote & Belle, 2005). For this reason, I discuss and critique the following elements of the 12 studies in this section: (a) purposes and research questions; (b) designs and samples; (c) methods and instruments; (d) variables; (e) data analyses and results; and (f) findings. I critique the 12 studies based on Isaac and Michael's (1997) principles of survey methodology and Thompson and colleague's (2005) quality indicators of correlational research. Isaac and Michael offered four guiding principles of survey methodology: systematic, representative, objective, and quantifiable. Thompson et al. identified four major categories of quality indicators for correlational research: measurement, practical and clinical significance, statistical

assumptions, and confidence intervals for reliability coefficients, statistics, and effect sizes.

All 12 of the studies analyzed data pertaining to the high school and postschool experiences of youth with disabilities collected through survey methodology. However, 11 of the studies utilized only subsamples of the data available through larger research projects. Five studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Wagner & Blackorby, 1996; Wagner et al., 1993) utilized a subsample of data drawn from the NLTS database. The NLTS was a federally-funded, longitudinal study investigating the high school and postschool experiences of a nationally representative sample of youth with disabilities from the mid/late 1980's to the early 1990's. The sample included more than 8,000 youth receiving special education services, between the ages of 15 and 23, in the 1985-86 school year. The NLTS consisted of two waves of data collection: between 1985 and 1987, data were collected from parent interviews, school record abstracts, and principal/ school surveys; and in 1990, data were collected from parent and youth interviews, school personnel/ school program surveys, principal/ school surveys, and youths' high school transcripts. An additional study (Wagner, Newman, Cameto, Garza, & Levine, 2005) utilized data from the previously described the NLTS2, which is a continuation and extension of the original NLTS study.

Two studies (Levine & Edgar, 1995; Murray et al., 2000) utilized a subsample of data from the First Decade Project, which investigated the factors associated with successful transitions from high school to adult life for youth with disabilities in three school districts in a Pacific Northwest state. Researchers conducted telephone interviews annually for five years, beginning in 1991, with two cohorts of youth who graduated from

high school in 1985 and 1990. Each cohort included all graduates who had received special education services (N=488) and a randomly selected group of graduates without disabilities (N=610; Edgar, 1995).

Two studies (Miller et al., 1990, 1991) utilized a subsample of data from the Iowa State Follow Up Study, which investigated the adult adjustment of the 1985 and 1986 special education graduates and dropouts in the state of Iowa. Researchers conducted face-to-face or telephone interviews with a random sample of special education terminators (graduates, age outs, drop outs; N=2476) or their parents/ guardians one year after leaving high school (Sitlington, Frank, & Carson, 1990).

One study (Rojewski, 1999) utilized a subsample of data from the National Education Longitudinal Study: 1988-1994 (NELS: 88/94), which investigated the educational, vocational, and personal development of adolescents and youth adults. Data were collected from a nationally representative sample of 25,000 adolescents every two years for three waves starting in 1988. Data were gathered through surveys and interviews with youth, parents, teachers, and school administrators (Rojewski).

### *Purposes and Research Questions*

A well-written statement of the research topic, represented by the purpose and research question in this review, provides the variables of interest, the relations between those variables, and a brief description of the participants in the study (Gay, Mills, & Airasian, 2006). The 12 studies had two general purposes: to describe or explore differences in characteristics among groups of youth enrolled in postsecondary education (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000); or to evaluate multivariate models of

predictors of enrollment in postsecondary education (Halpern et al., 1995; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005). For instance, the purpose of Levine and Edgar's study was, "to explore the differences in postschool outcomes between males and females with learning disabilities, mild mental retardation, and no disabilities" (p.282). Halpern and colleague's purpose was, "to explore the predictors of participation in postsecondary education by high school students with disabilities after leaving school (p.152). The majority of the studies in this body of literature only provided descriptive findings and explored differences between groups. Though these findings provide some information on possible predictors, they provide only limited evidence of relationships between independent variables and enrollment in postsecondary education.

#### *Design and Sample*

The research design of a study provides information on the methodological approaches used to answer the research questions and purpose of the study (Isaac & Michael, 1997). All 12 studies analyzed extant data sets and can be divided into two categories: descriptive and correlational studies. Seven studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000) utilized a descriptive research methodology and investigated differences between groups based on gender, disability category, race/ ethnicity, household income, parent's level of education, time spent out of high school, and type of postsecondary educational institution attended. Another five studies (Halpern et al., 1995; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) investigated predictors or factors associated with

college enrollment of youth with disabilities. As previously noted, findings from descriptive research design provide limited information about possible predictors of enrollment in postsecondary education. The correlational research designs provide more valuable evidence of predictors of enrollment in postsecondary education.

The majority of studies (Blackorby & Wagner, 1996; Halpern et al., 1995; Levine & Edgar, 1995; Murray et al., 2000; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) utilized data collected in two or more waves of a longitudinal research design. Four studies (Fairweather & Shaver, 1990, 1991; Miller et al., 1990, 1991) utilized data collected at one point in time. Longitudinal designs allow for opportunities to analyze data from two or more points in time or phases of a person's life (e.g., secondary school and postsecondary experiences; Wagner, Kutash, et al., 2005).

A study's analytic sample should be critiqued for representativeness and external validity of the findings (Isaac & Michael, 1997). The analytic samples utilized in this body of literature did not accurately represent youth from all the 12 federal disability categories, appropriate for transition age youth, under IDEA. Though all 12 studies included youth with disabilities in the analytic samples, five of these studies emphasized youth with LD (Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000; Rojewski, 1999). One of these studies (Levine & Edgar) also included youth with mild mental retardation in the analytic sample.

The majority of studies used data collected from school or district reports to identify youth with disabilities (Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller et al., 1990; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner,

Newman, Cameto, Garza, & Levine, 2005). Rojewski (1999) used data from parent reports to identify disability status. Four studies (Blackorby & Wagner, 1996; Halpern et al., 1995; Miller et al., 1991; Murray et al., 2000) did not provide information on the data used to identify disability statuses. It is necessary to know the methods or definitions researchers used to identify youth as having a disability in order to understand the population in which to generalize the findings (Levine & Nourse, 1998).

A full description of an analytic sample is another method to identify the appropriate population in which to generalize findings (Isaac & Michael, 1997). All 12 studies provided descriptions of their analytic sample through inclusion criteria (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Levine & Edgar, 1995; Miller et al., 1990, 1991; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005), exclusion criteria (Miller et al., 1990, 1991; Murray et al., 2000; Rojewski), and descriptive statistics on youth characteristics such as the age range of participants, primary disability categories, gender, race/ ethnicity, and academic achievement, intelligence, or functioning levels. However, only Halpern et al. provided a comparison between the analytic sample and population of interest, and two additional studies (Levine & Edgar; Fairweather & Shaver, 1990) provided comparison of respondents to non-respondents. Halpern and colleagues found that their analytic samples represented the populations in terms of geographic location, minority status, and gender, but they intentionally overrepresented youth with low incidence disabilities and underrepresented youth with high incidence disabilities in their analytic samples. Fairweather and Shaver (1990) found that youth from higher socioeconomic status levels were overrepresented in

their analytic sample. Levine and Edgar found that youth without disabilities were underrepresented in the analytic sample. It is difficult to generalize findings of research when it is unclear who was included in the analytic samples.

### *Methods and Instruments*

The data collected through the methods and instruments should be reliable and internally valid (Gay et al., 2006). The majority of the studies in this body of literature provided weak evidence of the reliability or internal validity of the data. All 12 studies utilized data collected through survey methodology. The majority of studies used data collected from parents (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Levine & Edgar, 1995; Miller et al., 1990; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) through standardized telephone or face-to-face interviews (Blackorby & Wagner; Fairweather & Shaver, 1990, 1991; Halpern et al.; Levine & Edgar; Miller et al., 1990, 1991; Murray et al., 2000; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine). However, studies used data collected from students, youth, or graduates (Blackorby & Wagner; Halpern et al.; Levine & Edgar; Miller et al., 1990; Murray et al.; Rojewski; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine) and school personnel such as teachers or school administrators as well (Halpern et al.; Rojewski; Wagner & Blackorby; Wagner et al.). Only three studies used data collected from only one type of respondent (Fairweather & Shaver, 1990, 1991; Murray et al.). Collecting data through different kinds of respondents provides multiple perspectives on the youth's experiences (Wagner, Kutash, et al., 2005).

The majority of the studies in this body of literature utilized data from large-scale, federally-funded research projects (e.g., NLTS, NLTS2, NELS) which used survey instruments that were extensively tested and documented in various reports and technical manuals (e.g., National Center for Education Statistics, n.d.; National Center for Special Education Research, n.d.; Valdes, Williamson, & Wagner, 1990; Wagner, Kutash et al., 2005), therefore I did not feel the need to critique the reliability and internal validity of their data collection methods and instruments. However, five studies (Halpern et al., 1995; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000) used data from less prominent research projects; I critiqued the reliability and internal validity of these studies' data collect methods and instruments based on Isaac and Michael (1997) principles and Thompson and colleagues (2005) quality indicators.

The five studies used varied methods to report the reliability and internal validity of the data derived from their instruments. The majority of studies disclosed how instrument protocols (i.e., interview or survey) were developed (Halpern et al., 1995; Levine & Edgar, 1995; Miller et al., 1990, 1991) and field tested or pilot tested prior to administering the questionnaire to study respondents (Halpern et al.; Levine & Edgar; Miller et al., 1990, 1991; Murray et al., 2000). However, three of the five studies: (a) reported their methods for the interviewer training process (Halpern et al.; Levine & Edgar; Miller et al., 1990); (b) provided reliability measures for the data collection methods (Halpern et al.; Levine & Edgar; Murray et al.); and (c) reported inter-interviewer agreement measures (Halpern et al.; Levine & Edgar; Murray et al.). Though these are less rigorous methods of testing reliability and internal validity, all five studies reported some details to support the reliability and internal validity of their data and

findings by: (a) reporting high inter-interviewer reliability which ranged from 95% to 100% (Halpern et al.; Levine & Edgar; Murray et al.); (b) reporting the methods used to evaluate the data collection instruments (i.e., field testing or piloting; Halpern et al.; Levine & Edgar; Miller et al., 1990, 1991); and (c) reporting interviewer training, the amount of which ranged from 8-12 hours to 6 days (Halpern et al.; Levine & Edgar; Miller et al., 1990). Though there was limited information on the designing of data collection instruments and methods, Halpern and colleagues provided the highest quality process with a 95% to 100% inter-interviewer reliability, field testing, and 6 days of training for interviewers.

### *Variables*

Another measurement concern in quantitative research and survey methodology is the definitions of variables or terms. Inconsistent or undefined variables may lack construct validity (Gay et al., 2006). The majority of the studies in this body of literature failed to provide adequate descriptions of variables included in the studies. Though all 12 studies included attending postsecondary education as dependent variables, only 10 studies (Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) provided a definition for this variable. Of those 10 studies, the definitions varied in relation to the type of institution and the time frame of attendance. Additionally, none of the studies defined terms such as enrollment, attendance, or participation. The final two studies (Blackorby & Wagner, 1996; Rojewski, 1999) did not define their dependent variable. Similarly, the studies lacked descriptions of the independent variables. Only Halpern et al. provided definitions

of these variables. Secondly, all studies in this body of literature failed to report the reliability and validity of each measured variable. Thirdly, researchers utilized multiple types of respondents to gather data on a single variable without determining the congruence of youth and parent responses. However, two studies (Levine & Edgar; Wagner, Newman, Cameto, Garza, & Levine) provided a statistical comparison of the responses for congruency. The lack of describing variables, reporting reliability and validity measures, and determining congruency of responses from different types of respondents makes it difficult to accurately apply these findings to real life situations (Gay et al.; Isaac & Michael, 1997; Levine & Nourse, 1998).

Of the 12 studies, only Wagner et al. (1993) provided a conceptual framework for predictors of enrollment in postsecondary education. This conceptual framework, developed by the authors, included six categories of variables: school context, school program/ services, high school achievement, adult program/ services, individual/ family/ community characteristics, and young adult outcomes. I used these categories to organize the numerous variables tested in the body of literature on enrollment in postsecondary education among youth with disabilities. Further, this conceptual framework corresponds to the conceptual framework of the NLTS2 study (Wagner, Kutash, et al., 2005), which I used to organize the variables in my study. See Figure 1 and 2 in chapter 1.

This body of literature investigated variables in all categories of Wagner and colleague's (1993) conceptual framework except adult program/ services. All 12 studies included a dependent or outcome variable associated with young adult outcomes, enrollment in postsecondary education. Three studies (Miller et al., 1990, 1991; Wagner et al.) investigated school context associated with postsecondary enrollment by using

variables such as attending a high-poverty school and the size of the community in high school. Six studies (Halpern et al., 1995; Miller et al., 1990, 1991; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al.) investigated the relationship between aspects of school program and services and postsecondary enrollment by using the following variables: (a) instruction received; (b) transition planning; (c) restrictiveness of special education program; (d) courses taken; and (e) vocational education programs. Nine studies (Fairweather & Shaver, 1990, 1991; Halpern et al.; Miller et al., 1990, 1991; Rojewski; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine, 2005) looked at the relationships between high school achievement (e.g., grade point average, reading levels, high school completion status, employment status, self esteem, locus of control, and group membership) and postsecondary enrollment. All the studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Halpern et al.; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000; Rojewski; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine) included individual, family, or community characteristics (e.g., age, gender, race, household income, IQ, parental expectations and influence, etc.) as independent variables. None of the studies included aspects of adult programs or services, such as job-training and vocational rehabilitation services, as independent variables. Though Wagner et al.'s conceptual framework did not include an appropriate category for time, three studies (Blackorby & Wagner; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine) investigated the relationship between time since leaving high school and postsecondary enrollment.

#### *Data Analyses and Results*

Studies should provide evidence of testing statistical assumptions, how statistical significance was found, and the effect sizes of significant results (Isaac & Michael, 1997; Thompson et al., 2005). The majority of studies used descriptive analyses to arrive at findings (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000); among these studies, the chi-square test was the most common analysis technique (Fairweather & Shaver, 1990, 1991; Levine & Edgar; Miller et al., 1990; Murray et al.). Five other studies (Halpern et al., 1995; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) conducted multivariate analyses on the data obtained; logistic regression analysis was the most common technique for this group of studies (Halpern et al.; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine). None of the studies provided evidence of testing statistical assumptions for the method of analysis used.

Six of seven descriptive studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller et al., 1990; Murray et al., 2000) reported results in percentages or chi-square statistics and *p* values. Three of five studies that used multivariate statistics (Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) reported results in the estimated percentage point difference in probability of enrolling in postsecondary education in relation to a comparison group. Nine studies (Blackorby & Wagner; Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Levine & Edgar; Murray et al.; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine) reported significant findings based on various *p* values, ranging from .1 to .0001. None of the

studies provided rationale for the  $p$  values used to determine statistical significance or discussed considering Type I error.

Though all studies reported the statistical significance of the results, only five studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990; Halpern et al., 1995; Rojewski, 1999; Wagner, Newman, Cameto, Garza, & Levine, 2005) provided strength of association measurements or effect sizes. Halpern et al. reported the odds ratios for predicting youths' participation in postsecondary education. Wagner, Newman, Cameto, Garza, and Levine (2005) and Wagner and colleagues (1993) reported the percentage point difference in probability of enrolling in postsecondary education or two- or four-year colleges. Rojewski reported an R-squared measure of .92 for his regression model of postsecondary enrollment. These statistics help to interpret the results and evaluate the practical significance of the study's findings (Thompson et al., 2005). However, the researchers did not compare the effect sizes or measure of association to prior research or discuss the adverse effects the research design and/or the statistical methods may have had on the interpretation of the effect size or measure of association as Thompson et al. suggests.

### *Findings*

The analyses conducted in this body of literature revealed numerous significant findings associated with youth with disabilities enrolling in postsecondary education; however, among these studies there were contradictory findings. In this section, I discuss the findings and provide the reported measures of strength with either the percentage point difference (i.e., the estimated percentage-point difference in the probability of having enrolled in postsecondary education; Wagner et al., 1993; Wagner, Newman,

Cameto, Garza, & Levine, 2005) or the odds ratio (OR; i.e., the increase or decrease in the odds that the youth participated in postsecondary education when the dependent variable increases from 0 to 1; Halpern et al., 1995).

*Individual/ family/ community characteristics.* I identified significant relationships between the six individual, family, and community characteristics and postsecondary enrollment in this body of literature: youth's achievement and functional cognitive skills (Halpern et al., 1995; Wagner, Newman, Cameto, Garza, & Levine, 2005), parents' expectations for the youth to go to postsecondary school (Wagner et al., 1993), the youth's household composition (Wagner et al.), the youth's parenting status (Wagner et al.), the parents' level of education (Fairweather & Shaver, 1990, 1991; Wagner, Newman, Cameto, Garza, & Levine), the youth's disability (Blackorby & Wagner, 1996; Rojewski, 1999; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine), and the youth's household income (Fairweather & Shaver, 1990, 1991; Wagner & Blackorby, 1996; Wagner et al.).

In a multivariate analysis, Wagner and colleagues (1993) found that having speech impairments, visual impairments, hard of hearing or deafness, orthopedic impairments, or other health impairments significantly increased the probability of enrolling in postsecondary education compared to youth with LD (percentage point differences in probability = 19.8, 35.3, 24.7, 25.6, 12.9, and 14.2, respectively) and having mild/ moderate mental retardation significantly decreased the probability of enrolling in postsecondary education compared to youth with LD (percentage point difference in probability = 16.4). In 2005, Wagner, Newman, Cameto, Garza, and Levine found that having a visual impairments was the only disability that significantly increased

the probability of enrolling in two- or four-year college compared to youth with LD (percentage point difference in probability = 17.6). Though Wagner and colleagues (1993) did not find youth's functional mental skills significantly impacted the probability of enrolling in postsecondary education, Wagner, Newman, Cameto, Garza, and Levine found that having high functional cognitive skills significantly increased the probability of enrolling in a two- or four-year college (percentage point difference in probability = 12.8). Halpern and colleagues also found that having high functional achievement significantly increased the probability of enrolling in postsecondary education (odds ratio [OR] = 12.67).

Two studies found that coming from households with an income of less than \$12,000 significantly decreased the probability of enrolling in postsecondary education compared to youth who came from households with incomes between \$38,000 and \$50,000 (Wagner & Blackorby, 1996; Wagner et al., 1993). However, in 2005, Wagner, Newman, Cameto, Garza, and Levine found that household income did not significantly impact the probability of enrolling in two- or four-year colleges.

Wagner, Newman, Cameto, Garza, and Levine (2005) also found that having parents with a bachelor's degree or higher significantly increased in the probability of the youth enrolling in two- or four-year colleges compared to youth whose parents had less than a high school degree (percentage point difference in probability =10.8). Wagner and colleagues (1993) found that parents who expect their child to go to postsecondary school significantly increased the probability of enrolling in postsecondary education (percentage point difference = 33). Surprisingly, Wagner et al. (1993) found that coming from a single-parent home significantly increased the probability of enrolling in

postsecondary education compared to coming from a two-parent home (percentage point difference = 9.1). However, being a father or mother significantly decreased the likelihood of enrolling in postsecondary education compared to not fathering or mothering a child (percentage point difference = 25.8 for a father and 19.1 for a mother; Wagner et al., 1993).

Though six (Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Levine & Edgar, 1995; Murray et al., 2000; Wagner et al.) out of nine studies found no significant relationships between youth's gender and postsecondary educational enrollment, Wagner, Newman, Cameto, Garza, and Levine (2005) found that being male significantly decreased the probability of enrolling in a two- or four-year college (percentage point difference = 5.8).

Overall, the studies which investigated youth's race and ethnicity reported no significant differences or relations to postsecondary enrollment (Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005); however, one (Blackorby and Wagner, 1996) study found significant differences in the postsecondary participation of youth with disabilities among races and ethnicities at two points in time: less than two years and three to five years after leaving high school.

*School program and services.* I identified four school program and services factors with a significant relationship to postsecondary enrollment in this body of literature: the classes taken and instruction provided to the youth (Halpern et al., 1995; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993), the youth's transition goals (Wagner et al.), the youth's connection or contact with representatives in college,

vocational rehabilitation, and/or other adult service agencies prior to leaving high school (Miller et al., 1990, 1991); and the youth's need for continued services and support after leaving high school (Halpern et al.). Two studies (Wagner & Blackorby; Wagner et al.) found that having participated in advanced mathematics courses or foreign language courses in high school significantly increased the probability of enrolling in postsecondary education compare to those who did not take these courses. Halpern et al. found that completing instruction in remedial academics, traditional content classes, personal finance, community access, behaving responsibly, goal setting or problem solving, specialized vocational education, and regular vocational education significantly increased the probability of enrolling in postsecondary education (OR = 3.91, OR = 4.82).

However, only one of four studies (Miller et al., 1991) found a significant relationship between participation in vocational education in high school among and postsecondary education enrollment; they found youth who participated in industrial arts or trades and industry classes/ programs in high school were less likely to enroll in postsecondary education and more likely to enlist in the military after leaving high school. However, two studies (Wagner & Blackorby, 1996; Wagner et al., 1993) found that having participated in school work experience programs significantly decreased the probability of enrolling in postsecondary education. The four studies (Halpern et al., 1995; Miller et al., 1990, 1991; Wagner & Blackorby) which investigated the relationship between integration or restrictiveness of instruction and postsecondary educational enrollment found these variables to be nonsignificant.

Four studies (Halpern et al., 1995; Miller et al., 1990, 1991; Wagner et al., 1993) found significant relationships between transition-related experiences and enrollment in postsecondary education. Though Wagner et al. found that having a formal written transition plan did not significantly impact the probability of enrolling in postsecondary education when compared to having no transition plan, Halpern et al. found that receiving transition planning during the year prior to leaving high school significantly increased the probability of enrolling in postsecondary education (OR = 3.21, OR = 6.61) when compared to needing and not receiving a transition plan. Wagner et al. also found that having a transition goal to pursue postsecondary academic training, compared to not having a goal to pursue postsecondary academic training, and having the school contact two- or four-year colleges for the youth, compared to the school not making contact with colleges for the youth, significantly increased the probability of enrolling in postsecondary education (percentage point differences = 20.5 & 23, respectively). Halpern and colleagues found that not needing help in basic academics, getting along with other people, or problem solving after leaving high school significantly increased the probability of enrolling in postsecondary education (OR = 7.81).

*High school achievement.* In this body of literature, I identified a variety of high school achievement characteristics with significant relationships to postsecondary enrollment such as grade point average (GPA) or academic achievement (Rojewski, 1999; Wagner et al., 1993), high school exit status (Fairweather & Shaver, 1990, 1991; Rojewski; Wagner & Blackorby, 1996; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine, 2005), classroom task-related behaviors (Wagner et al.), retention in any grade (Wagner, Newman, Cameto, Garza, & Levine), reading and math grade equivalent scores

(Miller et al., 1990), educational aspirations (Rojewski), satisfaction with youth's high school program (Halpern et al., 1995); participation in extracurricular experiences (e.g., belonging to a school or community group, participating in athletics, music, speech, drama, and debate; Miller et al., 1990; Wagner et al.), and level of community mobility (Miller et al., 1991). Wagner and colleagues (1993) found that having a B-average GPA significantly increased the probability of enrolling in postsecondary education compared to youth with a D-average GPA (percentage point difference = 17.6). Though two studies found that dropping out of high school did not significantly impact the probability of enrolling in postsecondary education (Wagner & Blackorby, 1996; Wagner et al.), Wagner, Newman, Cameto, Garza, and Levine (2005) found that graduating from high school significantly increased the probability of enrolling in two- or four-year colleges compared to dropping out (percentage point difference = 18.4).

Wagner, Newman, Cameto, Garza, and Levine (2005) found that being held back in school or having to repeat a grade significantly decreased the probability of enrolling in two- or four-year colleges (percentage point difference = 21.4). Halpern et al. (1995) found that having parents who were satisfied or being a youth who was satisfied with the instruction the youth received in reading, writing, math, behaving responsibly, and problem-solving increased the probability of enrolling in postsecondary education (OR = 2.64; OR = 22.48, OR = 27.65, respectively). Wagner et al. (1993) found that receiving a higher teacher rating of youth's classroom task-related behavior significantly increased the probability of enrolling in postsecondary education (percentage point difference = 22.8)

Miller and colleagues (1991) found that youth who paid all or more than half of their living expenses two years after leaving school were less likely to enroll in postsecondary education and more likely to enlist in the military. Additionally, youth who sought help from friends were more likely to enroll in postsecondary education (Miller et al., 1991). Wagner and colleagues (1993) found that belonging to a school or community group in secondary school significantly increased the probability of enrolling in postsecondary education (percentage point difference = 20.6), and another study (Miller et al., 1990) found that youth who participated in extra curricular activities were more likely to enroll in postsecondary education.

*School context.* Three studies (Miller et al., 1990, 1991; Wagner et al., 1993) investigated the relationships between school factors and postsecondary enrollment. Two studies (Miller et al., 1990, 1991) found no significant differences in the postsecondary education enrollment rates of youth from different size communities. Wagner and colleagues (1993) found that attending a special school had no significant impact on enrolling in postsecondary education. However, surprisingly, Wagner and colleagues found having attended a high-poverty high school (i.e., schools with half or more of the student body in poverty) significantly increased the probability of enrolling in postsecondary education compared to those who attended school with less than half of the students who were poor (percentage point difference = 3.4).

*Time since leaving high school.* All three studies (Blackorby & Wagner, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) found the length of time out of high school to be a significant predictor of enrollment in postsecondary education or two- or four-year colleges. Wagner and colleagues found that

being out of high school for two or three years significantly increased the probability of enrolling in postsecondary education compared to youth who had been out of high school for only one year (percentage point difference = 7.3). In 2005, Wagner, Newman, Cameto, Garza, and Levine found that being 19 years old significantly increased the probability of enrolling in two- or four-year colleges compared to youth who were 17 years old (percentage point difference = 12.4).

### *Summary*

Eleven of the 12 studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Levine & Edgar, 1995; Miller et al., 1990, 1991; Murray et al., 2000; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005) used extant data collected through survey methodology within large-scale research projects. Seven of the studies (Blackorby & Wagner; Fairweather & Shaver, 1990, 1991; Levine & Edgar; Miller et al., 1990; 1991; Murray et al.) utilized descriptive statistics to investigate differences among youth with disabilities who enrolled in postsecondary education. These studies identified differences between and among groups of youth with disabilities based on time since leaving high school, individual/ family/ community characteristics, school program, and high school achievement. Similarly, the other five studies (Halpern et al., 1995; Rojewski; Wagner & Blackorby; Wagner et al.; Wagner, Newman, Cameto, Garza, & Levine) identified the following predictors of postsecondary enrollment for youth with disabilities using multivariate analyses: (a) individual/ family/ community characteristics; (b) school program; (c) high school achievement; (d) school context; and (e) time since leaving high school.

Though these findings suggest factors associated with enrollment in postsecondary education among youth with disabilities, the studies have numerous limitations due to methodologies: (a) the year when the study was conducted; (b) sample; (c) data collection methods; (d) variables; and (e) data analysis. The majority of the studies represent the experiences of youth with disabilities during the late 1980's and early 1990's. Only Wagner, Newman, Cameto, Garza, and Levine (2005) provided findings based on the experiences of youth with disabilities during the 2000's.

Evidence to the effects of school context, school services and programs, high school achievement, individual/ family/ community characteristics, and time since leaving high school on enrollment in postsecondary education was evident in 10 of the 12 studies (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Miller et al., 1990, 1991; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005). However, the methodological flaws, the descriptive nature, and when the majority of the studies were conducted necessitate further research. Variables evaluated in these studies should be reexamined in the current context of policy and secondary practices. Further, their unique relationships to two- and four-year college enrollment, specifically, should be evaluated as well.

Additionally, these studies did not investigate of the effects of youths' self-determination and self-advocacy skills on college enrollment. Since the mid 1990's, researchers have promoted that need for strong self-determination and self-advocacy skills among youth with disabilities for a successful transition to college (Gartin et al., 1996; Gil, 2007; Johnson et al., 2002; NCSET, 2004; National Council on Disability,

2004a; Stodden, Dowrick, et al., 2003; Stodden, Galloway, & Stodden, 2003; Thoma & Wehmeyer, 2005; Wehman, 2006; Wolanin & Steele, 2004). Though these skills are promoted as necessary transition skills for college, researchers have yet to include them in any analyses of factors associated with college enrollment among youth with disabilities. Future analyses should evaluate the effects of self-determination and self-advocacy skills on two- and four-year college enrollment for this population.

### Chapter Summary

Since the 1980's, policy and practice has addressed how to improve the postschool outcomes of youth with disabilities. Numerous methods have been used to improve these postschool outcomes (e.g., research, demonstration projects, federal policy changes), studies have shown participating in the college experiences improves postschool outcomes in the areas of employment outcomes, yearly earnings, and graduate education enrollment (Dickinson & Verbeck, 2002; Horn & Berkold, 1999; Madaus, 2006; Vogel & Adelman, 2000; Wehman & Yasuda, 2005). While improvements have been realized, youth with disabilities still lag behind youth without disabilities in college enrollment rates (Wagner, Newman, Cameto, Garza, & Levine, 2005). Furthermore, youth with disabilities who enroll in college seem to share specific characteristics (Wagner, Newman, Cameto, & Levine, 2005). The lack of enrollment among certain youth with disabilities seems in contradiction to the fact that all youth with disabilities receive support from the same federal policies. However, the implementations of these policies may hinder more youth with disabilities from enrolling in colleges (Wehman & Yasuda). While federal policies provide support for youth with disabilities to prepare,

access, and participate in college, we are not clear about the pre-collegiate experiences, characteristics, and factors associated with college enrollment.

This study addressed some of the limitations in the current research base by investigating the associations among school program and services, high school achievement characteristics, individual and household characteristics, and enrollment in two- and four-year colleges among youth with disabilities. The study provided an opportunity to explore the relationships between pre-collegiate experiences, individual characteristics, and enrollment in two- and four-year colleges. Understanding the associations among these factors and college enrollment will contribute to the knowledge base for practitioners and policy makers which may facilitate higher rates of college enrollment among youth with disabilities.

### CHAPTER III: DATA AND METHODOLOGY

The empirical literature presented in chapter 2 does not provide a good knowledge base for predicting two- and four-year college enrollment for practitioners and policy makers. Though the research literature identified significant relationships between individual and household characteristics, school programs and services, and high school achievement characteristics and enrollment in postsecondary education, the studies had methodological limitations. Due to methodological limitations, the age of the studies, changes in special education policy, and advances in the field of special education, further research should be conducted to better understand the factors that may enable youth with disabilities to reach this postschool outcome. The results of this study begin to build the knowledge base associated with college enrollment among youth with disabilities in the current educational context.

I conducted this study using the NLTS2 dataset to analyze the contributions of individual and household characteristics, school programs and services, and high school achievement characteristics on the likelihood of enrolling in a two- or four-year college among youth with disabilities. I used the NLTS2 Conceptual Framework (see Figure 1 in chapter 1; Wagner, Kutash, et al., 2005) to organize the independent variables representing the youth's secondary school experiences and characteristics.

The conceptual framework included the six groups of variables thought to be associated with postsecondary achievement (i.e., college enrollment, employment, independent living): youth and household characteristics, school programs, school characteristics and policies, achievements during secondary school, postschool achievements, and adult services and programs. SRI collected data in each of the before-

mentioned areas in the NLTS2. Since I was interested in the contributions of youth and household characteristics and school experiences that occurred before leaving high school, I did not include any variables from the framework's sixth group: adult services and programs. Further, I did not include school characteristics and policies due to the low response rates and missing data associated with these variables in the NLTS2. I provide a further discussion of this framework and the variables used in this study in the following sections.

In this chapter I first provide an overview of the NLTS2 dataset including the research design, sampling strategy, and instrumentation. Second, I present the NLTS2 variables used in this study. Third, I provide the data analysis methods I used to answer the research questions.

This study addressed the following research questions:

Research Question 1: How do youth with disabilities who enrolled in a two- or four-year college compare to those who have not enrolled on select individual and household, parental, school program, and high school achievement characteristics?

Research Question 2: What is the association between select individual and household characteristics and two- and four-year college enrollment among youth with disabilities?

Research Question 3: What is the association between select parental characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual and household characteristics?

Research Question 4: What is the association between select high school achievement characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, and parental characteristics?

Research Question 5: What is the association between self-determination skills and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

Research Question 6: What is the association between select school program characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

Figure 2 in chapter 1 provides the conceptual model for these research questions.

#### Dataset

The research questions were answered by conducting a secondary analysis of the data collected through the NLTS2. The NLTS2 was originally commissioned by the US Department of Education, the Office of Special Education Programs (OSEP), to evaluate the effects of the IDEA Amendments of 1997 (Valdes et al., 2006a). Additionally, it is a follow-up study to the original NLTS. The NLTS was a nationally representative, longitudinal study of youth receiving special education, ages 15 through 23, in the 1985-86 school year. SRI conducted two waves of data collection between 1985 and 1990, which included parent and youth interviews, school staff and principal surveys, and review of student's transcripts and high school records (Wagner, Newman, Cameto, & Levine, 2005). Five of the studies (Blackorby & Wagner, 1996; Fairweather & Shaver,

1990, 1991; Wagner & Blackorby, 1996; Wagner et al., 1993) discussed in the literature review in chapter 2 analyzed data from the NLTS and one study (Wagner, Newman, Cameto, Garza, & Levine, 2005) analyzed data from the NLTS2.

The NLTS2 is also being conducted by SRI International (2000a, b) under the auspices of the Institute of Educational Science (IES). The NLTS2 is a study of a nationally representative sample of youth in special education who were ages 13 to 16 and in at least 7<sup>th</sup> grade in the Fall of 2000. Data on educational and non-educational experiences/ characteristics have been collected as the youth move through secondary school and transition to adult life. The study focuses on secondary school experiences and performance, postsecondary education and training, employment, independent living, and social adjustment. IES has released data collected during the first five annual data collection points during 2000-05. The released data were derived from parent interviews/ mail surveys and school-based surveys in the first and second data collection point (2000-01 and 2001-02), parent and youth interviews/ mail surveys, school-based surveys, and direct assessments in the third and fourth data collection points (2002-03 and 2003-04), and parent and youth interviews/ mail surveys in the fifth data collection point (2004-05). SRI will collect data through two more data collection points in 2007 and 2009 (Wagner, Newman, Cameto, & Levine, 2005).

The NLTS2 was designed to describe: (a) the characteristics, secondary school experiences, and postschool experiences of youth in special education; (b) “measure the secondary school and postschool outcomes of students in the education, employment, social, and residential domains;” and (c) “identify factors in students’ secondary school and postschool experiences that contribute to more positive outcomes” (Valdes et al.,

2006a, p.1). A total of 11, 276 youth with disabilities from 501 local education agencies (LEA; i.e., school districts) and 38 state-supported special schools were selected to participate in the base-year 2000. See Tables 2 and 3 for the data collection timeline and instruments response rates.

INSERT TABLE 2 ABOUT HERE

INSERT TABLE 3 ABOUT HERE

By the end of the fifth data collection point in 2005, 3,606 youth with disabilities reported being out of high school. At the same time, approximately 1,977 youth with disabilities reported having enrolled in at least one class at a two- or four-year college since leaving high school.

#### *Research Design and Sampling Strategy*

The NLTS2 is a nested sample, in which youth in the sample are nested within LEAs and state-supported special schools. The study employed a two-stage sampling selection process: a sampling of “operating LEAs” and a sampling of youth with disabilities in those LEAs which agreed to participate in the study. Before sampling, SRI selected a nationally representative sample of “operating LEAs” and state-supported special schools from a sampling frame created from the Quality Education Data (QED) database. The QED is a marketing service firm that focuses solely on the educational market (QED, n.d.a) and provides highly targeted mailing and emailing lists as well as demographic information on the teachers, students, administrators, and operating schools within school districts (QED, n.d.b). See Figure 3 for a flow chart of sampling for instruments in the first five data collection points.

## INSERT FIGURE 3 ABOUT HERE

### *Sample of LEAs*

A total of 3,635 LEAs from the QED database were invited to participate in the study. These districts were drawn from a total of 12,435 LEAs identified in the QED. Before drawing the sample of LEAs, the following types of schools and school districts were excluded: supervisory unions, Bureau of Indian Affairs schools, public and private agencies such as correctional facilities, LEAs in the US territories, and LEAs with 10 or fewer youths in the NLTS2 age range (Valdes et al., 2006a). The remaining LEAs were stratified according to geographic region; district enrollment; and district/ community wealth. See Appendix A for the break down of strata. Once the LEAs were placed in a 64-strata grid, a random sample of LEAs was drawn proportional to the size of each stratum (SRI International, 2000b). A total of 3,635 LEAs were invited to participate in the study. Of this number, 501 LEAs agreed to participate in the study.

To ensure appropriate representation, SRI conducted a non bias analysis of LEAs in two stages: comparison to extant databases; and comparison to responses to a survey (Javitz & Wagner, 2003). In the first stage, the participating LEAs were compared to the universe of LEAs with two extant databases: one generated by the Department of Education's Office of Civil Rights (OCR) and the other generated by QED. The LEAs special education policies and practices were compared on the following aspects: youth demographics (e.g., ethnicity, gender), educational placement, testing and promotion, diplomas and certificate of completion, and teacher certification and student ratio. In the second stage, participating LEAs were compared to a nationally representative sample of LEAs (n = 883) on various aspects of special education policies and procedures. In both

stages, the participating LEAs did not differ from the universe of LEAs with practical significance.

### *Sample of Youth*

When LEAs and special schools were contacted to obtain agreement to participate in the study, they were also asked to provide rosters of the youth receiving special education who were ages 13 to 16 on December 1, 2000 and in at least 7<sup>th</sup> grade. SRI requested these rosters to include the names and addresses of the youth receiving special education under the jurisdiction of the LEA, the disability category of the youth, and the youth's birth date or age. However, some LEAs only provided identification number of appropriate youth, birthdates, and disability category. In these LEAs, the parents or guardians of the youth sampled were contacted by mail via the LEA. The youth on the special education rosters were categorized by primary disability category and grade. Then a fraction of the youth in each disability category was selected randomly from each LEA and special school in order to accurately represent the 12 disability categories and to oversample older youth in the NLTS2 age range (Valdes et al., 2006a). SRI wanted 12,943 youth to participate; however, only 11,272 agreed to participate in the first data collection point (SRI International, 2000b).

### *Sampling Weights*

SRI provided two types of sampling weights in the NLTS2 dataset: full sample weights and replicate weights. The NLTS2 data needs to be weighted to represent estimates of true values for the population of youth with disabilities in the US who were between 13 and 16 during 2000. The weights were constructed based on the youth's LEA characteristics, primary disability, and the overall response rate to the data collection

instrument at the particular data collection point. The full sample weights were calculated taking into consideration the characteristics of the youth's LEA, the youth's primary disability, and the response rate to the data collection instrument at each data collection point. There was one full sample weight for each of the data collection instruments at each data collection point. The replicate weights were calculated in a similar way but were derived from only half of the LEA sample. There are 32 replicate weights for each data collection instrument at each data collection point (Valdes et al., 2006a).

#### *Data Collection Methods and Instruments*

The NLTS2 included data collected using the following instruments: Parent Interviews, Youth Interviews, direct assessments and youth in-person interviews, Teacher Surveys, School Program Surveys, School Background Surveys, and high school transcripts. However, not all data collection instruments were administered at every data collection point. Further, IES has not released data derived from all the data collection instruments. See Table 2, presented earlier in this chapter, for the data collection schedule. See Appendix B for more detailed information on the data collection methods and instruments used in the NLTS2 study.

Additionally, the response rates of the individual data collection instruments used in this study varied from 48.1% on the 2003 School Program Survey administered at the third data collection point to 82.1% on the 2001 Parent Interviews at the first data collection point. See Table 3, presented earlier in this chapter, for maximum sample and the practical sample response rates to all the data collection instruments. The maximum sample response rate was based on the total number of youth who were eligible for the sample, which included youth who could not be reached for an interview or survey

because there was no phone number or address available. The practical sample response rate was based on the total number of all eligible youth who were living, appropriate for the data collection instrument, and for whom there was a phone number or mailing address; this number did not include youth whose parents had actively denied consent for participation or for those who had permanently withdrawn from the study (Valdes et al., 2006a). As shown in Table 3, the practical sample response rates were between 0 and 12.4 percentage points higher than the maximum sample response rates.

SRI conducted a non bias analysis which compared the respondents of the Parent Interview at the first data collection point to the respondents of the School Program Survey and the direct assessment at the second data collection point and the Parent and Youth Interview at the third data collection point (Javitz & Wagner, 2005). They statistically compared the respondents on: (a) disability category; (b) age; (c) gender; (d) household income; (e) race/ ethnicity; (f) school type; (g) school experiences; and (h) parent involvement, satisfaction, and expectations. SRI found that: (a) youth age 13 or 14; (b) youth whose parents were very satisfied with the child's school; and (c) youth whose parents did not expect their child to pursue postsecondary education were overrepresented among the respondents for the School Program Survey in the second data collection point. They found that: (a) youth age 15; (b) youth whose parents were dissatisfied with the child's school; (c) youth whose parents volunteered at the school; and (d) youth whose parents expected the child to pursue postsecondary education were underrepresented among the respondents for the School Program Survey. Finally, SRI found that youth whose parents did not expect their child to pursue postsecondary

education were overrepresented among the respondents for the direct assessment at the second data collection point.

### *Instrument Validation*

In the Spring of 2000, data collection instruments and procedures were pretested to ensure the protocols and instruments functioned according to their design and to identify concerns or problems with the data collection methods (SRI International, 2000a). The instruments were each pretested with nine of the appropriate participants (i.e., teachers, principals, parents, or youth). The direct assessments and in-person youth interviews were pretested with five groups of youth with disabilities: mild disabilities, deafness/ hearing impairments, low vision/ blindness, cognitive disabilities, and physical/ health disabilities. During the pretest of all instruments, special attention was paid to the following aspects: (a) the amount of time it took to administer the procedure; (b) respondents' comprehension of the content and format of the interviews; (c) analysis of item characteristics such as the believability of responses, variation of responses, and appropriateness of procedures based on students and settings; (d) the logical flow and skip patterns of the interview protocols; (e) the logistics of the sequence of activities; and (f) the need and ability to provide necessary accommodations on the data collection instruments (SRI International).

### *Parent and Youth Interviews*

Parent Interviews were conducted at three data collection points in 2001, 2003, and 2005. SRI contacted parents by phone to complete standardized interviews on the youths' disability characteristics, health insurance and care, school experiences (e.g., whether the youth is receiving instruction, what type of school the youth attends, whether

the youth received a diploma), family interaction and involvement (i.e., school–family contact, the IEP process), after-school and extracurricular activities, behavior, services, employment outcomes, parent expectations, and household characteristics (i.e., household composition, socioeconomic status). If a parent could not be reached by telephone, SRI mailed him/her a self-administered questionnaire with a subset of essential interview questions. A total of 9,230 Parent Interviews were completed at the first data collection point with a calculated response rate of 82.1% for the practical sample (Valdes et al., 2006a). A total of 6,859 Parent and Youth Interviews were completed at the third data collection point with a calculated response rate of 61.1% for the practical sample, and a total of 5,657 Parent and Youth Interviews were completed at the fifth data collection point with a calculated response rate of 50.4% for the practical sample (Valdes et al.). SRI did not provide separate response rates and number of completed instruments for the Parent and the Youth interviews completed in the third and fifth data collection points.

Youth Interviews were conducted at two data collection points in 2003 and 2005. SRI contacted youth by phone to conducted standardized interviews on social and extracurricular activities, health, secondary school experiences and involvement, postsecondary education, employment, risk behaviors, youth’s feelings and expectations, and youth’s household. Individual youth who were unable to complete a telephone interview were mailed questionnaires that requested information on his/her social and leisure time, health, household, previous and current high school experiences, personal interests and activities, school-sponsored work, leaving high school, two-year colleges, vocational schools, four-year college, and previous and current jobs (Valdes et al.,

2006a). A total of 2,934 youth interviews and 441 youth questionnaires were completed at the third data collection point (Valdes et al.). SRI did not provide the number of completed Youth Interviews or the corresponding response rate for the fifth data collection point. Only the combined Parent and Youth Interview response rate was provided, which is reported in the previous paragraph.

#### *Direct Assessments and Youth In-Person Interviews*

Youth who were between the ages of 16 and 18 and still attending a high school were administered direct assessments in reading, math, science, and social studies and in-person interviews focused on self-determination skills, self-concept, and attitudes towards school and learning in 2002 and 2004. Youth were administered assessments by a trained on-site professional (other than the youth's own teacher). The assessments included material from the Woodcock-Johnson Research Edition, the Student Self Concept Scale (SSCS), and the School Attitude Measure (SAM). The assessments took an average of 45 minutes to complete (SRI International, 2000a).

The in-person student interviews were conducted at the end of the direct assessment administration by the assessor. The youth was asked about his/her aspirations related to schooling and adult life (SRI International, 2000a). A total of 2,583 direct assessment and 580 alternate assessments were completed (Valdes et al., 2006a). These numbers resulted in a 72.2% response rate for the practical sample. The specific number of in-person youth interviews completed was not provided; however, in-person youth interviews were supposed to be conducted directly after the administration of the direct or alternate assessment.

#### *School Program Surveys*

During the second and fourth data collection points in 2002 and 2004, SRI administered the School Program Surveys to the youth's special education teacher, if the youth was still receiving special education services, or the teacher who best knows the youth's school program, if the youth was no longer receiving special education services. The teacher was asked to complete the survey using the students' school file, the most recent IEP, the most recent transcript and course schedule, the number of absences the student had in February, and the number of suspensions and disciplinary actions for this student during the school year. The survey asked for information pertaining to an overview of the youth's school program (e.g., setting in which the youth takes specific classes, participation in statewide assessments), student performance and family support (grade level results from reading and math assessments, number of days absent, disciplinary actions and suspensions), career and vocational education and services (e.g., whether the youth participates in vocational education, youth's behaviors when in vocational education classes), educational services (e.g., information from the youth's IEP, accommodations, special education and related services), transition to adult life (e.g., transition planning, transition goals), and the teacher's characteristics and role in the school (Valdes et al., 2006b). A total of 5,635 School Program Surveys were completed at the second data collection point, resulting in a 53.1% response rate for the practical sample (Valdes et al., 2006a). A total of 4,278 School Program Surveys were completed at the fourth data collection point, resulting in a 52.2% response rate for the practical sample (Valdes et al., 2006a).

### *Variables*

To answer the research questions guiding my study, I used data on specific variables obtained from the 2001 Parent Interviews, the 2003 and 2005 Parent/ Youth Interviews, the 2002 and 2004 School Program Surveys, and the 2002 and 2004 direct assessments and in-person youth interviews. I provide a description of the variables which include the names of the dataset variables used to create the variables in the study, the method I used to combine variables, and the coding of the variables in this chapter. Information on the NLTS2 variables' names and coding were obtained from the NLTS2 Data Dictionary (Valdes et al., 2006a). See Appendix C for information on the NLTS2 dataset variables used in the study (e.g., survey or interview questions, original response categories, and original coding scheme).

#### *Dependent Variable*

The dependent variable for this study was whether the youth ever enrolled in at least one class in a two- and/or four-year college since leaving high school. I combined responses from six dichotomous variables, two of which were obtained from the 2005 Parent/ Youth Interview (np3S3a\_D4a1\_ever and np3S5a\_D4a3\_ever), two from the 2003 Parent/ Youth Interview (np2S3a\_D4a1 and np2S5a\_D4a3), and two from the 2001 Parent Interview (np1D4a and np1D4f). Since youth were older and most likely to have enrolled in at least one two- or four-year college class by the 2005 Parent/ Youth Interview, I gave preference to responses from this instrument and filled in missing cases with responses from the 2003 Parent/ Youth Interview and the 2001 Parent Interview. I coded the combined variable 1 for youth who had ever enrolled in at least one class at a two- or four-year college and 0 for youth who had never enrolled in a class at a two- or four-year college since leaving high school.

### *Independent Variables*

I used 20 categorical variables derived from the 2001 Parent Interview, the 2003 and 2005 Parent/ Youth Interviews, the 2002 and 2004 School Program Survey, and one continuous variable from the 2002 and 2004 direct assessment and in-person youth interview as the independent variables in my analyses.

*Individual and household characteristics.* I selected seven individual and household characteristics as independent variables: gender, race/ethnicity, parental level of education, household income, functional cognitive skills, parents' expectations, and primary disability. The data from these seven variables were collected from the 2001 Parent Interview in first data collection point. If cases were missing responses to one of the variables, I retrieved responses for that variable from either the 2003 or 2005 Parent/ Youth Interview.

I used a variable from the cross-instrument data file from first data collection point to represent the youth's disability category (W1\_Dis12). SRI constructed this variable from data collected from the following instruments: the 2001 Parent Interview, the 2002 School Program Survey, or the 2002 Teacher Survey. If cases were missing a response, I retrieved responses from the 2003 Parent/ Youth Interview data file (W2\_DisHdr2003). I coded the variable in the following way: 1=learning disability, 2=speech impairment, 3=mental retardation, 4=emotional disturbance, 5=hearing impairment, 6=visual impairment, 7=orthopedic impairment, 8=other health impairment, and 9=autism, traumatic brain impairment, multiple disabilities, and deaf/ blindness.

I used a variable from the cross-instrument data file from first data collection point to represent the youth's gender (w1\_Gend2). SRI constructed this variable from

data collected from the following instruments: the 2001 Parent Interview, the 2002 School Program Survey, or the 2002 Teacher Survey. If cases were missing a response, I retrieved responses from the 2003 Parent/ Youth Interview data file (W2\_GendHdr2003) or the 2005 Parent/ Youth Interview data file (W3\_GendHdr2005). I recoded responses so that 0= male and 1= female.

I used a variable from the cross-instrument data file from first data collection point to represent the youth's household income (w1\_Incm3). SRI constructed this variable from data collected from the following instruments: the 2001 Parent Interview, the 2002 School Program Survey, or the 2002 Teacher Survey. If cases were missing a response, I retrieved responses from another variable in the 2001 Parent Interview data file (W1\_IncomeHdr2001). If I continued to have missing responses from household income, I retrieved data from the 2003 Parent/ Youth Interview data file (W2\_IncomeHdr2003 and np2H14cat) or the 2005 Parent/ Youth Interview data file (W3\_IncomeHdr2005 and np3H14cat). I used SRI's coding of this variable: 1=\$25,000 or under, 2=\$25,001 to \$50,000, and 3=over \$50,000.

I combined two categorical variables (W1\_eth6 and W1\_Ethdr2001) from the 2001 Parent Interview to represent the youth's race/ ethnicity. If cases were missing a response, I retrieved responses from three variables in the 2003 Parent/ Youth Interview data file (W2\_EthHdr2003, np2CombEth, and np2A3b) and another three variables in the 2005 Parent/ Youth Interview data file (W3\_EthHdr2005, np3CombEth, and np3A3b). I recoded the variable to 1=white, 2=African American, 3=Hispanic, 4=Asian/ Pacific Islander, American Indian/Alaska Native, and multi-other.

I combined responses from six variables (np1K8, np1K10, np2H7, np2H9, np3H7, and np3H9) to represent the parent's highest level of education. I combined responses for the mother's level of education and father's level of education from the 2001, 2003, and 2005 Parent Interviews separately. I gave preference to responses from the 2001 Parent Interviews and filled in missing cases with responses from the 2003 and 2005 Parent/ Youth interview. Then I combined mother's level of education and father's level of education by giving preference to mother's level of education and filled in missing cases with father's level of education. I recoded responses to 1 = less than a high school degree, 2 = a high school degree, 3 = attended some postsecondary education (e.g., post high school education, vocational-technical education), and 4 = obtained a college degree or more (e.g., associates degree, a three-year degree, a bachelors degree, or a graduate degree).

I combined responses from six categorical variables (np1j4, np1J5, np2G7b, np2G8a, np3G7b, and np3G8a) to represent parental expectations about youth enrolling in two- and four-year colleges. I chose to use variables which measured parents expectations of their child to graduate from two- and four-year colleges because parents were not asked whether they expected their youth to attend or enroll in two- or four-year colleges, specifically. The parents were only asked if they expected their youth to attend postsecondary school, which includes vocational or technical postsecondary programs as well as two- and four-year colleges. When combining the variables, I gave preference to responses obtained during the 2001 Parent Interview and filled in missing cases with responses from the 2003 and 2005 Parent/ Youth Interviews. I recoded the variable so

that 1 = will graduate from a two- or four- year college and 0 = will not graduate from a two- or four-year college.

I combined four categorical variables (np1G4a, np1G4b, np1G4c, and np1G4d) to represent the youth's functional cognitive skills. Based on a cross-instrument variable SRI created from the 2001 Parent Interview responses, these four variables derived from responses on youth's ability to tell time on a clock with hands, read and understand common signs, count change, and look up and use telephone numbers in a phonebook made up a composite variable for the youth's functional cognitive skills. If cases were missing responses, I used the responses to similar variables from the 2003 Parent/ Youth Interview (np2G3a\_a, np2G3a\_b, np2G3a\_c, and np2G3a\_d) and the 2005 Parent/ Youth Interview (np3G3a\_a, np3G3a\_b, np3G3a\_c, and np3G3a\_d). I created the new variable by adding the scores for each question and coding the variable 0 for scores between 12-16, which represented high cognitive functioning skills, and 1 for scores between 4-11, which represented low cognitive functioning skills.

*School program and services.* I selected nine categorical variables to represent the aspects of school programs and services: transition/ postsecondary goals, transition planning, instruction related to transition planning, participation in vocational education, participation in work experience programs, youth's role in transition planning, course of study in transition plan, meeting with teachers to discuss the transition plan, and assessment participation. The data for eight of the variables (i.e., participation in vocational education, transition planning, transition instruction, transition goals, participation in work experience programs, course of study, assessment participation, and youth's role in transition planning) were collected using the 2002 and 2004 School

Program Survey from the second and fourth data collection point. The variable representing whether the youth met with the teacher to discuss the transition plan was collected in the 2001, 2003, and 2005 Parent/ Youth Interviews during the first, third, and fifth data collection points. I provide a description of each variable below.

I combined two dichotomous variables (npr1C1 or npr2C1) from the 2002 and 2004 School Program Survey to represent whether the youth participated in a vocational education or applied academic class. I combined these variables and coded the variables in the following way: if a youth received a 1 on either npr1C1 or npr2C1, the youth received a 1 on the new variable, and if the youth received a 0 on both npr1C1 and npr2C1, the youth received a 0 on the new variable. This new variable represented whether the youth ever participated (i.e., spent any part of the school day) in vocational education or applied academic class since the 2001-02 school year.

I combined two dichotomous variables (npr1E1 and npr2E1) derived from the 2002 and 2004 School Program Survey to represent whether the youth received transition planning. I combined these variables and coded the new variable in the following way: if a youth received a 1 on either npr1E1 or npr2E1, the youth received a 1 on the new variable, and if the youth received a 0 on both npr1E1 and npr2E1, the youth received a 0 on the new variable. This new variable represented whether the youth ever received transition planning since the 2001-02 school year.

I combined two dichotomous variables (npr1E3 and npr2E3) derived from the 2002 and 2004 School Program Survey to represent whether the youth received instruction specifically focused on transition planning. I combined responses from these two variables and coded the new variable in the following manner: if a youth received a 1

on either npr1E3 or npr2E3, the youth received a 1 on the new variable, and if a youth received a 0 on both npr1E3 and npr2E3, the youth received a 0. Since this question was only completed by staff who had responded yes to whether there had been planning for transition (i.e., 1 on either npr1E1 or npr2E1), I coded any case in which the youth received a 0 or no response on npr1E1 or npr2E1 as a 0 on new variable as well. This new variable represented whether the youth ever received instruction focused on transition planning since the 2001-02 school year.

I combined two dichotomous variables (npr1E5 and npr2E5) derived from the 2002 and 2004 School Program Survey to represent whether the youth had a course of study mentioned in his/her transition plan. I combined responses from these two variables and coded the new variable in the following manner: if a youth received a 1 on either npr1E5 or npr2E5, the youth received a 1 on the new variable, and if a youth received a 0 on both npr1E5 and npr2E5, the youth received a 0. Since this question was only completed by staff who had responded yes to whether there had been planning for transition (i.e., 1 on either npr1E1 or npr2E1), I coded any case in which the youth received a 0 or no response on npr1E1 or npr2E1 as a 0 on new variable as well. This new variable represented whether the youth ever had a course of study specified in his/her transition plan or IEP since the 2001-02 school year.

I combined two dichotomous variables (npr1E4a and npr2E4a) derived from the 2002 and 2004 School Program Survey to represent whether the youth had a primary transition goal/ postsecondary goal focused on attending a two- or four-year college. I recoded the new variable in the following manner: if a youth received a 1 on either npr1E4a or npr2E4a, the youth received a 1 on the new variable; and if a youth received a

0 on both npr1E4a and npr2E4a, the youth received a 0 on the new variable. Since this question was only completed by staff who had responded yes to whether there had been planning for transition (i.e., npr1E1 and npr2E1), I recoded the variable so that any youth who received a 0 on both npr1E1 and npr2E1 as a 0 on the new variable as well. This new variable represented whether the youth's transition goal ever focused on attending a two- or four-year college since the 2001-02 school year.

I combined two categorical variables (npr1E9 and npr2E9) derived from the 2002 and 2004 School Program Survey to represent the role the youth played in the transition planning process. I recoded responses to 1 = did not participate in the transition planning process (e.g., may have been present at discussion but did not provide any input), 2 = provided some input in the transition planning process (e.g., a moderately active participant), and 3 = took a leadership role in the transition planning process (e.g., helped set the direction of discussion, goals, and programs or service needs identified). When I combined responses from these two variables, I used the highest scored response. Since this question was only completed by staff who had responded yes to whether there had been planning for transition (i.e., 1 on either npr1E1 or npr2E1), I coded any case in which the youth received a 0 or no response on npr1E1 or npr2E1 as a 1 on new variable as well. This new variable represented the most active role the youth played in the transition planning process since the 2001-02 school year.

I combined two categorical variables (npr1A5a and nprA5a) derived from the 2002 and 2004 School Program Survey to represent how the youth participated in the standardized assessments. I recoded responses so that 1 = student did not take such a test, 2 = student took an alternate assessment in place of the standardized test, 3 = student

participated in the testing program with accommodations or modifications, and 4 = student participated in the testing program without accommodations and modifications. When I combined responses from these two variables, I used the highest scored response. This new variable represents the youth's greatest level of participation in standardized assessments since the 2001-02 school year.

I combined four categorical variables (npr1C13a, npr1C13b, npr2C13a, and npr2C13b) derived from the 2002 and 2004 School Program Survey to represent whether the youth participated in school-sponsored work-experience programs (i.e., on or off campus). I recoded responses so that 0 = youth who did not spend any percentage of his/her day in an on or off campus school work experience and 1 = youth who spent any percentage of his/her day in an on or off campus school work experience (e.g., 1%-24%, 25%-49%, 50%-74%, 75%-99%, or 100%). This new variable represented whether the youth ever participated a school sponsored, on or off campus work experience.

I combined three categorical variables (np1E2d, np2R7b\_E2d, and np3R7b\_E2d) derived from the 2001, 2003, and 2005 Parent/ Youth Interviews to represent whether the youth met with teachers to discuss postsecondary goals. I coded the new variable in the following manner: if a youth received a 1 on any of one of the variables (i.e., np1E2d, np2R7b\_E2d, and np3R7b\_E2d), the youth received a 1 on the new variable; and if a youth received a 0 on all of the variables, the youth received a 0 on the new variable. This new variable represented whether the youth ever met with an adult to discuss postsecondary goals or transition planning since the 2001-02 school year.

*High school achievement characteristics.* I selected four categorical variables and one continuous variable to represent the youth's high school achievement. Data were

collected through the 2001, 2003, and 2005 Parent/ Youth Interviews represented the youth's academic performance, high school completion status, extra curricular participation, and financial management and responsibilities. Data collected with the 2002 and 2004 administration of the direct assessments represented the youth's level of self-determination skills.

I combined two categorical variables (np3D6M and np3D6n) derived from the 2005 Parent/ Youth Interviews to represent the youth's grades or academic performance. I recoded the variable in the following manner: 1 = mostly A's/ excellent, 2 = A's and B's/ mostly B's/ above average, 3 = mostly B's and C's/ mostly C's/ average, 4 = mostly C's and D's/ mostly D's/ below average, 5 = mostly D's and F's/ mostly F's/ failing, and 6 = other or wide range of grades or performance. I filled in the missing cases with responses from the 2003 and 2001 Parent and Youth Interviews (np2D6M, np1D9b, np2D6n, and np1D9c).

I combined two categorical variables (np3D1K\_D2d\_B3b and np3S1b\_D1K\_D2d\_D3b) derived from the 2005 Parent and Youth Interviews to represent the youth's high school completion status. I recoded the responses in the following manner: 1= graduated, 2 = tested out/ received a certificate, 3 = dropped out, and 4 = older than age limit or other. I filled in the missing cases with responses from the 2003 and 2001 Parent and Youth Interviews (np1D\_1k\_2d\_5b, np2D1K\_D2d\_B3b, and np2S1b\_D3b)

I combined responses from four categorical variables (i.e., np3P5\_J1, np3P6\_J2, np3P8\_J4, and np3P9\_J5) derived from the 2005 Parent and Youth Interviews to represent participation in extracurricular activities (e.g., taken lessons or classes outside

of school, in things like art, music, dance, a foreign language, religion, or computer skills; participated in any school activity outside of class, such as sports teams, band or chorus, school clubs, or student government; participated in any out-of-school group activities, such as scouting, church or temple youth group, or nonschool sports like soccer, softball, or baseball; or participated in any volunteer or community service activities). I coded the variable in the following manner: if the youth received a 1 on any of the variables, I coded the new variable a 1; and if the youth received a 0 on all the variables, I coded the new variable a 0. I gave preference to responses from the 2005 Parent and Youth Interview and filled in the missing cases with responses from the 2003 and 2001 Parent and Youth Interview (np2P5\_J1, np2P6\_J2, np2P8\_J4, np2P9\_J5, np1F3, np1F4, np1F7, and np1F2).

The level of autonomy discussed in the special education literature pertained to whether the youth paid part of his/her living expenses (Miller et al., 1990, 1991). The NLTS2 did not provide this specific data; however, it did provide whether the youth had financial responsibilities. I combined five categorical variables (np3P16a\_J14a, np3P16a\_J14b\_a, np3P16a\_J14b\_b, np3P16a\_J14b\_c, and np3P16a\_J14b\_d) derived from the 2005 Parent and Youth Interview to represent the youth's financial management or responsibilities (i.e., had an allowance or other money that he/she decided how to spend; had a saving account; had a checking account where he/she wrote checks; or had credit cards or charge accounts in his/her name). I coded the variable in the following manner: if the youth received a 1 on any of the variables, I coded the new variables 1; and if the youth received a 0 on all four variables, the youth was coded 0. I gave preference to responses in the 2005 Parent and Youth Interviews and filled in missing

cases with responses from the 2001 and 2003 Parent and Youth Interviews (np2P16a\_J14a, np2P16a\_J14b\_a, np2P16a\_J14b\_b, np2P16a\_J14b\_c, np2P16a\_J14b\_d, np1F13, np1F14a, np1F14b, and np1F14c).

I combined 15 categorical variables associated with self-determination and autonomy to represent the youth's self-determination skills (ndaSdA=PerItems, ndaSdB\_PersCare, ndaSd1\_MakeFriends, ndaSd2\_KeepAppts, ndaSd3\_PlanWeekend, ndaSd4\_School, ndaSd5\_Volunteer, ndaSd6\_Restaurants, ndaSd7\_CareerInt, ndaSd8\_ImproveChances, ndaSd9\_Plans, ndaSd10\_Work, ndaSd11JobTraining, ndaSd12\_ChooseGifts, ndaSd13\_Spend). Youth were asked a series of questions relating to planning for the future, self-advocacy, and perspectives on the transition process during the youth in-person interviews administered after the direct assessments in 2002 and 2004. The questions were from The Arc's Self-Determination Scale (Adolescent version) by Wehmeyer and Kelchner (1995). Youth were asked how likely they were to participate in certain activities such as keeping personal items together, making friends with youth their age, going to restaurants, and making long-range career plans. Youths were asked to respond based on four categories, which were coded in the following manner: 1=not when I have the chance, 2=sometimes, 3=most of the time, and 4=every time I have the chance. When combined, the variable's cronbach alpha was .758 for the 15 items and the elimination of any variable would not increase the alpha. To combine the 15 variables, I added the scores from each variable to create a single score for each case. Before running any analyses, I standardized the self-determination scores by converting them to z scores.

## Analyses Methods

In this section I describe the procedures I used to answer my six research questions. However, I first describe how the sampling weights were applied and how missing data were handled.

### *Sampling Weights*

In this study, I applied the full sample weight for the appropriate data collection instrument at the appropriate data collection point. When combining responses from different instruments into a single variable or when analyzing variables derived from different data collection instruments, I applied the normalized, full sample weight for the instrument with the lowest response rate. For example, if I was conducting a chi-square analysis with the college enrollment variable, for which the majority of responses were derived from the 2005 Parent and Youth Interviews, and the transition planning variable, for which most of the responses were derived from the 2004 School Program Survey, I applied the normalized full sample weight for the 2004 School Program Survey to the analysis because this survey had a response rate of 48.1% and the 2005 Parent and Youth Survey had a response rate of 50.4%. I used the full sample weight for the data collection instrument with the lowest response rate because these weights had been adjusted based on the number of participants who had responded to the instrument. For an instrument with a lower response rate, the number of participants would have been smaller and a better representation of the subsample I used to conduct the analyses in this study. All weights used in this study were normalized based on the appropriate analytic sample.

### *Missing Data*

Due to item nonresponse (i.e., the participant did not answer the particular item in an interview or on a survey) and instrument nonresponse (i.e., the participant did not

complete the survey or interview), the NLTS2 dataset had missing data. SRI did not impute any data that appears in the dataset. Instead of using methods to impute missing data as often recommended (Croninger & Douglas, 2005), I used listwise deletion and eliminated cases in which there were missing responses. I decided to eliminate cases instead of imputing responses because of the number of missing responses. Due to the number of missing data, I had to use five analytic samples in order to take advantage of the greatest number of cases for each analysis. For instance, the analytic sample for Model 1 included youth who were out of high school, had a sampling weight from the 2005 Parent/ Youth Interview, and had responses to the dependent variable and the five independent variables included in the model. Figure 4 provides a description of the five analytic samples. In order to detect a bias due to missing data, I conducted a comparison between the different analytic samples and the base sample. Further, I statistically compared responses between the respondents and non-respondents in each of the different analytic samples. The results of the non bias analyses are reported in chapter 4.

INSERT FIGURE 4 ABOUT HERE

#### *Multivariate Models*

Based on missing data and the research questions, I designed five multivariate models to predict enrollment in two- or four-year colleges. Each model was associated with a different analytic sample. Each model was used twice in this study: (a) to answer research question 1; and (b) to answer one of research questions 2-6. Table 4 describes the model in terms of analytic sample, variables, and research questions. In addition to analyzing the main effects of the variables in these models, I analyzed the interactions

between youth's disability category and cognitive functioning skills. I only included interactions which were significant at the .05 level in the models.

INSERT TABLE 4 ABOUT HERE

### *Analyses*

I conducted three types of analyses to answer the research questions: chi-squares, t-tests, and logistic regression. I conducted other analyses to determine whether the independent variables were appropriate for these types of analysis (e.g., bivariate correlations, tolerance statistics). Additionally, I used the SPSS (Statistical Package of the Social Sciences) 16.0.2 base software program (SPSS Inc., 2006) to store and manage the data (e.g., create my variables); run bivariate correlations; and run independent-sample t-tests on the self-determination scores for research question 1. I used the SPSS 16.0.2 Complex Samples to run the independent-sample chi-square tests and the logistic regression analysis. SPSS 16.0.2 Complex Samples is a software package specially designed for analyzing large-scale data derived from complex sampling designs. The software is able to accommodate the sampling weights and nested samples such as that of the NLTS2. I used the SPSS 16.0.2 base program to run the bivariate correlations and independent t-tests because these analyses options were not provided in the SPSS Complex Samples 16.0.2. Since the NLTS2 dataset has nested samples, the analyses ran in SPSS 16.0.2 may overestimated the significance of the results.

### *Preliminary Bivariate Correlation Analysis*

Before conducting chi-square, t-tests, or logistic regression analyses to answer the research questions, I ran bivariate correlations in the SPSS 16.0.2 base version to determine if there were significant relationships between the dichotomous and continuous

independent variables and the dependent variable. I did not run the inter-correlations and tolerance statistics with the other nominal independent variables due to the inability to meaningfully interpret the correlations.

Since the rationale for selecting the individual, household, parental, and high school achievement variables in this study was based on limited and flawed research on predictors of college enrollment, I ran the bivariate correlations to determine if there was some relationship between these individual variables and college enrollment. For these variables, I used the bivariate correlations to determine if all these variables should remain in further analyses in this study. However, since I selected the school program characteristics to emphasize changes in the federal policies, I did not eliminate variables in which I did not find a significant relationship between the characteristic and college enrollment. Additionally, due to concerns around a small sample size and Type II errors which make it more difficult to identify significant relationships, I did not eliminate school program characteristics. I evaluated the Cramer's V statistic in order to identify significant relationships between the dichotomous dependent variable and the dichotomous independent variables (Huck, 2004). I used a significant level of .05 for all of the correlations. I evaluated the Cramer's V statistic based on the following standard: (a) greater than .5 is a high association; (b) between .3 and .5 is a moderate association; (c) between .1 and .3 is a low association; and (d) between 0 and .1 is a little if any association (Crewson, 2006). Since each of the five models was analyzed with different analytic samples, I looked at the correlations of individual variables across models to determine if the samples were different.

#### *Exploratory Descriptive Analyses*

I ran independent-sample chi-square analyses with each categorical variable and independent t-test for the continuous variable to answer research question 1. The self-determination score was the only continuous variable. I standardized the scores and ran independent t-tests to determine if the self-determination skills differed from youth who enrolled compared to youth who have not enrolled in a college.

In order to compare those who enrolled in a two- and four-year college to those who have not enrolled on all other categorical variables representing individual and household characteristics, school programs, and high school achievement characteristics, I conducted independent-sample chi-square tests. I calculated frequencies and percentages of college enrollers and non-enrollers for each of the independent variables. Using a cross tabulation table, the chi-square test statistically compares the frequencies of nominal or ordinal data for two samples across two or more subgroups (Crewson, 2006). Each cell in the cross tabulation table is compared to an expected value which is established by multiplying the row frequency by the column frequency and dividing by the total frequency for the available (Crewson). The results reported in chapter 4 answered research question 1 and provided evidence of the differences between those two groups of youth with disabilities.

I chose to use independent-sample chi-square tests to analyze frequencies of the categorical independent variables because this statistical method is frequently used to compare two samples on a response variable that is categorical (Huck, 2004). For instance, I used a chi-square test to evaluate whether there was a difference between the proportion of females with disabilities who enrolled in college and the proportion of females with disabilities who have not enroll in college. The independent-sample chi-

square test allowed for this and other similar comparisons between proportions of youth in the two groups, those who enrolled in a college and those who have not enrolled.

When considering the use of independent-sample chi-square test, it is necessary to consider the restrictions of this statistical method. Isaac and Michael (1997) offered the following restrictions: (a) chi-square tests can only be used with frequency data; (b) these tests require that the variables or measures are independent of each other; and (c) there is a logical or empirical basis for the way the data are categorized. I only used chi-square tests on variables which met these criteria. Additionally, Isaac and Michael note that chi-square tests should not be used when the theoretical frequency or cell size is smaller than 5. Unfortunately, a few of the cells in the analyses had less than 5 cases. I identified the cells in which this was the situation.

Since some of the variables have more than two response categories and each chi-square analyses only provides one statistic, I used standardized residuals (R) to identify the cells that contributed most to significant chi-square results. The R represents a comparison of the observed cell frequency and the expected cell frequency (Crewson, 2006). If an R was greater than 2 or less than -2, I considered it as having contributed to the significant result. R's greater than 2 or less than -2 represent a larger departure from the expected cell frequency.

Since I ran multiple chi-square tests to answer research question 1, I adjusted the significance level with the Sidak (1967) technique to limit the Type 1 error. The Sidak technique takes into consideration the total  $p$  value or significance level (i.e., .05) and the number of tests being run. For each chi-square tests run with each analytic sample, I held the total significance level at .05. The Sidak technique adjusted the significance level to

.01 for Model 1 chi-squares, .007 for Model 2 chi-squares, .005 for Model 3 chi-squares, .005 Model 4 chi-squares, and .003 for the Model 5 chi-squares. Since only one t-test was used with a single analytic sample, I did not adjust the significance level of .05.

### *Logistic Regression Analysis*

I used logistic regression analysis to answer research questions 2 through 6. However, before conducting the logistic regression analyses, I conducted a few other analyses on the inter-correlations of the independent variables in each model. I evaluated the inter-correlations with bivariate correlations and regression tolerance statistics among the dichotomous and continuous independent variables in order to eliminate any variables that violate the assumption of collinearity. Similar to the bivariate correlations discussed previously, I did not run the inter-correlations and tolerance statistics with the other nominal independent variables due to the inability to meaningfully interpret the correlations. I used the Cramer's V correlational technique to determine the strength of the relationships among the dichotomous variables (Huck, 2004). I also examined the tolerance statistics derived from a regression analysis on all the independent variables. Since I had to obtain the Cramer's V statistics from the SPSS 16.0.2 base version which may have overestimated the significance of results derived from this type of data, I examined the regression tolerance statistics as well. Based on Menard (2002), examining the tolerance statistics of a group of independent variables is an appropriate method to determine collinearity in a logistic regression analysis. He stated that tolerance statistics of .20 or lower are cause for concern and .10 or lower will create a problem of collinearity in logistic regression analysis. In addition to evaluating the collinearity

among the independent variables, these analyses provided another method to check for differences among the analytic samples by comparing the correlations across models.

I chose logistic regression analysis because I was interested in determining the predicted probability of a youth with disabilities enrolling in a two- or four-year college and this statistical technique is appropriate when the dependent variable is binary or dichotomous. Logistic regression analysis also permitted the use of categorical independent variables and produced results on the effectiveness of each independent variable or the combined group of variables (Huck, 2004). This analytic technique has been used in similar studies that have investigated the effects of youth and household characteristics (e.g., primary disability category, self-care skills, functional mental skills, gender, racial/ ethnic background, parental expectations, household income), school program and services (e.g., classes taken, instruction received, participation in vocational education classes, transition goals), and high school achievement (e.g., youth and parent satisfaction with high school services, academic performance) on enrollment in postsecondary education (Halpern et al., 1995; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005). The objectives of this analysis was to determine: (a) whether the various multivariate models significantly predicted enrollment among youth with disabilities; (b) whether the blocks or categories of variables (i.e., individual and household variables, school program characteristics, and high school achievement characteristics) significantly improved the prediction of enrollment; and (c) the effects of the individual characteristics and experiences on college enrollment.

Once I evaluated the collinearity of the independent variables, I recreated all eight independent variables with more than two response categories (i.e., disability category, household income, race/ ethnicity, parental education, grades and performance, high school completion status, role youth played in transition planning process, and assessment participation) into dichotomous variables. For instance, I created three variables for the three response categories in the household income variables and coded them in the following manner: (a) 1 for youth from household with an income of \$25,000 or less and 0 for all other youth; (b) 1 for youth from households with an income between \$25,001 and \$50,000 and 0 for all other youth; and (c) 1 for youth from households with an income over \$50,000 and a 0 for all other youth.

In order to interpret the results of the logistic regression analysis, I had to identify reference groups for each of these eight independent variables with more than two response categories. For disability category, I selected youth with LD as my reference group because it was the largest group representing between 57% and 65% of the cases, depending on the analytic sample. For household income, I chose youth from household with an income over \$50,000 as my reference group because it was one of the larger groups representing between 35% and 46% of the cases, depending on the model. Additionally, research has shown that youth from household with higher incomes are more likely to enroll in colleges or postsecondary education (Fairweather & Shaver, 1990, 1991; Wagner & Blackorby, 1996; Wagner et al., 1993). For race/ ethnicity, I selected white youth as my reference group because it was the largest group representing between 64% and 73% of cases, depending on the variable. For parental education, I chose youth whose parents did not obtain a high school degree as my reference because I

wanted to be able to discuss college enrollment in relation to youth whose parents had a high school degree, some postsecondary education, or a college degree. Additionally, Wagner, Newman, Cameto, Garza, and Levine (2005) use this same reference group for parental education in their study of predictors of college enrollment using data from the NLTS2. For grades and performance, I selected youth who received grades of mostly A's or performance ratings of excellent as my reference group because research has shown that youth with better grades are more likely to enroll in colleges or postsecondary education (Rojewski, 1999; Wagner et al., 1993). For high school completion, I chose youth who graduated from high school as my reference group because research has shown that youth who graduated from high school are more likely to enroll in colleges or postsecondary education (Fairweather & Shaver, 1990, 1991; Wagner, Newman, Cameto, Garza, & Levine, 2005). For the role youth played in the transition planning process, I selected youth who did not participate or had very little participation in the transition planning process as my reference because I wanted to be able to discuss college enrollment in relation to youth who provide some input, at the least, in the transition planning process. For assessment participation, I chose youth who participated in the standardized assessments by taking the assessment without accommodations as my reference group because it was the largest group with 62% of the cases and I wanted to be able to discuss college enrollment in relation to youth who did not take assessments, took alternate assessments, or took assessments with accommodations.

Once I created dichotomous variables for each response category and selected reference groups for these eight independent variables, I conducted stepwise logistic regression. I used the model chi-square to determine if the variables provided an adequate

prediction of enrollment in a two- and four-year college. The model chi-square statistic provided evidence of whether having information on the youths' characteristics and experiences improved the prediction of enrolling in a two- or four-year college over having no information or data (Menard, 2002). I used a .05 significance level to evaluate the model chi-square statistic.

I used the block chi-square statistic to determine whether each block of independent variables improved the prediction of enrollment in a two- and four-year college. The block chi-square statistic provided evidence of whether each block improved the prediction of enrolling in a two- or four-year college above and beyond the model without that block of variables. I used a .05 significance level to evaluate this test.

In order to determine the effect each independent variable on the probability of enrollment in two- and four-year colleges, I evaluated the Wald chi-square statistic for unstandardized regression coefficients and odds ratios. I evaluated the effects of coefficients based on a .05 significance level. I used the odds ratios, signified as "Exp(B)" in the SPSS output, to determine how much each independent variable increases or decreases the odds of a youth enrolling in a two- or four-year college (Menard, 2002). The odds ratios represent the increase or decrease in the odds of enrolling in a two- or four-year college when the independent variables (i.e., the characteristic) changes from 0 to 1 (i.e., not present to present). In order to identify the effects of each category of the variables, I left out the reference group mentioned previously when conducting the logistic regression analysis. I identified the reference or comparison groups at the bottom of each logistic regression analysis table in chapter 4.

#### Chapter Summary

I conducted a secondary analysis of data from the NLTS2 in order to answer the research questions in this study. The NLTS2 provided information a nationally representative sample of youth with disabilities who were between the ages of 13 and 16 and who were receiving special education services in 2000 as they transitioned from high school to adult life. The dataset offered information on the youth's characteristics, experiences, and achievements from multiple perspectives (i.e., youth, parent, teacher, and principal) and at multiple points in time (i.e., five data collection points). I used variables obtained from the 2001 Parent Interviews, 2002 School Program Surveys, and 2002 direct assessments and in-person youth interviews from the first and second data collection point; 2003 Parent and Youth Interviews, 2004 School Program Surveys, and 2004 direct assessments and in-person youth interviews from the third and fourth data collection point; and 2005 Parent and Youth Interviews from the fifth data collection point. I conducted independent-sample chi-squares and independent-sample t-tests to determine the differences between youth with disabilities who enrolled and have not enrolled in two- and four-year colleges on individual and household characteristics, school program and services, and high school achievement characteristics. I conducted logistic regression analysis to determine the effects of these characteristics, services, achievements, and experiences on predicting enrollment in two- and four-year colleges among youth with disabilities as well as the effects of each characteristic or experience on the probability of enrolling in a two- or four-year college.

## CHAPTER IV: ANALYSES AND FINDINGS

The purpose of my study was to explore the associations among the specific features of school program, high school achievement, individual and household characteristics, and two- and four-year college enrollment among youth with disabilities. The study was designed to address a number of limitations in the current body of research, most importantly the lack of multivariate analyses that have examined the contribution of both student and program characteristics on two- and four-year college enrollment. I utilized a subsample drawn from the NLTS2 database to conduct this study. Due to large number of missing data on key variables, most importantly school program characteristics, I used nested models to conduct the multivariate analyses. Due to the missing data which I described in chapter 3, I constructed five models. Table 4 in chapter 3 provides information on which independent variables and research question are associated with each model.

The research questions were:

Research Question 1: How do youth with disabilities who enrolled in a two- or four-year college compare to those who have not enrolled on select individual and household, parental, school program, and high school achievement characteristics?

Research Question 2: What is the association between select individual and household characteristics and two- and four-year college enrollment among youth with disabilities?

Research Question 3: What is the association between select parental characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual and household characteristics?

Research Question 4: What is the association between select high school achievement characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, and parental characteristics?

Research Question 5: What is the association between self-determination skills and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

Research Question 6: What is the association between select school program characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

Since there was limited research that investigated the relationships between all 20 independent variables and enrollment in two- or four-year colleges, I first conducted bivariate correlations. I present these results in the first section of this chapter. I then present the results of the non bias analysis that I conducted between the baseline sample, dropped cases, and the five analytic samples that were used in the five models. I also provide a brief overview of the characteristics of the five analytic samples. The remaining sections of the chapter provide the results organized by research question.

#### Results of Bivariate Correlations

I evaluated the strength of the relationships between the dependent variable (i.e., college enrollment) and the 12 dichotomous or continuous independent variables. Since I used five analytic samples of different sizes, each associated with one of the five models (i.e., Models 1 – 5), I evaluated the Cramer's V statistics for college enrollment and each

of these 12 independent variables included in each model. I did this to compare the results across models in order to determine if there were different relationships among the models. For example, the independent variable of gender appeared in all five models and I evaluated the strength of the relationship between this independent variable and college enrollment with five different analytic samples.

As noted in chapter 3, I obtained these statistics from the SPSS 16.0 Base version. For this reason, caution should be exercised when interpreting significant values. Tables 5-9 provide the Cramer's V statistics.

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Overall, the relationships between the 12 dichotomous or continuous independent variables and college enrollment were in the low to moderate range. All of the five independent variables used in Models 1-3 were significantly correlated with college enrollment ( $p < .05$ ) with Cramer's V ranging from .063 to .304. Similarly, five of the six independent variables in Model 4, except for gender, were significantly correlated with college enrollment ( $p < .05$ ) with Cramer's V ranging from .113 to .375. Only five of the 12 independent variables in Model 5 (i.e., parental expectations, participation in extra curricular activities, financial management/ responsibility, vocational education, and goal to attend college) were significantly correlated with college enrollment ( $p < .05$ ) with Cramer's V ranging from .179 to .385. Four of the six school program characteristics

(i.e., work experience, instruction focused on transition plan, course of study in transition plan, and meeting with the teacher about transitioning) were not significantly correlated with college enrollment. Though the majority of the correlations were significant, the coefficients signal only weak to moderate relationships between the 12 dichotomous or continuous independent variables and college enrollment.

I used two decision rules to maintain independent variables in further analyses: a statistical significance rule for the individual, household, parental, and high school achievement variables and a theory-based rule for the school program characteristics. I did not eliminate any of the variables representing the individual, household, parental, and high school achievement variables from the further analyses since each was significantly correlated with college enrollment in at least one model. However, I did not eliminate the school program characteristics which did not have a significant relationship with college enrollment because of their importance in current transition policy and practice. For example, I hypothesized that receiving instruction focused on transition goals would increase the probability of achieving the transition goal. Since Power and colleagues (2005) found that many IEP's include very limited or general action steps to achieve the youth's transition goals, I felt it was important to determine the association between instruction focused on the transition goal and college enrollment in this study.

Based on the across model analysis, the relationships between the independent variables in Models 4 and 5 and college enrollment differed from the relationships in the other models. For instance, gender was significantly correlated with college enrollment in Models 1 through 3 but was not significantly correlated in Models 4 and 5. Similarly, cognitive functioning skills was significantly correlated with college enrollment in

Models 1 through 4 but was not significantly correlated in Model 5. These results shed light on the possibility that the analytic samples for Models 4 and 5 may be different from the analytic samples for Models 1 through 3.

### Non Bias Analyses

Each of the five models was associated with a different analytic sample due to missing data on key variables. In order to determine if any of the analytic samples for the five models were biased, I conducted two types of non bias analyses. For each of the analytic samples for the five models, I conducted chi-square analyses between the analytic sample and dropped cases. I identified the cells which contributed to significant chi-square results by evaluating the standardized residuals (R; Crewson, 2006). Second, I compared the baseline sample (i.e., youth who were out of high school and participated in the 2005 Parent and Youth Interview at the fifth data collection point) to the analytic sample. The non bias analyses were conducted using the following variables: college enrollment, disability category, gender, household income, race/ ethnicity, and cognitive functioning skills. I present the comparisons between analytic samples and the baseline sample in Table 10. The results to the chi-square analyses for the five analytic samples and the dropped cases and the R's of the chi-square results are provided in Tables 11-20.

INSERT TABLE 10 ABOUT HERE

### *Results of the Non Bias Analyses*

Though the result of the chi-square tests between the dropped cases and analytic sample revealed significant differences in terms of college enrollment, household income, cognitive functioning skills, and disability category, these characteristics only varied from the baseline sample by a few percentage points. In some cases, the analytic sample

differed from the baseline sample by more than 5 percentage-points (i.e., household income in Models 4 and 5, race/ ethnicity in Model 5) but did not result in significant differences between the analytic sample and the dropped cases. I provide the specific results of the non bias analyses in this section.

#### *Analytic Sample for Model 1*

The analytic sample associated with Model 1 was the largest analytic sample (N=2910) used in this study with the fewest dropped case (N=105). There was a statistically significant difference ( $p<.05$ ) between the analytic sample and dropped cases on the dependent variable, college enrollment, for the analytic sample associated with Model 1. The analytic sample was more likely than the dropped cases to include youth who had not enrolled in at least one class at a two- or four-year college (R= 2.050); however, this analytic sample was only .7 percentage points less likely than the baseline sample to enroll in college. Though the chi-square analysis did not find significant differences between the dropped cases and analytic sample in terms of race/ ethnicity, the standardized residuals indicated that a higher percentage of Hispanic and Other youth were included in the analytic sample associated with Model 1 (R = 2.060, R = 8.618, respectively).

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#### *Analytic Sample for Model 2*

The analytic sample associated with Model 2 (n = 2601) included 309 fewer cases than the analytic sample for Model 1 and 414 dropped cases. There was a statistically significant difference ( $p< .05$ ) between the analytic sample and the dropped cases on

household income. The analytic sample contained more youth from households with an income over \$50,000 ( $R = 5.1$ ) and fewer youth from households with an income of \$25,000 or under ( $R = -2.4$ ). When the analytic sample was compared to the baseline sample, the analytic sample was 3.6 percentage points more likely to include youth from households with an income over \$50,000 and 2.3 percentage points less likely to include youth from household with an income of \$25,000 or less. Though the chi-square analyses did not find significant differences between the dropped cases and analytic sample in terms of race/ ethnicity or disability category, the standardized residuals indicated that the analytic sample contained a lower percentage of African American youth ( $R = -2.359$ ) and a higher percentage of youth with visual impairments, orthopedic impairments, and other disabilities ( $R = 2.787$ ,  $R = 2.704$ ,  $R = 3.258$ , respectively).

INSERT TABLE 13 ABOUT HERE

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### *Analytic Sample for Model 3*

The analytic sample associated with Model 3 ( $n = 2498$ ) included 103 fewer cases than the analytic sample for Model 2 and a total of 517 dropped cases. There were statistically significant differences ( $p < .05$ ) between the analytic sample and the dropped cases in terms of household income and cognitive functioning skills. The analytic sample contained significantly more youth from households with an income over \$50,000 ( $R = 3.46$ ); however, the analytic sample was only 3.1 percentage points more likely than the baseline sample to be from a household with this sort of income. Additionally, the analytic sample contained significantly more youth with low cognitive functioning skills than the dropped cases ( $R = 2.445$ ); however, the analytic sample was only 1.1

percentage points more likely than the baseline sample to include youth with low cognitive functioning skills. Though the chi-square analysis did not find significant differences between the dropped cases and analytic sample in terms of disability category, the standardized residuals indicated that the analytic sample included a higher percentage of youth with hearing impairments, visual impairments, and orthopedic impairments ( $R = 2.475$ ,  $R = 3.067$ ,  $R = 3.662$ , respectively).

INSERT TABLE 15 ABOUT HERE

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#### *Analytic sample for Model 4*

The analytic sample associated with Model 4 ( $n = 1624$ ) included 874 fewer cases than the analytic sample for Model 3 and a total of 1391 dropped cases. There was a statistically significant difference ( $p < .05$ ) between the analytic sample and the dropped cases on disability category for the analytic sample associated with Model 4. The analytic sample was less likely than the dropped cases to include youth with emotional disorders ( $R = -2.632$ ); however the analytic sample was only 1.3 percentage points less likely than the baseline sample to include these youth. Additionally, the analytic sample was more likely than the dropped cases to include youth with hearing impairments ( $R = 2.202$ ) and orthopedic impairments ( $R = 3.535$ ); however, the analytic sample was only .3 and .2 percentage points more likely to include youth with hearing impairments and orthopedic impairments compared to the baseline sample. Further, the analytic sample was 7.9 percentage points less likely to be from a household with an income of \$25,000 or less and 8.4 percentage points more likely to be from a household with an income over \$50,000 when compared to the baseline sample.

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*Analytic Sample for Model 5*

The analytic sample associated with Model 5 ( $n = 448$ ) included 1176 fewer cases than the analytic sample for Model 4 and a total of 2567 dropped cases. There were no statistically significant differences ( $p < .05$ ) between the analytic sample and the dropped cases on the individual and household characteristics. Though the chi-square analysis did not find significant differences between the dropped cases and analytic sample in terms of disability category or race/ ethnicity, the standardized residuals indicated that the analytic sample included fewer youth with emotional disorders ( $R = -3.590$ ), fewer African American youth ( $R = -3.400$ ), and more white youth ( $R = 2.323$ ). When comparing the analytic sample associated with Model 5 to the baseline sample, the analytic sample was 8.4 percentage points more likely to include white youth and 11.6 percentage points more likely to include youth from household with an income over \$50,000. The analytic sample was 8.8 percentage points less likely to include African American youth and 8.9 percentage points less likely to youth from household with an income of \$25,000 or less.

INSERT TABLE 19 ABOUT HERE

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*Summary of Non Bias Analyses*

Overall, the results of the non bias analyses show very few differences between the analytic samples associated with the various models and the baseline sample or dropped cases. There was a statistically significant difference between the analytic

sample and dropped cases associated with Model 1 on the college enrollment variable. Additionally, there were statistically significant differences between the analytic sample and dropped cases associated with Models 2 and 3 on the household income variable. The analytic sample associated with Model 3 significantly differed from the dropped cases in terms of the youth's cognitive functioning skills. Finally, there was a statistically significant difference between the analytic sample and dropped cases associated with Model 4 on the disability category variable. These results indicate that some caution should be exercised when interpreting any results related to household income and disability category. The bias in the analytic sample associated with Models 2 and 3 suggests that the results may be positively skewed towards youth from households with an income over \$50,000. Further, the analytic sample associated with Model 4 may be positively skewed towards youth with hearing and orthopedic impairments and negatively skewed away from youth with emotional disorders. In terms of household income and disability category, these analytic samples seemed to be positively skewed towards youth who possess characteristics previously associated with enrolling in postsecondary education (Fairweather & Shaver, 1990, 1991; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, & Levine, 2005).

#### Characteristics of the Analytic Samples

Since the characteristics of the five analytic samples were very similar, I provide a brief overview of all the analytic samples; however, descriptions of the individual analytic samples are provided in Table 10. Approximately one third of each sample enrolled in at least one class at a two- or four-year college since leaving high school (ranging from 57.1% to 65%). The majority of the youth in each sample was identified as

having a learning disability (ranging from 64.3% to 66.6%); youth with emotional disorders and mental retardation made up approximately 12% and 10%, respectively, of each sample. Over two thirds of each sample was male (ranging from 65.5% to 68.7%) and approximately 33% of each sample came from households with an income of \$25,000 or less (ranging from 28.3% to 37.2%). The majority of each sample was white (ranging from 64.8% to 73.3%) and approximately 17% of each sample was African American (ranging from 10.9% to 19.5%). The majority of each sample had high cognitive functioning skills (ranging from 82.4% to 88.4%). The youth in these analytic samples have similar characteristics to youth who are more likely to enroll in college (i.e., being identified as having a learning disability, white, having high cognitive functioning skills; Wagner, Newman, Cameto, & Levine, 2005).

#### Research Question 1

Research Question 1: How do youth with disabilities who enrolled in a two- or four-year college compare to those who have not enrolled on select individual, household, parental, school program, and high school achievement characteristics?

I used chi-squares and t-tests to analyze the differences between youth with disabilities who enrolled in two- or four-year colleges and those who have not enrolled on select individual and household characteristics (i.e., disability category, gender, household income, race/ ethnicity, and cognitive functioning skills), parental characteristics ( i.e., parental education and parental expectations), high school achievement characteristics (i.e., grades and performance, high school completion, financial management/ responsibility, and participation in extra curricular activities), self-determination skills, and school service and program characteristics ( i.e., work

experience, vocational education, transition plan, instruction based on transition plan, transition goal to attend a two- or four-year college, course of study in transition plan, youth's role in transition planning, participation in school-wide standardized assessments, and meeting with the teacher to discuss transitioning). I evaluated the chi-square results against  $p$  values adjusted using the Sidak method (Sidak, 1967). I present the percents and chi-square statistics in Tables 21, 23, 25, 28, and 31 and the means and t-tests statistics in Tables 27 and 30. I present the standardized residuals for all chi-square analyses in Tables 22, 24, 26, 29, and 32.

#### *Results for Research Question 1*

Overall, I found significant differences between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by disabilities category, household income, and parental education in the majority of the models. Further, I found significant differences by parental expectations, extra curricular participation, and high school completion status in at least two of the models. I found differences by grades and performance, self-determination skills, and the role the youth played in transition planning in at least one model.

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### *Individual and Household Characteristics*

I compared youth with disabilities who enrolled and those who have not enrolled in colleges by select individual and household characteristics with five analytic samples, each associated with one of the five models. I found the two groups significantly differed by disability category and household income.

I found a significant difference between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by disability category in Model 1 ( $p < .01$ ), Model 2 ( $p < .007$ ), Model 3 ( $p < .005$ ), and Model 4 ( $p < .005$ ). Youth with learning disabilities, speech impairments, hearing impairments, visual impairments, orthopedic impairments, and other health impairments enrolled in two- or four-year colleges at significantly higher percentages than expected in the chi-square analysis in Model 1 ( $R = 2.855$ ,  $R = 2.738$ ,  $R = 5.364$ ,  $R = 6.533$ ,  $R = 2.517$ ,  $R = 2.708$ , respectively), Model 2 ( $R = 2.534$ ,  $R = 2.342$ ,  $R = 5.767$ ,  $R = 7.463$ ,  $R = 2.447$ ,  $R = 2.488$ , respectively), and Model 3 ( $R = 2.346$ ,  $R = 2.378$ ,  $R = 5.856$ ,  $R = 7.557$ ,  $R = 2.476$ ,  $R = 2.364$ , respectively). Youth with mental retardation and emotional disorders enrolled in colleges at significantly lower percentages than expected in the chi-square analysis in Model 1 ( $R = -6.363$ ,  $R = -4.372$ ), Model 2 ( $R = -5.103$ ,  $R = -4.332$ ), and Model 3 ( $R = -5.009$ ,  $R = -3.898$ ). Though similar patterns of enrollment by disability

category were evident in Model 4, the youth with speech impairments no longer contributed to the significant chi-square. Though the chi-square analysis based on disability category was not significant using the Sidak adjustment in Model 5 ( $p < .003$ ), standardized residuals indicated that youth with learning disabilities and orthopedic impairments enrolled in colleges at higher percentages than expected ( $R = 2.302$ ,  $R = 2.306$ , respectively) and that youth with speech impairments, mental retardation, and emotional disorders enrolled in colleges at lower percentages than expected ( $R = -3.399$ ,  $R = -2.363$ ,  $R = -2.496$ , respectively).

I found significant differences between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by household income in Model 1 ( $p < .01$ ), Model 2 ( $p < .007$ ), and Model 3 ( $p < .005$ ). Youth from households with an income more than \$50,000 enrolled in colleges at significantly higher percentages than expected in the chi-square analysis in Model 1 ( $R = 3.326$ ), Model 2 ( $R = 3.074$ ), and Model 3 ( $R = 3.114$ ). Youth from households with an income of \$25,000 or less enrolled in colleges at significantly lower percentages than expected in the chi-square analysis in Model 1 ( $R = -3.394$ ), Model 2 ( $R = -2.502$ ), and Model 3 ( $R = -2.783$ ). Though the chi-square analyses with Sidak adjustment did not find a significant difference based on household income in Model 4 ( $p < .005$ ), the standardized residuals indicated that youth from households with an income of \$25,000 or less enrolled in colleges at lower percentages than expected ( $R = -2.542$ ) and youth from households with an income over \$50,000 enrolled in colleges at higher percentages than expected ( $R = 2.777$ ).

Though youth with disabilities who enrolled and have not enrolled in colleges did not significantly differ by race/ ethnicity in any model, the standardized residual indicated that youth with other racial/ ethnicity backgrounds enrolled in colleges at higher percentage than expected in Model 5 ( $R = 4.912$ ).

### *Parental Characteristics*

I compared youth with disabilities who enrolled and have not enrolled in colleges by parental education and parental expectations with four analytic samples, each associated with one of the four models (i.e., Models 2-5). I found the two groups differed by both parental education and parental expectations.

I found significant differences between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by parental education in Model 2 ( $p < .007$ ), Model 3 ( $p < .005$ ), and Model 4 ( $p < .005$ ). Youth whose parents had a high school degree, a GED, or less education enrolled in two- or four-year colleges at significantly lower percentages than expected in the chi-square analysis in Model 2 ( $R = -3.669$ ,  $R = -2.643$ ) and Model 3 ( $R = -2.634$ ,  $R = -3.986$ ). Youth whose parents had some postsecondary education but no degree or a college degree or higher enrolled in colleges at significantly higher percentages than expected in the chi-square analysis in Model 2 ( $R = 2.502$ ,  $R = 4.116$ ) and Model 3 ( $R = 2.624$ ,  $R = 4.206$ ). Though similar patterns of enrollment based on parental education was evident in Model 4, youth whose parents had some postsecondary education but did not receive a college degree no longer contributed to the significant chi-square. Though youth with disabilities who enrolled and have not enrolled in college did not significantly differ by parental education in Model 5 ( $p < .003$ ), the standardized residual indicated that youth whose parents' only

received a high school diploma or GED enrolled in colleges at lower percentages than expected ( $R = -2.586$ ).

I found significant differences between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by parental exceptions in Model 2 ( $p < .007$ ) and Model 3 ( $p < .005$ ). Youth whose parents expected him/her to graduate from college enrolled in colleges at significantly higher percentages than expected in Model 2 ( $R = 4.201$ ) and Model 3 ( $R = 4.485$ ). Though youth with disabilities who enrolled and have not enrolled in college did not significantly differ by parental expectations in Model 4 ( $p < .005$ ), the standardized residual indicated that youth whose parents expected him/her to graduate from college enrolled in colleges at higher percentages than expected ( $R = 2.464$ ).

#### *High School Achievement Characteristics*

I compared youth with disabilities who enrolled and those who have not enrolled in colleges by four high school achievement characteristics with three analytic samples, each associated with one of the three models (i.e., Models 3-5). I found significant differences between the observed and expected frequencies of youth who enrolled and have not enrolled on at least one of three high school achievement characteristics (i.e., participation in extra curricular activities, grades or performance, and high school completion status) in Model 3 ( $p < .005$ ), Model 4 ( $p < .005$ ), or Model 5 ( $p < .003$ ). Youth who participated in extra curricular activities in high school enrolled in colleges at significantly higher percentages than expected in the chi-square analysis in Model 3 ( $R = 7.287$ ), Model 4 ( $R = 8.501$ ), and Model 5 ( $R = 5.954$ ).

I found significant differences between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by grade or performance in Model 3 ( $p < .005$ ) and Model 4 ( $p < .005$ ). Youth who received grades of mostly A's or performance ratings of excellent and youth who received grades of A's and B's, mostly B's or performance rating of above average enrolled in colleges at significantly higher percentages than expected in the chi-square analysis in Model 3 ( $R = 3.021$ ,  $R = 3.881$ ) and Model 4 ( $R = 2.716$ ,  $R = 2.826$ ). Youth who received grades of C's and D's, mostly D's, or a performance rating of below average and youth who received grades of D's and F's, mostly F's, or performance ratings of failing enrolled in colleges at significantly lower percentages than expected in the chi-square analysis in Model 3 ( $R = -2.116$ ,  $R = -13.594$ ) and in Model 4 ( $R = -2.439$ ,  $R = -13.372$ ). Though youth with disabilities who enrolled and have not enrolled in colleges did not significantly differ by grades or performance in Model 5 ( $p < .003$ ), the standardized residuals indicated that youth who received grades of D's & F's or a wide range of grades enrolled in colleges at lower percentages than expected ( $R = -12.581$ ,  $R = -5.839$ ).

I found significant differences between the expected and observed frequencies of youth with disabilities who enrolled and have not enrolled in colleges by high school completion status in Model 3 ( $p < .005$ ), Model 4 ( $p < .005$ ), and Model 5 ( $p < .003$ ). Youth who graduated from high school enrolled in colleges at a significantly higher percentage than expected in the chi-square analysis in Model 3 ( $R = 7.561$ ), Model 4 ( $R = 8.698$ ), and Model 5 ( $R = 16.164$ ). Youth who dropped out, aged out, or were suspended or expelled from school enrolled in colleges at significantly lower percentages than expected in the chi-square analysis in Model 3 ( $R = -7.708$ ,  $R = -5.046$ ) and Model 4 ( $R =$

-15.890,  $R = -4.446$ ). In Model 5, youth who tested out or received a certificate for high school completion or dropped out were significantly less likely to enroll in colleges than expected ( $R = -10.258$ ,  $R = -17.745$ ); however, youth who aged out or left high school for another reason did not significantly contribute to the chi-square.

Though the chi-square analysis with Sidak adjustment did not find a significant difference by financial management/ responsibility in Model 3 ( $p < .005$ ), Model 4 ( $p < .005$ ), and Model 5 ( $p < .003$ ), the standardized residuals indicated youth who had experienced financial management/ responsibility enrolled in colleges at higher percentages than expected in all three models ( $R = 3.275$ ,  $R = 2.609$ ,  $R = 5.699$ ).

#### *Self-Determination Skills*

I compared youth with disabilities who enrolled and those who have not enrolled in colleges in terms of self-determination skills with two analytic samples, each associated with one of two models (i.e., Models 4-5). T-tests were performed to determine the differences between youth who enrolled and have not enrolled in two- or four-year colleges based on self-determination scores in Model 4 and 5. I found a statistically significant difference between the mean self-determination scores for youth who enrolled in colleges and those who have not enrolled in Model 4 ( $p < .05$ ). Youth who enrolled in colleges had higher self-determination scores than youth who have not enrolled; however, the difference was relatively small, equating to a difference of approximately eight thousandths of a standard deviation. However, the self-determination score did not significantly differ for those who enrolled and have not enrolled in colleges in Model 5 ( $p < .05$ ).

#### *School Program Characteristics*

I compared youth with disabilities who enrolled and those who have not enrolled in colleges by school program characteristics with the analytic sample associated with Model 5. I found a statistically significant difference between the observed and expected frequencies of youth with disabilities who enrolled and have not enrolled in colleges based on the role the youth played in the transition planning process in Model 5 ( $p < .003$ ). Youth with disabilities who did not participate or participated very little in the transition planning process enrolled in two- or four-year colleges at significantly lower percentages than expected in the chi-square analysis ( $R = -5.893$ ). Youth who took a leadership role in the transition planning process enrolled in two- or four-year colleges at a significantly higher percentage than expected in the chi-square analysis ( $R = 2.690$ ). Though youth with disabilities who enrolled and have not enrolled in colleges did not significantly differ by vocational education or college enrollment goal in Model 5 ( $p < .003$ ), the standardized residuals indicated that youth who participated in vocational education classes or had a college enrollment transition goal enrolled in colleges at higher percentages than expected ( $R = 2.387$ ,  $R = 2.493$ ).

#### *Summary of Results for Research Question 1*

In summary, youth with disabilities who enrolled in colleges differed from those who have not enrolled in terms of individual and household characteristics, parental characteristics, high school achievement characteristics, and the role the youth played in the transition planning process. Youth with learning disabilities, speech impairments, hearing impairments, visual impairments, orthopedic impairments, and other health impairments were more likely to enroll in colleges. Youth with disabilities from households with incomes over \$50,000, whose parents experienced some postsecondary

education, and/or whose parents expected the youth to graduate from college were more likely to enroll in colleges. Additionally, youth who participated in extra curricular activities, received better grades (i.e., A's and B's) or performance ratings (i.e., excellent or above average), and/or graduated from high school were more likely to enroll in colleges. Youth who took a leadership role in transition planning were more likely to enroll in colleges. Youth with mental retardation or emotional disorders were less likely to enroll in colleges. Youth with disabilities from households with incomes of \$25,000 or less were less likely to enroll. Youth who dropped out or aged out of high school were less likely to enroll in colleges as well.

#### Research Question 2

Research Question 2: What is the association between select individual and household characteristics and two- and four-year college enrollment among youth with disabilities?

I used logistic regression to analyze the associations between individual and household characteristics (i.e., disability category, gender, household income, race/ethnicity, and cognitive functioning skills) and enrollment in two- and four-year colleges among youth with disabilities with the analytic sample associated with Model 1 (N = 2910). A description of this analytic sample is provided in Table 10. The non bias report suggested that youth with disabilities who have not enrolled in colleges were slightly overrepresented in this analytic sample but only by .7 percentage points.

Before conducting the logistic regression analysis, I evaluated the inter-correlations and tolerance statistics among the two dichotomous independent variables in

Model 1 to determine if they violated the assumption of collinearity. I present the inter-correlations, tolerance statistics, and logistic regression analysis in Tables 33-35.

### *Results for Research Question 2*

The inter-correlation between gender and cognitive functioning skills was significant ( $p < .05$ ). The correlation is presented in Table 33. I further evaluated the independent variables for collinearity using tolerance statistics. Based on the tolerance statistics for the independent variables, which ranged from .976 to .991, including these variables in the logistic regression analysis did not violate the assumption of collinearity. The tolerance statistics are presented in Table 34.

INSERT TABLE 33 ABOUT HERE

INSERT TABLE 34 ABOUT HERE

I conducted a logistic regression analysis to assess the relationships between select individual and household characteristics (i.e., disability category, gender, household income, race/ ethnicity, and cognitive functioning skills) and two- and four-year college enrollment among youth with disabilities using the analytic sample associated with Model 1 ( $N = 2910$ ). When all 15 variables representing the five categories of characteristics were considered together, they significantly predicted college enrollment (Model  $X^2 = 160.134$ ,  $df = 15$ ,  $N = 2910$ ,  $p < .001$ ). Since the interaction variables between disability category and cognitive functioning skills were not significant, they were not included in the model. Table 35 presents the odds ratios, which suggest that the odds of enrolling in a two- or four-year college significantly increased for youth with hearing impairments (odds ratios [OR] = 2.379) or visual impairments (OR = 4.106) and significantly decreased for youth with mental retardation (OR = .443) and

emotional disorders (OR = .477) when compared to youth with LD. Additionally, the odds significantly decreased for youth from households with an income of \$25,000 or less (OR = .414) when compared to youth from households with an income over \$50,000 and youth with low cognitive functioning skills (OR = .530) when compared to youth with high cognitive functioning skills. This model correctly classified 87.9% of the non-enrollers, 24.6% of the enrollers, and 64.8% of all cases.

INSERT TABLE ABOUT 35 HERE

### Research Question 3

Research Question 3: What is the association between select parental characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual and household characteristics?

I used logistic regression to analyze the associations between parental characteristics (i.e., parental education and parental expectations) and enrollment in two- and four-year colleges among youth with disabilities while controlling for individual and household characteristics (i.e., disability category, gender, household income, race/ethnicity, and cognitive functioning skills) with the analytic sample associated with Model 2 (N = 2601). A description of this analytic sample is provided in Table 10. The non bias report suggested that youth from households with an income more than \$50,000 were slightly overrepresented by 3.6 percentage points and youth from households with an income of \$25,000 or less were slightly underrepresented by 2.3 percentage points in this analytic sample.

Before conducting the logistic regression analysis, I evaluated the inter-correlations and tolerance statistics among the three dichotomous independent variables

in Model 2 to determine if they violated the assumption of collinearity. I present the inter-correlations, tolerance statistics, and logistic regression analysis in Tables 36-38.

### *Results for Research Question 3*

All three inter-correlations among the three dichotomous independent variables in Model 2 were significant ( $p < .05$ ). The correlations are presented in Table 36. I further evaluated the independent variables for collinearity using tolerance statistics. Based on the tolerance statistics for the independent variables, which ranged from .951 to .985, including these variables in the logistic regression analysis did not violate the assumption of collinearity. The tolerance statistics are presented in Table 37.

INSERT TABLE 36 ABOUT HERE

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I conducted a logistic regression analysis to assess the relationship between parental characteristics (i.e., parental education and parental expectations) and two- and four-year college enrollment among youth with disabilities while holding the individual and household characteristics constant. When all 19 variables which represented the seven categories of characteristics were considered together, they significantly predicted college enrollment (Model  $X^2 = 177.827$ ,  $df = 19$ ,  $N = 2601$ ,  $p < .001$ ). The individual and household characteristics alone significantly predicted college enrollment (Block 1  $X^2 = 163.915$ ,  $df = 15$ ,  $N = 2601$ ,  $p < .001$ ). Additionally, the two parental characteristics significantly increased the prediction of college enrollment among youth with disabilities above that of the individual and household characteristics (Block 2  $X^2 = 13.912$ ,  $df = 4$ ,  $N = 2601$ ,  $p < .05$ ). Since none of the interaction variables were significant, they were not included in the full model. Model 2 correctly classified 85.2% of the non-enrollers,

46.1% of the enrollers, and 71% of all cases. Including the parental characteristics in the model improved the classification of enrollers by 21.5 percentage points from Model 1.

Table 38 presents the odds ratios. Similar to the results for Model 1, the odds of enrolling in a two- or four-year college significantly increased for youth with hearing impairments (OR = 2.259) or visual impairments (OR = 4.613) when compared to youth with LD. Furthermore, the odds of enrolling significantly increased for youth whose parents participated in some postsecondary education (OR = 3.118) and/or obtained a college degree (OR = 3.564) when compared to youth whose parents did not obtain a high school degree, as well as youth whose parents expected him/her to graduate from college (OR = 2.163) when compared to youth whose parents did not expect him/her to graduate from college. Also similar to the results for Model 1, the odds of enrolling in a college significantly decreased for youth with emotional disorders (OR = .390) when compared to youth with LD and youth with low cognitive functioning skills (OR = .482) when compared to youth with high cognitive functioning skills.

INSERT TABLE 38 ABOUT HERE

#### Research Question 4

Research Question 4: What is the association between select high school achievement characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, and parental characteristics?

I used logistic regression to analyze the relationships between high school achievement characteristics (i.e., participation in an extra curricular activity, financial management/ responsibility, grades and performance, and high school completion status) and enrollment in two- and four-year colleges among youth with disabilities while

controlling for individual, household, and parental characteristics (i.e., disability category, gender, household income, race/ ethnicity, cognitive functioning skills, parental education, and parental expectations) with the analytic sample associated with Model 3 (N = 2498). A description of this analytic sample is provided in Table 10. The non bias report suggested that youth from households with an income over \$50,000 and youth with low cognitive functioning skills were slightly overrepresented by 3.1 and 1.1 percentage points, respectively, in the analytic sample.

Before conducting the logistic regression analysis, I evaluated the inter-correlations and tolerance statistics among the five dichotomous independent variables in Model 3 to determine if they violated the assumption of collinearity. I present the inter-correlations, tolerance statistics, and logistic regression analysis in Tables 39-41.

#### *Results for Research Question 4*

Eight of the 10 inter-correlations among the five dichotomous independent variables were significant ( $p < .05$ ). Among the high school achievement characteristics, only two of the seven inter-correlations were not significant: (a) participation in extra curricular activities and gender; and (b) financial management/ responsibility and gender. The correlations are presented in Table 39. I further evaluated the dichotomous independent variables for collinearity using tolerance statistics. Based on the tolerance statistics for the independent variables, which ranged from .900 to .976, including these variables in the logistic regression analysis did not violate the assumption of collinearity. The tolerance statistics are presented in Table 40.

INSERT TABLE 39 ABOUT HERE

INSERT TABLE 40 ABOUT HERE

I conducted a logistic regression analysis to assess the relationships between high school achievement characteristics (i.e., participation in extra curricular activities, financial management/ responsibility, grades and performance, and high school completion status) and two- and four-year college enrollment among youth with disabilities while holding the individual, household, and parental characteristics constant. When all 29 variables representing the 11 categories of characteristics were considered together, they significantly predicted college enrollment (Model  $X^2 = 355.891$ ,  $df = 30$ ,  $N = 2498$ ,  $p < .001$ ). The individual and household characteristics alone significantly predict college enrollment (Block 1  $X^2 = 167.675$ ,  $df = 15$ ,  $N = 2498$ ,  $p < .001$ ). Additionally, parental education and parental expectations significantly increased the prediction of college enrollment among youth with disabilities above that of the individual and other household characteristics (Block 2  $X^2 = 15.261$ ,  $df = 4$ ,  $N = 2498$ ,  $p < .05$ ). Further, the four high school achievement characteristics significantly increased the prediction of enrollment above that of the individual, household, and parental characteristics (Block 3  $X^2 = 163.324$ ,  $df = 10$ ,  $N = 2498$ ,  $p < .05$ ). When I included the only significant interaction between disability category and cognitive functioning skills, the interaction between mental retardation and low cognitive functioning skills significantly increased the prediction of enrollment above that of the other variables in the model (Block 4  $X^2 = 9.631$ ,  $df = 1$ ,  $N = 2498$ ,  $p < .05$ ). Model 3 correctly classified 86.9% of the non-enrollers, 64.6% of the enrollers, and 78.8% of all cases. Including the high school achievement characteristics in the model improved the classification of enrollers by 18.5 percentage points from Model 2.

Table 41 presents the odds ratios. Similar to the results for Model 2, the odds of enrolling in a two- or four-year college significantly increased for youth with visual impairments (OR = 2.190) when compared to youth with LD, youth whose parents participated in some postsecondary education (OR = 2.191) and/or obtained a college degree (OR = 2.650) when compared to youth whose parents did not obtain a high school degree, as well as youth whose parents expected him/her to graduate from college (OR = 1.790) when compared to youth whose parents did not expect him/her to graduate from college. Also similar to the results for Model 2, the odds of enrolling in college significantly decreased for youth with mental retardation (OR = .122) as well as youth with emotional disorders (OR = .532) when compared to youth with LD. Similar to the results for Model 1, the odds of enrolling significantly decreased for youth who were from households with incomes of \$25,000 or less (OR = .515) when compared to youth from households with an income over \$50,000. Unlike the results for Models 1 and 2, the odds of enrolling significantly increased for females (OR = 1.671) when compared to males and youth who were African American (OR = 1.916) or of another racial/ ethnic background (i.e., race/ ethnicity identified as Other; OR = 2.914) when compared to white youth. The odds of enrolling significantly decreased for youth with mental retardation who had low cognitive functioning skills (OR = .157) when compared to youth with high cognitive functioning skills.

Among the high school achievement characteristics, the odds of enrolling in a two- or four-year college significantly increased for youth who participated in extra curricular activities (OR = 2.941) when compared to those who did not participate and/or experienced financial management/ responsibility in high school (OR = 3.149) when

compared to those who did not have this experience. The odds of enrolling in college significantly decreased for youth who received grades of B's and C's, C's, and D's, D's and F's, or a wide range of grades or performance ratings of above average, below average, or failing in high school (OR = .260, OR = .254, OR = .007, OR = .183, respectively) when compared to youth who received grades of mostly A's. Additionally, the odds of enrolling significantly decreased if the youth dropped out or aged out of high school (OR = .375, OR = .229, respectively) when compared to youth who graduated from high school.

INSERT TABLE 41 ABOUT HERE

#### Research Question 5

Research Question 5: What is the association between self-determination skills and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

I used logistic regression to analyze the relationship between having self-determination skills and enrollment in two- and four-year colleges while controlling for individual, household, parental, and high school achievement characteristics with the analytic sample associated with Model 4 (N = 1624). A description of this analytic sample is provided in Table 10. The non bias report suggested that youth with emotional disorders were slightly underrepresented by 1.3 percentage points and youth with hearing impairments and orthopedic impairments were slightly overrepresented by .3 and .2 percentage point, respectively, in the analytic sample.

Before conducting the logistic regression analysis, I evaluated the inter-correlations and tolerance statistics among the five dichotomous and one continuous independent variables to determine if they violated the assumption of collinearity in Model 4. I present the inter-correlations, tolerance statistics, and logistic regression analysis in Tables 42-44.

#### *Results for Research Question 5*

Seven of the 15 inter-correlations among the five dichotomous and one continuous independent variables were significant ( $p < .05$ ). The self-determination variable was significantly correlated with only participation in extra curricular activities. The correlations are presented in Table 42. I further evaluated the independent variables in Model 4 for collinearity using tolerance statistics. Based on the tolerance statistics for these independent variables, which ranged from .856 to .979, including these variables in the logistic regression analysis did not violate the assumption of collinearity. The tolerance statistics are presented in Table 43.

INSERT TABLE 42 ABOUT HERE

INSERT TABLE 43 ABOUT HERE

I conducted a logistic regression analysis to assess the relationship between having self-determination skills and two- and four-year college enrollment among youth with disabilities while holding the individual, household, parental, and high school achievement characteristics constant. When all 30 variables representing 12 categories of characteristics were considered together, they significantly predicted college enrollment (Model  $X^2 = 198.131$ ,  $df = 30$ ,  $N = 1624$ ,  $p < .001$ ). Similar to the results for Models 1 through 3, individual and household characteristics significantly predicted college

enrollment (Block 1  $X^2 = 122.909$ ,  $df = 15$ ,  $N = 1624$ ,  $p < .001$ ). Unlike the results for Models 2 and 3, parental education and parental expectations did not significantly add to the prediction of college enrollment among youth with disabilities above that of the individual and household characteristics (Block 2  $X^2 = 5.09$ ,  $df = 4$ ,  $N = 1624$ ,  $p > .05$ ). However, the four categories of variables representing high school achievement characteristics significantly increased the prediction of enrollment above that of the individual, household, and parental characteristics (Block 3  $X^2 = 77.399$ ,  $df = 10$ ,  $N = 1624$ ,  $p < .05$ ). Having self-determination skills did not significantly increase the probability of college enrollment among youth with disabilities while controlling for individual and high school achievement characteristics (Block 4  $X^2 = -7.267$ ,  $df = 1$ ,  $N = 1624$ ,  $p > .05$ ). Since none of the interaction variables between disability category and cognitive functioning skills were significant, they were not included in the full model. Model 4 correctly classified 76.9% of non-enrollers, 72.4% of enrollers, and 75% of all cases. Including the self-determination scores in the model improved the classification of enrollers by 7.8 percentage points from Model 3.

Table 44 presents the odds ratios. Similar to the results for Models 1 and 2, the odds of enrolling in a two- or four-year college significantly increased for youth with hearing impairments (OR = 4.105) when compared to youth with LD; similar to the results for Models 2 and 3, the odds of enrolling in a two- or four-year college significantly increased for youth whose parents obtained a college degree (OR = 3.349) when compared to youth whose parents did not obtain a high school degree. Also similar to the results for Models 1 and 3, the odds of enrolling in a college significantly decreased for youth with mental retardation (OR = .347) when compared to youth with

LD. Among the high school achievement characteristics, the odds of enrolling in a two- or four-year college significantly increased for youth who participated in extra curricular activities (OR = 3.740) when compared to youth who did not participate and/or had experienced financial management/ responsibility in high school (OR = 4.254) when compared to youth who did not have this experience. The odds of enrolling in a college significantly decreased for youth who received grades of B's and C's, C's, and D's, or D's and F's or performance ratings of above average, below average, or failing in high school (OR = .297, OR = .172, OR = .059, respectively) when compared to youth who received mostly A's or performance ratings of excellent. Additionally, the odds of enrolling significantly decreased for youth who dropped out of high school (OR = .221) when compared to youth who graduated from high school.

INSERT TABLE 44 ABOUT HERE

#### Research Question 6

Research Question 6: What is the association between select school program characteristics and two- and four-year college enrollment among youth with disabilities while controlling for individual, household, parental, and high school achievement characteristics?

I used logistic regression to analyze the relationship between school program characteristics (i.e., work experience, vocational education, instruction on transition plan, goal to attend a college in transition plan, course of study in transition plan, youth's role in transition planning, assessment participation, and meeting with teacher to discuss postsecondary or transition goals) on enrollment in two- and four-year colleges among youth with disabilities while controlling for individual, household, parental, high school

achievement, and self-determination characteristics (i.e., disability category, gender, household income, race/ ethnicity, cognitive functioning skills, parental education, parental expectations, participation in an extra curricular activity, financial management/ responsibility, grades and performance, high school completion status, and self-determination skills) with the analytic sample associated with Model 5 (N = 448). A description of this analytic sample is provided in Table 10. The non bias report found no statistically significant differences between the analytic sample associated with Model 5 and the dropped cases ( $p < .05$ ).

Before conducting the logistic regression analysis, I evaluated the inter-correlations and tolerance statistics among the 11 dichotomous and one continuous independent variables to determine if they violated the assumption of collinearity in Model 5. I present the inter-correlations, tolerance statistics, and logistic regression analysis in Tables 45-47.

#### *Results for Research Question 6*

A little less than half of the inter-correlations among the 11 dichotomous and one continuous independent variables were significant ( $p < .05$ ). Among the school program characteristics, three of the six dichotomous variables (i.e., work experience, instruction focused on transition plan, and goal to attend college) significantly correlated with more than 60% of the other variables. The correlations are presented in Table 45. I further evaluated the independent variables for collinearity using tolerance statistics. Based on the tolerance statistics for the independent variables in Model 5, which ranged from .664 to .846, including these variables in the logistic regression analysis did not violate the assumption of collinearity. The tolerance statistics are presented in Table 46.

INSERT TABLE 45 ABOUT HERE

INSERT TABLE 46 ABOUT HERE

I used logistic regression analysis to assess the relationships between school program characteristics (i.e., work experience, vocational education, instruction on transition plan, transition goal to attend a two- or four-year college, a course of study in transition plan, youth's role in transition planning process, assessment participation, and whether the youth met with a teacher to discuss postsecondary or transition goals) and two- and four-year college enrollment among youth with disabilities while holding the individual, household, parental, high school achievement, and self-determination characteristics constant. When all 41 categories which represented the 20 categories of characteristics were considered together, they significantly predicted college enrollment (Model  $X^2 = 228.855$ ,  $df = 42$ ,  $N = 448$ ,  $p < .001$ ). Similar to the results for Model 1 through 4, the individual and household characteristics alone significantly predicted college enrollment (Block 1  $X^2 = 48.196$ ,  $df = 15$ ,  $N = 448$ ,  $p < .001$ ). Similar to the result for Model 4, the two parental characteristics did not significantly increase the prediction of college enrollment among youth with disabilities above that of the individual and household characteristics (Block 2  $X^2 = 5.524$ ,  $df = 4$ ,  $N = 448$ ,  $p > .05$ ); the four high school achievement characteristics significantly increased the prediction of enrollment above that of the individual, household, and parental characteristics (Block 3  $X^2 = 68.13$ ,  $df = 10$ ,  $N = 448$ ,  $p < .05$ ); and the self-determination skills did not significantly increase the prediction of college enrollment among youth with disabilities above that of individual, household, parental, and high school achievement characteristics (Block 4  $X^2 = 1.418$ ,  $df = 1$ ,  $N = 448$ ,  $p > .05$ ). The school program characteristics significantly

increased the prediction of college enrollment among youth with disabilities above that of the individual, household, parental, and self-determination characteristics (Block 5  $X^2 = 106.37$ ,  $df = 11$ ,  $N = 448$ ,  $p < .05$ ). Only one interaction variable between disability category and cognitive functioning skills was significant; however, the interaction between emotional disorders and low cognitive functioning skills did not significantly increase the prediction of college enrollment above that of the other variables included in the model (Block 6  $X^2 = -.783$ ,  $df = 1$ ,  $N = 448$ ,  $p > .05$ ). Model 5 correctly classified 94.9% of the non-enrollers, 86.4% of the enrollers, and 91.9% of all cases. Including the school program characteristics in the model improved the classification of enrollers by 14 percentage points from Model 4.

Table 47 presents the odds ratios. Similar to the results for Model 3, the odds of enrolling in a college significantly increased for youth who were Hispanic (OR = 5.912) or youth from other racial/ethnicity backgrounds (i.e., race/ethnicity was identified as Other; OR = 26.508) when compared to white youth. The odds of enrolling in a college significantly decreased for youth who came from households with an income of \$25,000 or less (OR = .183) when compared to youth from households with an income over \$50,000 or had low cognitive functioning skills (OR = .0007) when compared to youth with high cognitive functioning skills. Similar to the results for Model 4, the odds of enrolling significantly increased for youth who participated in extra curricular activities in high school (OR = 18.595) when compared to youth who did not participate. The odds of enrolling significantly decreased for youth who tested out of high school or received a certificate (OR = .036) when compared to youth who graduated from high school. In terms of school program characteristics, the odds of enrolling significantly increased for

youth who took vocational education in high school (OR = 8.593) when compared to youth who did not take vocational education, who had a postsecondary goal to attend college (OR = 8.785) when compared to youth who did not have this type of goal, or who took a leadership role in the transition planning process (OR = 13.814) when compared to youth who did not participate or participated very little. The odds of enrolling in college significantly decreased for youth who met with a teacher to discuss postsecondary or transition goals (OR = .128) when compared to youth who did not meet with their teacher for this reason. The odds of enrolling in a college significantly increased for youth with emotional disorders who had low cognitive functioning skills (OR = 6564.988) when compared to youth who did not have emotional disorders and had high cognitive functioning skills.

INSERT TABLE 47 ABOUT HERE

#### Chapter Summary

Youth with disabilities who enrolled in a college differed significantly from those who have not enrolled in a college in terms of disability category, family household income, cognitive functioning skills, parental education, parental expectations, participation in extra curricular activities, grades and performance, high school completion status, self-determination skills, and the role the youth plays in transition planning. Specifically, youth with hearing impairments or visual impairments were more likely to enroll in college than youth with other disabilities. Youth whose parents completed a college degree or who expected their child to graduate from college were also more likely to enroll in a college. Finally, youth who were more active participants in high school (i.e., participated in extra curricular activities, took a leadership role in

transition planning), experienced some financial responsibility or management, or graduated from high school were more likely to enroll in a college.

When examining the associations among individual youth and household characteristics, high school achievement and experiences, school program characteristics, and college enrollment, a number of characteristics greatly increased or decreased the probability a youth with disabilities enrolling in a college. Youth having hearing impairment or visual impairments greatly increased the odds of enrolling and having mental retardation greatly decreased the odds of enrolling in a college in comparison to youth with LD. Further, having parents who had completed a college degree greatly increased the odds of enrolling in comparison to youth whose parents did not obtain a high school degree. In at least two models, being African American, Hispanic, or of another racial/ ethnicity background greatly increased the odds of enrolling in comparison to white youth. The interaction between having emotional disorders and low cognitive functioning skills had a positive effect on the probability of enrolling in a college in Model 5.

Youth's grades and high school completion status had an impact on the probability on a youth with disabilities enrolling in a college. Specifically, having grades of B's and C's or below or dropping out of high school greatly decreased the odds of enrolling compared to having grades of mostly A's or graduated from high school. Participation in extra curricular activities greatly increased the odds of enrolling compared to youth who did not participate in this type of activities.

Additionally, school program characteristics had an impact on the probability of enrolling in college. Having participated in vocational education, taken a leadership role

in the transition planning process, or having had a postsecondary goal to attend college greatly increased the odds of enrolling in a college. Having met with a teacher to discuss postsecondary goals greatly decreased the odds of enrolling in a college.

Further, each model evaluated in this study significantly predicted college enrollment among youth with disabilities. Additionally, the percent of college enrollers correctly classified improved from 24.6% in Model 1, which included only individual and household characteristics, to 86.4% in Model 5, which included individual, household, parental, high school achievement, self-determination, and school program characteristics. This improvement in the correct classification of enrollers was particularly powerful since the college enrollers were the minority in all the models. In the next chapter, I further discuss these findings and how they relate to the NLTS2 Conceptual Framework discussed in chapter 1 and the previous literature on postsecondary enrollment discussed in chapter 2.

## CHAPTER V: DISCUSSION

This study utilized data from the first 5 data collection points of the NLTS2 database to explore the relationships among individual and household characteristics, high school achievement characteristics, and school program characteristics, and two- and four-year college enrollment among youth with disabilities. Using chi-squares and logistic regression analyses, I examined: (a) the differences in characteristics between youth with disabilities who enrolled and have not enrolled in colleges; (b) the effects of the blocks or categories of characteristics on predicting enrollment in two- or four-year colleges; and (c) the effects of the specific characteristics on predicting enrollment in colleges among youth with disabilities. This study was designed to extend the previous research that was conducted in the 1980's and early 1990's (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Halpern et al., 1995; Levine & Edgar, 1995; Miller et al., 1990, 1991; Wagner & Blackorby, 1996; Wagner et al., 1993) on factors related to enrollment of students with disabilities in postsecondary education including two- or four-year colleges. This study was designed to focus specifically on enrollment in colleges and to examine the relationships between enrollment and certain program characteristics which have become relevant to the transition of youth with disabilities to postsecondary life as a result of transition policy changes that occurred beginning in the mid- 1990's. The results of this study confirmed the importance of certain aspects of federal policy that affects the education of youth with disabilities. This study provides a stepping stone to enhance the knowledge base for improving postsecondary outcomes of youth with disabilities.

It is important be cautious when interpreting the results of this study since the independent variables were very blunt. For example, the vocational education variable only represented whether or not the youth spent any part of his/her school day in one of the following vocational education or applied academic classes: career planning, prevocational, occupational skills, business, computer technology, industrial arts, or some home economic classes. The variables used in the study do not reflect the complexity of secondary programs and transition planning.

This chapter includes a discussion of the overall findings of the study and their implications for policy and practice. Limitations of the study and future research needs are also discussed. I first discuss the results in relation to the NLTS2 conceptual model which was noted in chapter 1 (Wagner, Kutash, et al., 2005) and the research related to that model. Then, I discuss the key factors that predict college enrollment. Finally, I discuss the implications of the findings for policy, practice, and future research.

#### Findings in Relation to the NLTS2 Conceptual Framework

Due to the lack of research on predictors of enrollment in two- or four-year colleges among youth with disabilities, there was no strong theoretical framework guiding this study. Instead, I used the NLTS2 Conceptual Framework (Wagner, Kutash, et al., 2005) and a group of studies that had investigated various aspects of the framework to identify the variables used in my models. In this section, I discuss the results of this study in relation to the NLTS2 Conceptual Framework and the related studies that have investigated enrollment in postsecondary education among youth with disabilities.

The NLTS2 Conceptual Framework identifies six categories of variables that are considered to impact postschool achievement: (a) youth characteristics; (b) household

characteristics; (c) school characteristics and policies; (d) school programs; (e) achievements during secondary school; and (f) adult services and programs (Wagner, Kutash, et al., 2005). While SRI was designing the NLTS2 study, the framework emerged from a technical research working group and stakeholder advisory groups that included parent groups, disability advocacy groups, transition support organizations, related service professional, and state-, district-, and school-level educators. The framework represents the major categories of variables that are considered important to the transition of youth with disabilities to postsecondary education. I used the components of this framework to identify variables and to investigate the relationships among them. The framework however is very broad and offers little detail regarding specific variables, including program features. Further, the framework did not focus specifically on factors that impact two- or four-year college enrollment. Thus, my study provides greater detail to the framework by testing specific variables included in the broad categories and also by limiting the outcome to two- and four-year college enrollment. I was particularly interested in examining the relationship among school program characteristics and enrollment in college, given the recent emphasis in transition practice and on increasing attendance among students with disabilities in two- or four- year colleges.

Consistent with the framework, findings from my study confirm the importance of youth characteristics, household characteristics, school programs, and achievements during secondary school in predicting two- and four-year college enrollment. However, results of this study indicated that high school achievement characteristics are one of the most consistent set of predictors of college enrollment among youth with disabilities.

Specifically, participating in extra curricular activities and completing high school (vs. dropping out) are important predictors of college enrollment.

#### *High School Achievement Characteristics*

In term of high school achievement characteristics, this study found that participating in extra curricular activities and/or having experienced financial responsibility/management in high school significantly increased the probability of enrolling in a college in Models 3, 4, and 5 (i.e., for extra curricular activities); while obtaining grades of B or C or lower or dropping out of high school significantly decreased the enrolling in a college in Models 3 and 4. These findings have been confirmed by other studies which investigated the relationships between high school achievement characteristics and enrollment in postsecondary education or two- or four-year college (Fairweather & Shaver, 1990, 1991; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005).

#### *High School Completion Status*

In this study, dropping out of high school made a large, negative impact on the probability of enrolling in a two- or four-year college among youth with disabilities, in comparison to graduating from high school in Models 3 and 4. I believe graduating from high school with a diploma made such a large impact because it represents youth with disabilities reaching the same or a very similar academic standard as youth without disabilities. Youth with disabilities often are unable to pursue college education if they do not meet the academic criteria required to enter college (Wehman & Yasuda, 2005) and receiving a high school diploma provides some evidence of meeting the academic criteria needed to enroll in a college. The diploma also represents completion of specified courses

and completing a particular number of credits with adequate performance that makes the student more qualified and prepared for postsecondary education (Johnson & Thurlow, 2003; NCSET, 2004). The ability to reach the academic standards of coursework as well as to pass high school exit exams provides a representation of the youth's overall academic achievement. Further, graduating from high school may signal a certain level of engagement and interest in the educational or school environment, which may foster positive feelings towards continuing to college. Research has shown dropping out of high school may reflect problems or issues that some youth with disabilities have with traditional learning environments (i.e., academic failure, disengagement or disconnect with the school, grade retention, disciplinary problems, peer influences; Bounds & Gould, 2000; Dunn, Chambers, & Rabren, 2004; Kemp, 2006; Scanlon & Mellard, 2002).

Though one NLT2 report stated that the high school completion rate of youth with disabilities increased from 53.5% in 1987 to 70.3% in 2003 and the drop out rate decreased from 46.5% in 1987 to 29.7% in 2003 (Wagner, Newman, Cameto, & Levine, 2005), the criteria for graduating with a standard diploma have been increasing as well (Johnson et al., 2007). The majority of states are increasing their graduation requirements for youth with and without disabilities. Though many states offer special exemptions, waivers, alternate assessments, or alternate graduation requirements for youth with disabilities, there is pressure for youth with disabilities to meet these increasing expectations (Johnson et al.). These recent developments in standards based reform such as high school graduation tests or exit exams present a new and difficult challenge for youth with disabilities to graduate from high school with a standard diploma (NCSET, 2004). It is important to note that, in addition to dropping out, I found that receiving a

certificate or aging out, versus receiving a regular diploma, significantly decreased the probability of enrolling in a college, though the odds ratios were not as large as dropping out. When making decisions around exit exams and graduation requirements, consideration should be given to the importance of graduating from high school on enrolling in two- or four-year college among youth with disabilities.

#### *Participation in Extra Curricular Activities*

My study also found that participation in extra curricular activities had a large, positive impact on the probability of enrolling in a college in Models 3, 4, and 5. This finding may signal the importance of higher levels of social competence, social adjustment, and school engagement on enrolling in a college. Similar to the situation with high school graduation, a youth who feels more engaged in the high school environment may be more likely to have positive feelings towards the educational environment and wish to continue his/her education in college. Also, youth who intend to go to college may recognize the need to add extra curricular activities to their high school experiences to increase qualifications for admission.

Additionally, participating in extra curricular activities may be a proxy for social competence and social adjustment which is identified as needed skills to foster a successful transition to college (Gartin et al., 1996). Finally, some transition literature identifies participation in volunteer work and extra curricular activities as one way to help youth determine career interests (Getzel & Briel, 2006). If participating in extra curricular activities is helping youth with disabilities formulate career interests and goals, the career interests and goals may be a driving force behind enrolling in a college. Due to the importance of participating in extra curricular activities, more attention should be

given to getting youth with disabilities involved in school activities such as school clubs, student government or committees, or community service activities. IEP teams can help youth with disabilities select extra curricular activities that match their interests earlier in the transition planning process.

#### *Financial Management/ Responsibility*

In this study, having experienced financial management or responsibility in high school, such as having a checking account, a savings account, a credit card, and/or money to use at their discretion, also made a large, positive impact on the probability of enrolling a two- or four-year college in Models 3 and 4. This finding may signal the importance of the youth's level of autonomy and independence on enrolling in college. These traits, closely related to the concept of self-determination, are very important for a youth with disability who plans to go to college (Wehmeyer, Gragoudas, & Shogren, 2006). Transitioning from high school to college is a large change for youth with disabilities; it is a transition from a time where the school system had the responsibility to seek out children with disabilities and provide the necessary supports and services for the youth to receive educational benefits (Simon, 2001; Yell, 2006) but in college youth with disabilities have the responsibility to request supports and the college only has the obligation to provide reasonable accommodations (Simon; Thomas, 2000). The idea of enrolling in a college may be a scary idea for youth who have not experienced this level of responsibility or management. Having experienced some level of autonomy and independence in high school may foster a desire to enroll in college as well as the confidence that they can be successful in that postsecondary setting.

#### *Self-Determination Skills*

Finally, I was surprised that the youth's level of self-determination did not significantly impact the probability of enrolling in a college in Models 4 and 5. Since self-determination skills are promoted as an appropriate transition practices for youth with disabilities who aspire to go to college (Gartin et al., 1996; Gil, 2007; Johnson et al., 2002; NCSET, 2004; National Council on Disability, 2004a; Stodden, Dowrick, et al., 2003; Stodden, Galloway, & Stodden, 2003; Thoma & Wehmeyer, 2005; Wehman, 2006; Wolanin & Steele, 2004), I had hoped that they would have a significant impact on the probability of enrolling in a college.

Though self-determination skills did not significantly impact the probability of enrolling in Models 4 and 5, this variable was significantly correlated to college enrollment in the bivariate correlations for Model 4. There was also a significant difference in the self-determination skills of youth who enrolled and those who have not enrolled in a college in the t-test for Model 4. The nonsignificant results in the logistic regression analysis for Models 4 and 5 may be due to the large number of variables in Models 4 and 5. The other variables included in these models may have suppressed the significant effects of the self-determination variable in these situations.

This nonsignificant result also may be due to the method used to collect the data on self-determination skills in the NLTS2 database. Youth were asked to respond to statements such as "I make friends with other kids by age..." and "I volunteer in things that I am interested in..." using the following four responses: (a) "not when I have the chance; (b) sometimes; (c) most of the time; and (d) every time I have the chance" (Valdes et al., 2006a, p.B2-8). This method of youth self-report may not accurately represent the youth's actual experiences. More informal measures may be more accurate

in capturing the self-determination skills of youth with disabilities, such as whether the youth asked teachers for accommodations in the classroom or whether the youth had explained how his/her disability affects class performance to a teacher. Additionally, the sizes of the analytic samples (n=1624 and n=448) used to examine the effects of having self-determination skills on college enrollment may have been too small to identify a significant result. Since I question the efficacy of the results associated with self-determination skills due to the method of collecting and analyzing the data, I suggest future studies continue to explore the effects of having self-determination skills on enrollment in two- or four-year colleges.

#### *Youth and Household Characteristics*

Next to the high school achievement variables, individual and household characteristics provided the next most consistent impact on the probability of enrolling in two- and four-year colleges. Among the youth and household characteristics, this study found that having a hearing or visual impairment, parents who completed some postsecondary education, or parents who expected their child to graduate from college significantly increases the probability of a student with a disability enrolling in college. Having mental retardation or coming from a household with an income of \$25,000 or less significantly decreased the probability of enrolling in college in Models 1, 3, 4 (i.e. for having mental retardation), and 5 (i.e., for household income). These findings are confirmed by several other studies which have investigated the relationships between individual and household characteristics and enrollment in postsecondary education or college (Blackorby & Wagner, 1996; Fairweather & Shaver, 1990, 1991; Halpern et al.,

1995; Rojewski, 1999; Wagner & Blackorby, 1996; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005).

These results do not seem surprising since youth with hearing and visual impairments have some of the highest academic achievements levels and graduation rates among youth with disabilities (Dunn et al., 2004; Wagner, Newman, Cameto, Levine, & Garza, 2006). There are a number of barriers that may impede youth with mental retardation or emotional disorders from enrolling in college (e.g., enrollment requirements, transportation, negative feelings towards learning and academic achievement, high school graduation, and academic achievement, lack of programs for youth with mental retardation, and lack of adequate supports for youth with emotional disorders; Wehman & Yasuda, 2005; Wolanin & Steele, 2004). Further, youth with disabilities from households with incomes of \$25,000 or less enroll in college at lower rates than other youth with disabilities (Wagner, Newman, Cameto, & Levine, 2005). Additionally, household income has been identified as a potential barrier to enrollment in college for youth with and without disabilities (Hossler, Schmit, & Vesper, 1999; Wolanin & Steele, 2004). Finally, this study found a significant relationship between parental expectations and enrolling in college in Models 2 and 3 but the parental education variable seems to have over-shadowed parental expectations in the later models (i.e., Models 4 and 5).

Since some individual and household characteristics are personal attributes that cannot be changed, it is important that we acknowledge these differences between and among youth with disabilities and provide opportunities in which they can access the college experience. It is important to understand the connection between predicting

college enrollment and disabilities category, household income, and parental education level so that schools and IEP teams can take the appropriate measure to provide extra support to youth with those characteristics who may be less likely to want to attend college. For instance, there are programs that provide youth with significant disabilities, between the ages of 18 and 21, access to the college experience while still in high school as a way to improve their adult outcomes (Grigal, Neubert, & Moon, 2002; Hall, Kleinert, & Kearns, 2000; Hart, Zafft, & Zimbrich, 2001; Hart, Zimbrich, & Parker, 2005; Neubert, Moon, & Grigal, 2004). Their experiences in the college setting may be designed to meet goals to obtain employment, increase mobility in the community, improve social and community skills, improve self-determination skills, develop friendships with other people their age, and develop age-appropriate leisure and recreation pursuits (Grigal et al.).

### *Race/ Ethnicity*

Among the characteristics that significantly increased the probability of college enrollment, the findings from this study appear to indicate that African American youth, Hispanic youth, and youth from other racial or ethnic backgrounds were more likely to enroll in two- or four- year colleges than white youth in Models 3 and 5. This finding contradicts the findings of five previous studies that either found no significant differences among the postsecondary education enrollment rates among youth from different racial/ ethnic backgrounds (Fairweather & Shaver, 1990, 1991) or found that the racial/ ethnic background of the youth did not significantly affect the probability of enrolling in postsecondary education or two- or four-year colleges (Halpern et al., 1995; Wagner et al., 1993; Wagner, Newman, Cameto, Garza, & Levine, 2005).

My findings for race/ethnicity may have been influenced by the small number of cases identified as African American, Hispanic, or from another racial or ethnic background or a possible suppression effect. The analytic samples in Models 3 and 5 had small n sizes within each of the racial/ethnic groups. Further, the cases within each racial/ethnic group had very similar characteristics. For instance, the analytic sample for Model 3 included 451 African American youth and 81 youth from another racial or ethnic background. The students in these two racial/ethnic groups were more likely than expected to have low cognitive functioning skills, mental retardation, grades of D's and F's, and to have aged out (vs. graduated) of high school. The significant results may have been influenced by a suppression effect within the analysis.

Another possible explanation could be a subgroup of youth in my samples who had more significant disabilities are enrolling in two-year community college classes or programs specifically tailored for individuals with cognitive disabilities. These programs are often dual enrollment programs which provide youth with significant disabilities the opportunity to participate in age-appropriate settings (i.e., settings for 18-21 year olds) by enrolling in college classes while still in high school (Grigal et al., 2002; Hall et al., 2000; Hart et al., 2001; Hart et al., 2005; Neubert et al., 2004). The analytic sample for Model 5 included 39 Hispanic youth and 15 youth from another racial/ethnic background. In this model, the cases represented youth who were more likely to have high cognitive functioning skills, graduated from high school, participated in vocational education, and a postsecondary goal to attend college. In other words, these cases were more likely to have the characteristics associated with enrollment in a special community college program. For these reasons, these findings can be called into question.

### *Interactions*

In this study, I evaluated the effects of interactions between youth's disability category and his/her cognitive functioning skills on the probability of enrolling in two- or four-year colleges. I was surprised by the finding that only two of the interactions between functioning cognitive skills and disability category across all five models significantly impacted the probability of enrolling in a college. I expected the effects of youth with high cognitive functioning skills within a disability would have differed from the effects of youth with low cognitive functioning skills within the same disability category. Though this study confirmed previous research findings (Halpern et al., 1995; Wagner, Newman, Garza, Cameto, & Levine, 2005) that the cognitive functioning skills of youth with disabilities significantly impact the probability of enrolling in a college, very few of the interactions between cognitive functioning and disability significantly impacted the probability of enrolling in college in this study.

These interactions should be interpreted with caution. I provide one way of interpreting these interactions in this section. One of the two significant interactions was not surprising; that is having mental retardation and low cognitive functioning skills significantly decreased the odds of a youth enrolling in a college in Model 3. However, my results also indicate that having emotional disorders and low cognitive functioning skills significantly increased odds of enrolling in college above that of only having either emotional disorders or low cognitive functioning skills in Model 5. Though the interaction between having emotional disorders and low cognitive functioning skills had a positive log odds, a youth with emotional disorders and low cognitive functioning skills would still be less likely to enroll in college than youth who do not have emotional

disorders and low cognitive skills. It is important to note this finding is based on only six cases, four youth with emotional disorders and low cognitive functioning skills who have not enrolled and two who enrolled in two- or four-year colleges. Both of these youth participated in extra curricular activities, vocational education, and graduated from high school, all characteristics positively associated with college enrollment. In other words, this finding may be due to sample bias.

#### *School Programs Characteristics*

I began this study with a special interest in the relationships between school program characteristics and enrolling in two- and four-year colleges among youth with disabilities. Due to missing data on school program characteristics, this category of variables was analyzed with the smallest analytic sample ( $n = 448$ ). Even with the lower statistical power, the block or category of school program characteristics significantly improved the prediction of college enrollment among youth with disabilities while controlling for the other variables in this study and, of those in the category, four individual school program characteristics significantly impacted the probability of enrolling in a college.

My study found that participating in vocational education, having a postsecondary goal to attend college, and/or taking a leadership role in one's transition planning process significantly increases the probability of enrolling in a college in Model 5. However, meeting with a teacher to discuss postsecondary goals significantly decreases the probability of enrolling in a college in Model 5. The finding associated with having a postsecondary goal to attend college confirms Wagner et al.'s (1993) findings that used the original NLTS data. However, the finding associated with participation in vocational

education contradicts previous findings using the same data set (Wagner & Blackorby, 1996; Wagner et al.). The earlier studies found that having a concentration in vocational education (i.e., took four or more classes within a single vocational education content area) or taking survey courses in vocational education did not significant impact the probability of enrolling in postsecondary education (Wagner & Blackorby; Wagner et al.). My findings apply to youth who spent any part of the school day in a vocational education or applied academic class.

#### *Participation in Vocational Education*

The difference between the definitions of participation in vocational education in my study versus the two previous studies (Wagner & Blackorby; Wagner et al., 1993) highlights the bluntness of the independent variables used in this study. The contradiction in findings may point out the impact of different types of vocational education programs (e.g., having a concentration in vocational education versus having taking one or two classes in home economics). Unfortunately, the vocational education variable used in this study does not accurately represent the type of vocational education programs usually offered in schools today. Schools generally offer career and technical education (CTE) curricula that are organized around 16 career clusters. CTE may include work experience in an employment setting during half of the school day as well as coursework (Neubert, 2006). The variable used in this study does not represent this type of program; it represents having taken one class in a long list of vocational-type classes.

Though my study contradicted previous findings on the relationship between participating in vocational education and college enrollment, I was not surprised by these results. Vocational education classes can provide youth with disabilities the opportunity

to experience and explore aspects of careers, which in turn may spark an interest in pursuing additional education to obtain employment in these areas. Career guidance services (e.g., career planning) can help a youth better understand the postsecondary options to meet their career goals (Getzel & Briel, 2006).

#### *Youth's Role in Transition Planning Process*

No previous studies had examined the effects of the role the youth plays in his or her transition planning process on enrollment in postsecondary education. I investigated the effects of this experience since it is promoted in the transition literature and it is thought of as a component of enhancing self-determination skills (Wehmeyer et al., 2006). This study found that taking a leadership role in the transition planning process increases the odds of enrolling in a two- and four-year college. However, this study did not find that the level of self-determination skills significantly affected college enrollment. When investigating the perceptions and expectations of youth with disabilities using the NLTS2 dataset, Wagner, Newman, Cameto, Levine, and Marder (2007) found that higher personal autonomy as measured by the Arc's Self-Determination Scale was not associated with the youth's level of participation in the transition planning process. I offer the explanation that the youth's self-reported responses and the measure used to obtain the self-determination skills examined in this study did not truly represent the actions or experiences of the youth in the samples who were planning to enroll in college. The variable representing the youth's role in the transition planning process may be a better measure of the youth's experiences in terms of self-determination skills.

#### *Met with Teacher to Discuss Postsecondary Goals*

Similar to the effects of the role the youth played in the transition planning process, no previous studies investigated the effects of meeting with a teacher to discuss postsecondary goals on enrollment in postsecondary education or two- or four-year colleges. I investigated the relationship between this experience and enrollment in two- and four-year colleges because I believed it represented a measure of the youth's participation in planning his or her future life. However, this study found that meeting with a teacher to discuss postsecondary life decreased the odds of enrolling in a two- or four-year college. This finding was surprising since taking a leadership role in the youth's transition planning process significantly increased the odds of enrolling and discussing postsecondary goals with a teacher seems like a prerequisite or preliminary experience before taking a leadership role. However, a high percentage (92.6%) of the youth in the analytic samples met with a teacher to discuss postsecondary goals. Further, the variable itself may have been too vague and broad and perhaps a variable representing whether a youth met with a teacher to discuss what it would take to enroll in a two- or four-year college (e.g., signing up for the SAT, taking college preparatory courses, taking a foreign language, developing a goal statement) would have had different results.

#### Implications for Policy, Practice, and Research

The findings of this study suggest some policy implications as well as future research needs. However, both the findings and implications of this study should be considered with an understanding of the limitations of the methodology, which I discuss below.

#### *Policy Implications*

Due to the limited amount of research on predictors of two- and four-year college enrollment among youth with disabilities, I do not feel it would be responsible to recommend policy changes based on one study. However, the findings of this study did little to determine the effectiveness or lack of effectiveness of the current transition requirements in IDEA. Though I believe it is important for practitioners and policy makers to consider the importance of graduating from high school, participating in extra curricular activities, financial management/ responsibility, and challenges that differ by disability categories, household income, and parental level of education, I do not feel any policies should be changed based on this study. I strongly feel that there is a need for continued research on the factors that predict enrollment in two- or four-year colleges among youth with disabilities.

Though federal policies may not be amended, states and school districts implementing the federal policies could take into consideration the findings of this study as well as other related studies that are isolating factors related to college enrollment among youth with disabilities. They should consider the importance of high school graduation for youth with disabilities when trying to determine the appropriateness of exit exams and the criteria for high school graduation. Since this study found that graduating from high school with a regular diploma is an important predictor of college enrollment for youth with disabilities, State and local districts should have multiple paths for youth with disabilities to achieve a regular diploma. For instance, states and school districts could design and implement an alternate or modified high school exit exam or assessment in which a passing score would meet the requirements of a regular diploma for youth with disabilities, as recommended by NCSET (2004). These alternate or modified high

school exit exams could be performance-based assessments or portfolios of student's work and achievements, which may be a more accurate measure of the youth with disabilities accomplishments and learning in high school.

Further, school districts and schools should take into consideration the importance of participating in extra curricular activities when designing criteria to participate in these types of activities. Additionally, special education departments within school may want to take a special interest in promoting and supporting youth with disabilities in extra curricular activities to foster school engagement and social competence. The transition planning process could include identifying extra curricular activities that match with a youth's interests and strengths. For instance, if the youth is interested in basketball but does not have the skill level to make the high school basketball team, the youth could be the equipment manager or the time keeper. In addition to school clubs, sports, and activities, youth could also participate in volunteer events or community services activities.

When designing transition services and plans, schools, IEP teams, and parents should take into consideration the importance of helping youth with disabilities become more independent, including such things as giving them more responsibility with financial management and allowing them to take a leadership role in the transition planning process. Finally, schools and IEP teams should also consider the importance of fostering career interests and goals through extra curricular activities and participating in vocational education (CTE) when designing programs for these youth.

#### *Limitations of Study*

This study was a secondary data analysis of the NLTS2 dataset conducted with five analytic samples which ranged from 2910 to 448 out-of-school youth with disabilities. It included examining 20 independent variables. Due to the nature of this design, there were limitations that need to be carefully considered.

### *Missing Data*

There were a large number of cases with missing information on key independent and dependent variables in study. The number of missing cases ranged from 105 in the analytic sample for Model 1 to 2567 in the analytic sample for Model 5. Though the non bias analyses found few significant differences between the analytic sample and the dropped cases or baseline sample, analyses of the bivariate correlations between the independent variables and dependent variable, the inter-correlations for the independent variables, the chi-square and standardized residuals, and the log odds in the various models showed differences among the analytic samples for the models. The analytic sample for Model 4 appeared to be a little different from the analytic samples for with Models 1 through 3, and the analytic sample for Model 5 was different from the analytic samples for Model 4 and Models 1 through 3. The differences among Models 1 through 3, Model 4, and Model 5 should be considered when interpreting results of the different models and further research should reexamine the relationships between the characteristics and college enrollment in Models 4 and 5.

### *Small Sample Sizes*

Due to missing data across the five analytic samples, the sample sizes were smaller than anticipated, especially for the analytic samples for Models 4 (N = 1624) and 5 (N = 448). A smaller sample size decreases the statistical power associated with the

study. In other words, a smaller sample size increases the chances of a Type II error or decreases the researchers' ability to find significance when significance should be found (Gay et al., 2006). The results of a study with a large sample size is often more powerful and identifies a larger number of significant results (Gay et al.; Isaac & Michael, 1997). The results for Models 4 and 5 are less robust than the results for Models 1 through 3. Further research should be conducted on Models 4 and 5.

#### *Dependent Variable*

In order to have sample sizes as large as possible for this study, I used a dependent variable which represented whether the youth had ever enrolled in at least one class in a two- or four-year college. This dependent variable was very broad. Different relationships may exist between the independent variables and enrollment in a two-year versus a four-year college. Further, enrolling in one class is a very inclusive definition of enrollment and youth who only took one college class and never pursued a degree or certification would be considered having enrolled in college. For this reason, additional research should be conducted to investigate whether such characteristics affect the probability of enrolling in two- and four-year colleges in the same way.

#### *Independent Variables*

Due to the nature of the survey and interview questions used in the NLTS2 data, as well as other large scale datasets, some of the independent variables were vague and broad. For instance, one of the variables I used in the chi-square analysis but not in the logistic regression analysis represented whether a youth had a transition plan. Another variable represented whether the youth had a course of study in his/her transition plan. Both of these variables were not found to be significant in this study. However, these

may not have captured the more detailed experiences of transition services and planning which could better discriminate among students with different types of postsecondary goals. Additional research should be conducted using variables that provide a more detailed representation of the youth's experiences.

#### *Future Research*

The limitations as well as findings of this study call for additional research to be conducted related to the factors that increase the probability of enrolling in colleges among youth with disabilities. First, the models used in this study, especially Models 4 and 5, should be tested with larger samples as well as samples that represent smaller populations. Larger samples will result in more powerful statistical results, especially the results associated with self-determination skills and school program characteristics. Samples that represent smaller populations, such as using state-level data or district-level data, will help to determine if the same relationships between the independent variables and enrollment in two- or four-year colleges are evident on lower levels of policy implementation.

With these different samples, the effects of standardized assessments should be reevaluated with an analytic sample that can provide quality data on participation in standardized assessments. The methods used to capture the information on participation in standardized assessments in this study could have given an inaccurate portrayal of the experience since the School Program Surveys asked whether and how the youth participated in standardized assessment in that school year. Since testing is only required one time in high school by NCLB, the youth may not have participated in a standardized assessment in the year of data collection. In addition to reevaluating participation in

standardized assessment, the effects of participating in the general education curriculum and the interaction between grades/ performance and participating in the general education curriculum should be examined as well. I had hoped to evaluate this characteristic in this study but was unable due to missing data. In the past, there has been a tendency to place youth with disabilities in special education classes and/or to provide substandard curricular content (Wehman & Yasuda, 2005). Additionally, one report found that youth with disabilities who graduated in 1994 were less likely to be minimally qualified for admission to four-year colleges than youth without disabilities (Horn & Berkold, 1999). Since this time, both amendments to the IDEA and the NCLB have promoted access and achievement in the general education curriculum for youth with disabilities. Future research should investigate whether access and achievement in the general education curriculum has had an impact on college enrollment among youth with disabilities.

The models and variables examined in this study should be reevaluated using more sophisticated methods of data analysis, for instance structural equation modeling or pathway analyses. These types of designs will help to unpack which characteristics are indirectly and which are directly affecting college enrollment. Further, separate analyses should be conducted on youth enrolling in two-year colleges versus four-year colleges. It is important to identify which characteristics are associated with each outcome. Finally, further research should look at the differences in the characteristics that predict college enrollment, as defined by more stringent criteria, such as enrolling in a degree program at a college or enrolling in nine or more college credits a semester.

Though there were limitations to using the NLTS2 data in this study (e.g., missing data), there is still a need to continue large-scale, nationally representative studies on youth with disabilities while in secondary school and postsecondary life. These studies provide the advantages that smaller studies cannot, such as longitudinal data, multiple perspectives (e.g., parent's, youth's, special education teacher's, and general education teacher's), and the ability to generalize findings to youth with disabilities in the United States. However, I recommend several changes to the next large-scale, nationally representative study of this type.

I recommend sampling youth at one grade or one age, possibly 8<sup>th</sup> grade or age 13, and following these students through high school and into postsecondary life. Additionally, the instruments should be appropriate for all participants included in the study. In the NLTS2, Teacher Survey data was collect only for youth who took a general education class. Further, the direct assessment was only given to youth who were in school and 16 years old or older. When designing the next study like the NLTS2, the study should be designed to collect the same information on all the participants, instead of only certain subsamples. Further, I would keep the questions or measures in the data collection instruments constant over the various data collection points. I would also include questions or measure that result in more specific and detailed variables, instead of the blunt independent variables used in this study (e.g., enrollment in a CTE program versus a CTE survey course). Finally, I would use multiple methods and extensive efforts to obtain the highest response rates possible on all the data collection instruments at all the data collection points (e.g., maintain more regular contact with the families or provide more extensive follow up for nonrespondents).

## Chapter Summary

The purpose of this study was to investigate the associations among individual and household characteristics, high school achievement characteristics, and school program characteristics, and enrollment among youth with disabilities in the current context of policy and practice. I found that many of the same characteristics that affected postsecondary enrollment in the 1980's and early 1990's affect two- and four-year college enrollment in the early 2000's. This study found that high school achievement and individual and household characteristics make the most consistent impact on the probability of enrolling in a college. Though this study found that youth's self-determination skills do not affect the probability of youth enrolling in a college, it found that taking a leadership role in the transition planning process does significantly increase the probability of enrolling in a college. Further, just meeting with a teacher to discuss postsecondary goals is not enough youth participation to make a positive impact on college enrollment. Though this study confirmed the importance of certain aspects of federal policy that affects the education of youth with disabilities, it enhances the knowledge base for improving postsecondary outcomes of youth with disabilities.

TABLES

Table 1

*Description of Studies on Factors Associated with College Enrollment*

<b>Study</b>	<b>Name</b>	<b>Dates of Data Collection</b>	<b>Analytic Sample Size</b>	<b>Sample Age Range</b>	<b>Instruments Used</b>	<b>Respondents</b>	<b>Description of Outcome Variable</b>	<b>Data Analysis</b>
Blackorby & Wagner (1996)	NLTS	Summer/ Fall 1987 and 1990	1990 youth with disabilities	Not Provided	Telephone Interviews	Parents Youth	Enrollment in postsecondary school within two years of leaving high school or within three to five years of leaving high school	Descriptive: t-test analysis
Fairweather	NLTS	Summer/	1,242 youth	Not	Telephone	Parents	Enrollment in	Descriptive: chi-

& Shaver (1990)		Fall 1987	with disabilities	Provided	Interviews		vocational courses, 2-year/ junior college courses, and 4- year/ college courses	square analysis
Fairweather & Shaver (1991)	NLTS	Summer/ Fall 1987	1,242 youth with disabilities	17 years or older	Telephone Interviews	Parents/ Guardians	Enrollment in vocational- technical institutions, community or 2-year colleges, and 4-year colleges	Descriptive: chi- square analysis
Halpern et al. (1995)	State follow	1990; 1991;	987 students with disabilities	17 years or older	Telephone CATI	Parent Students	Enrollment in high school,	Multivariate: logistic regression

	along studies	1992; 1993			Interviews Questionnaires	Teachers	community college, four- year college, private vocational/ technical school, job corps, sheltered workshop or rehabilitation facility, and military	analysis
Levine & Edgar (1995)	The First Decade Project	January and June 1991; January – March	48 students with MMR 289 students with LD 610 students	Not Provided	Telephone CATI Interviews	Parents Guardians Students *Respondent Selection Rule	Enrollment in a community college, university, business,	Descriptive: chi- square analysis

		1992	without disabilities			Stated	vocational, or trade school, or Job Corps	
Miller et al. (1990)	Iowa State Follow-Up Survey	Summer 1986	539 students with LD	Not Provided	Telephone and Face to Face Interviews	Students Parents Guardians	Enrollment in a junior college, community college, four-year college, military, private training program, adult-based education, adult education, and apprenticeship program	Descriptive: t-tests and chi-square analysis

Miller et al. (1991)	Iowa State Follow -Up Survey	Summer 1986	225 students with LD	Not Provided	Interviews	Unknown	Enrollment in a junior college, community college, four- year college or university, military, or private training program	Descriptive: one- way analysis of variance
Murray et al. (2000)	The First Decade Project	1991; 1992; 1993; 1994 1995	168 students with LD 315 students without disabilities	Not Provided	Telephone and CATI Interviews	Graduates or “contact person”	Ever attended postsecondary trainings such a business, vocational, or other, community college, or four-	Descriptive: chi- square analysis

							year college or university	
Rojewski (1999)	NELS	1988; 1990; 1992; 1994	441 students with LD 10,737 students without disabilities	19-21 years old	Unknown	Parent Students Teacher School administrators	Enrollment two- years following high school	Multivariate: log- linear analysis
Wagner & Blackorby (1996)	NLTS	1987; 1990	More than 8,000 youth with disabilities	15 -1two- years old	School records Telephone Interviews Self- administered Surveys	Youth Parents Principals Teachers	Enrollment in an postsecondary academic program (2 or four-year college) at any time since leaving high	Multivariate: logistic regression analysis

							school	
Wagner et al. (1993)	NLTS	1987; 1990	1,208 youth with disabilities	Not provided	School records Telephone Interviews Self administered Surveys	Youth Parents Teachers	Enrolled in a four-year college or in a two-year college program which was primarily academic	Multivariate: logistic regression analysis
Wagner, Newman, Cameto, Garza, & Levine (2005)	NLTS2	2001; 2003	Not Specified – approximately 280	15-19 years old	Telephone Interviews	Youth Parents	Enrollment in two-year or community college and four-year college	Multivariate: logistic regression analysis

Table 2

*NLTS2 Data Collection Timeline*

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5	
Data	1	2	3	4	5	6	7	8	9	10
Collection										
Point										
Year	2000-	2001-	2002-	2003-	2004-	2005-	2006-	2007-	2008-	2009-
	01	02	03	04	05	06	07	08	09	2010
Parent	X		X		X		X <sup>b</sup>		X <sup>c</sup>	
Interview										
Youth			X		X		X <sup>b</sup>		X <sup>c</sup>	
Interview										
Direct		X		X						
assessments/ youth in- person interviews										
Teacher		X		X						
Survey										
School		X		X						
Program										
Survey										

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School	X	X <sup>a</sup>	X <sup>a</sup>	X <sup>c</sup>
Background				
Survey				
Transcripts	X <sup>a</sup>	X <sup>a</sup>		

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<sup>a</sup> Data have not yet been released.

<sup>b</sup> Data have been collected but has not yet been released.

<sup>c</sup> Data have not been collected.

Table 3

*NLTS2 Data Collection Instruments*

	Respondent	Number	Maximum	Response	Practical	Response
		Completed	Eligible	Rate for	Eligible	Rate for
		Instrument	Sample	Maximum	Sample	Practical
				Sample		Sample
<b>Data Collection Point 1: 2001</b>						
Parent Interview	Parent or guardian of youth	9,230	11,244	82.1%	11,244	82.1%
<b>Data Collection Point 2: 2002</b>						
Direct assessments/ youth in-person interviews	Youth	3,193	5,956	53.6%	5,071	63%
Teacher Survey	General education teacher	2,577	7,650	33.7%	7,114	36.2%
School Program Survey	Teacher who knows youth's school	5,588	11,126	50.2%	10,517	53.1%

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	program					
	best					

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School	School	5,956	11,126	53.5%	10,956	56.6%
Background	Principal					
and Survey						

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**Data Collection Point 3: 2003**

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Parent and	Parent or	6,859	11,226	61.1%	11,226	61.1%
Youth	guardian &					
Interviews	youth					

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**Data Collection Point 4: 2004**

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Direct	Youth	3,135	5,242	59.8%	4,343	72.2%
assessmen						
ts/ youth						
in-person						
interviews						

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Teacher	General	1,983	5,467	36.3%	4,866	40.8%
Survey	education					
	teacher					

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School	Teacher	4,078	8,480	48.1%	7,815	52.2%
Program	who knows					
Survey	the youth's					
	school					
	program					

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best

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**Data Collection Point 5: 2005**

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Parent and Youth Interviews	Parents or guardian & youth	5,657	11,225	50.4%	11,225	50.4%
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Table 4

*Description of Multivariate Models used for Research Question 1 through 6*

Analytic Sample for...	Variables Included	Research Questions
Model 1 (N = 2910)	Disability Category Gender Household Income Race/ Ethnicity Cognitive Functioning Skills	1 & 2
Model 2 (N = 2601)	Disability Category Gender Household Income Race/ Ethnicity Cognitive Functioning Skills Parental Education Parental Expectations	1 & 3
Model 3 (N = 2498)	Disability Category Gender Household Income Race/ Ethnicity Cognitive Functioning Skills Parental Education Parental Expectations	1 & 4

	Grades and performance	
	High School Completion	
	Status	
	Financial Management/	
	Responsibility	
	Participation in Extra-	
	Curricular Activities	
Model 4 (N = 1624)	Disability Category	1 & 5
	Gender	
	Household Income	
	Race/ Ethnicity	
	Cognitive Functioning Skills	
	Parental Education	
	Parental Expectations	
	Grades and performance	
	High School Completion	
	Status	
	Financial Management/	
	Responsibility	
	Participation in Extra-	
	Curricular Activities	
	Self-Determination Skills	

Model 5 (N = 448)	Disability Category	1 & 6
	Gender	
	Household Income	
	Race/ Ethnicity	
	Cognitive Functioning Skills	
	Parental Education	
	Parental Expectations	
	Grades and performance	
	High School Completion	
	Status	
	Financial Management/ Responsibility	
	Participation in Extra- Curricular Activities	
	Self-Determination Skills	
	Participation in Work Experience	
	Participation in Vocational Education	
	Transition Plan	
	Instruction based on Transition Plan	
	Transition Goal to Attend	

College

Course of Study in Transition

Plan

Youth's Role in Transition

Planning

Participation in Standardized

Assessments

Met with Teacher to Discuss

Postsecondary or Transition

Goals

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Table 5

*Bivariate Correlations of College Enrollment and Independent Variables in Model 1*

(*N*=2910)

Measure	Cramer's V
1. Gender	.063*
2. Cognitive Functioning Skills	.111*

Note. The bivariate correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 6

*Bivariate Correlations of College Enrollment and Independent Variables in Model 2*

(*N*=2601)

Measure	Cramer's V
1. Gender	.086*
2. Cognitive Functioning Skills	.121*
3. Parental Expectations	.200*

Note. The bivariate correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 7

*Bivariate Correlations of College Enrollment and Independent Variables in Model 3 (N = 2498)*

Measure	Cramer's V
1. Gender	.093*
2. Cognitive Functioning Skills	.122*
3. Parental Expectations	.214*
4. Participation in Extra Curricular Activities	.304*
5. Financial Management/ Responsibility	.157*

Note. The bivariate correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 8

*Bivariate Correlations of College Enrollment and Independent Variables in Model 4 (N = 1624)*

Measure	Cramer's V
1. Gender	.020
2. Cognitive Functioning Skills	.113*
3. Parental Expectations	.135*
4. Participation in Extra Curricular Activities	.375*
5. Financial Management/ Responsibility	.168*
Measure	Pearson's Product-Moment
6. Self-Determination Skills	.161*

Note. The bivariate correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 9

*Bivariate Correlations of College Enrollment and Independent Variables in Model 5 (N = 448)*

Measure	Cramer's V
1. Gender	.082
2. Cognitive Functioning Skills	.032
3. Parental Expectations	.243*
4. Participation in Extra Curricular Activities	.385*
5. Financial Management/ Responsibility	.273*
6. Work Experience	.082
7. Vocational Education	.179*
8. Instruction Focused on Transition	-.017
9. Goal to Attend College	.250*
10. Course of Study in Transition Plan	.029
11. Met with Teacher to Discuss Postsecondary Goals	.010
Measure	Pearson's Product-Moment
12. Self-Determination Skills	.066

Note. The bivariate correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 10

*Percent Comparison Among the Baseline Sample and Analytic Samples for Models*

*1 - 5*

	Baseline Sample (N = 3015) %	Analytic Sample for Model 1 (N = 2910) %	Analytic Sample for Model 2 (N = 2601) %	Analytic Sample for Model 3 (N = 2498) %	Analytic Sample for Model 4 (N = 1624) %	Analytic Sample for Model 5 (N = 448) %
<i>College Enrollment</i>						
No	62.7	63.4	63.7	63.4	57.1	65
Yes	37.3	36.6	36.3	36.6	42.9	35
<i>Disability Category</i>						
Learning Disability	64.5	64.7	65.3	65.1	66.6	64.3
Speech Impairment	3.2	3.1	3.1	3.2	3.3	3.5
Mental Retardation	10.4	10.2	9.9	10	8.2	10.8

Emotional						
Disorder	12.8	12.7	12.2	12.1	11.5	10.7
Hearing						
Impairment	1.2	1.2	1.2	1.3	1.4	2.1
Visual						
Impairment	.5	.5	.5	.5	.6	.6
Orthopedic						
Impairment	.9	1	1	1	1.2	1.2
Other Health						
Impairment	4.9	4.9	4.8	5	5.6	4.8
Other	1.7	1.7	1.9	1.8	1.7	2
<i>Gender</i>						
Male	68.6	68.7	67.4	67.6	65.8	65.5
Female	31.4	31.3	32.6	32.4	34.2	34.5
<i>Household</i>						
<i>Income</i>						
\$25,000 and						
under	37.2	37.2	34.9	35.1	29.3	28.3
\$25,001 -						
\$50,000	27.8	27.7	26.5	26.8	27.3	25.2
Over \$50,000	35	35.1	38.6	38.1	43.4	46.6
<i>Race/ Ethnicity</i>						

White	64.9	64.8	66.5	65.9	68.3	73.3
African						
American	19.7	19.5	17.8	18.1	17.8	10.9
Hispanic	12.4	12.6	12.6	12.8	12	13.5
Other	2.9	3	3.1	3.2	1.9	2.3
<i>Cognitive</i>						
<i>Functioning</i>						
<i>Skills</i>						
High	86.6	86.4	85.9	85.5	88.4	82.4
Low	13.4	13.6	14.1	14.5	11.6	17.6

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Table 11

*Percent Comparison Between the Dropped Cases and Analytic Sample for Model 1*

	Dropped	Analytic	$X^2$	<i>p</i>
	Cases	Sample		
	(N= 105)	(N =2910)		
	%	%		
Expected	3.1	96.9		
<i>College Enrollment (N = 2976)</i>				
No	1.3 <sup>b</sup>	98.7 <sup>b</sup>	24.579	.044
Yes	4.2 <sup>b</sup>	95.8 <sup>b</sup>		
<i>Disability Category (N = 3015)</i>				
Learning Disability	2.8	97.2	9.602	ns
Speech Impairment	7.2	92.8		
Mental Retardation	4.6	95.4		
Emotional Disorder	3.2	96.8		
Hearing Impairment	3.1	96.9		
Visual Impairment	3.6	96.4		
Orthopedic Impairment	2	98		
Other Health Impairment	1.8	98.2		
Other	3.4	96.6		
<i>Gender (N = 3015)</i>				
Male	3.1	96.9	.082	ns

Female	3.3	96.7		
<i>Household Income (N = 2945)</i>				
\$25,000 and under	.4	99.6	3.747	ns
\$25,001 - \$50,000	.9	99.1		
Over \$50,000	.4	99.6		
<i>Race/ Ethnicity (N = 3013)</i>				
White	3.2	96.8	7.362	ns
African American	4.1	95.9		
Hispanic	1.6 <sup>b</sup>	98.4 <sup>b</sup>		
Other	.4 <sup>a b</sup>	99.6 <sup>b</sup>		
<i>Cognitive Functioning Skills</i>				
<i>(N = 3003)</i>				
High	2.8	97.2	3.170	ns
Low	1.3	98.7		

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Note.  $p < .05$

<sup>a</sup> Cell has a frequency of less than 5.

<sup>b</sup> Standardized residuals are less than -2 or greater than 2.

Table 12

*Standardized Residuals for Chi-Square Analysis Between the Dropped Cases and Analytic Sample for Model 1*

	Dropped Cases (N= 105)	Analytic Sample (N =2910)
<i>College Enrollment (N = 2976)*</i>		
No	-2.050	2.050
Yes	2.050	-2.050
<i>Disability Category (N = 3015)</i>		
Learning Disability	-.591	.591
Speech Impairment	1.498	-1.498
Mental Retardation	.731	-.731
Emotional Disorder	.082	-.082
Hearing Impairment	-.019	.019
Visual Impairment	.267	-.267
Orthopedic Impairment	-1.039	1.039
Other Health Impairment	-1.481	1.481
Other	.228	-.228
<i>Gender (N = 3015)</i>		
Male	-.111	.111
Female	.111	-.111
<i>Household Income (N = 2945)</i>		
\$25,000 and under	-.754	.754

\$25,001 - \$50,000	1.101	-1.101
Over \$50,000	-1.11	1.11
<i>Race/ Ethnicity (N = 3013)</i>		
White	.210	-.210
African American	.641	-.641
Hispanic	-2.060	2.060
Other	-8.618 <sup>a</sup>	8.618
<i>Cognitive Functioning Skills</i>		
<i>(N = 3003)</i>		
High	1.2	-1.2
Low	-1.2	1.2

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\* Chi-square statistic is significant at  $p < .05$ .

Table 13

*Percent Comparison Between the Dropped Cases and the Analytic Sample for Model 2*

	Dropped Cases	Analytic Sample	$X^2$	<i>p</i>
	(N = 414)	(N = 2601)		
	%	%		
Expected	16.4	83.6		
<i>College Enrollment</i>				
<i>(N = 2976)</i>				
No	14.6	85.4	6.165	ns
Yes	18	82		
<i>Disability Category</i>				
<i>(N = 3015)</i>				
Learning Disability	15.4	84.6	13.500	ns
Speech Impairment	18.3	81.7		
Mental Retardation	20.7	79.3		
Emotional Disorder	19.9	80.1		
Hearing Impairment	10.9	89.1		
Visual Impairment	9.1 <sup>a</sup>	90.9 <sup>a</sup>		
Orthopedic Impairment	10.4 <sup>a</sup>	89.6 <sup>a</sup>		
Other Health Impairment	16.5	83.5		
Other	8.9 <sup>a</sup>	91.1 <sup>a</sup>		
<i>Gender (N = 3015)</i>				

Male	17.9	82.1	10.458	ns
Female	13.2	86.8		
<i>Household Income (N = 2945)</i>				
\$25,000 and under	19.6 <sup>a</sup>	80.4 <sup>a</sup>	100.520	.001
\$25,001 - \$50,000	18.1	81.9		
Over \$50,000	5.5 <sup>a</sup>	94.5 <sup>a</sup>		
<i>Race/ Ethnicity (N = 3013)</i>				
White	14.4	85.6	37.267	ns
African American	24.7 <sup>a</sup>	75.3 <sup>a</sup>		
Hispanic	15.3	84.7		
Other	12.2	87.8		
<i>Cognitive Functioning Skills</i>				
<i>(N = 3003)</i>				
High	16.7	83.3	7.490	ns
Low	11.3	88.7		

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Note.  $p < .05$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 14

*Standardized Residuals for Chi-Square Analysis Between the Dropped Cases and the Analytic Sample for Model 2*

	Dropped Cases (N = 414)	Analytic Sample (N = 2601)
<i>College Enrollment (N = 2976)</i>		
No	-.854	.854
Yes	.854	-.854
<i>Disability Category (N = 3015)</i>		
Learning Disability	-.837	.837
Speech Impairment	.558	-.558
Mental Retardation	1.044	-1.044
Emotional Disorder	1.010	-.101
Hearing Impairment	-1.968	1.968
Visual Impairment	-2.787	2.787
Orthopedic Impairment	-2.704	2.704
Other Health Impairment	.018	-.018
Other	-3.258	3.258
<i>Gender (N = 3015)</i>		
Male	1.380	-1.380
Female	-1.380	1.380
<i>Household Income (N = 2945)*</i>		

\$25,000 and under	2.400	-2.400
\$25,001 - \$50,000	1.269	-1.269
Over \$50,000	-5.100	5.100
<i>Race/ Ethnicity (N = 3013)</i>		
White	-1.575	1.575
African American	2.359	-2.359
Hispanic	-.266	.266
Other	-.445	.445
<i>Cognitive Functioning Skills</i>		
<i>(N = 3003)</i>		
High	1.661	-1.661
Low	-1.661	1.661

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\* Chi-square statistic is significant at  $p < .05$ .

Table 15

*Percent Comparison Between the Dropped Cases and the Analytic Sample for Model 3*

	Dropped Cases	Analytic Sample	$X^2$	<i>p</i>
	(N = 517)	(N = 2498)		
	%	%		
Expected	19.9	80.1		
<i>College Enrollment</i>				
<i>(N = 2976)</i>				
No	18.4	81.6	2.403	ns
Yes	20.7	79.3		
<i>Disability Category</i>				
<i>(N = 3015)</i>				
Learning Disability	19.1	80.9	11.195	ns
Speech Impairment	21.1	78.9		
Mental Retardation	23	77		
Emotional Disorder	24	76		
Hearing Impairment	12.1 <sup>a</sup>	87.9 <sup>a</sup>		
Visual Impairment	11.5 <sup>a</sup>	88.5 <sup>a</sup>		
Orthopedic Impairment	12 <sup>a</sup>	88 <sup>a</sup>		
Other Health Impairment	17.5	82.5		
Other	14.9	85.1		
<i>Gender (N = 3015)</i>				

Male	21.1	78.9	6.332	ns
Female	17.2	82.8		
<i>Household Income (N = 2945)</i>				
\$25,000 and under	22.3	77.7	57.025	.015
\$25,001 - \$50,000	20.7	79.3		
Over \$50,000	10.5 <sup>a</sup>	89.5 <sup>a</sup>		
<i>Race/ Ethnicity (N = 3013)</i>				
White	18.7	81.3	23.974	ns
African American	26.7	73.3		
Hispanic	17.2	82.8		
Other	12.2	87.8		
<i>Cognitive Functioning Skills</i>				
<i>(N = 3003)</i>				
High	20.5 <sup>a</sup>	79.5 <sup>a</sup>	14.315	.037
Low	12.5 <sup>a</sup>	87.5 <sup>a</sup>		

---

Note.  $p < .05$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 16

*Standardized Residuals for Chi-Square Analysis Between the Dropped Cases and the Analytic Sample for Model 3*

	Dropped Cases (N = 517)	Analytic Sample (N = 2498)
<i>College Enrollment (N = 2976)</i>		
No	-.536	.536
Yes	.536	-.536
<i>Disability Category (N = 3015)</i>		
Learning Disability	-.598	.598
Speech Impairment	.340	-.340
Mental Retardation	.760	-.760
Emotional Disorder	1.142	-1.142
Hearing Impairment	-2.475	2.475
Visual Impairment	-3.067	3.067
Orthopedic Impairment	-3.662	3.662
Other Health Impairment	-.708	.708
Other	-1.506	1.506
<i>Gender (N = 3015)</i>		
Male	1.070	-1.070
Female	-1.070	1.070
<i>Household Income (N = 2945)*</i>		

\$25,000 and under	1.889	-1.889
\$25,001 - \$50,000	.932	-.932
Over \$50,000	-3.460	3.460
<i>Race/ Ethnicity (N = 3013)</i>		
White	-.899	.899
African American	1.929	-1.929
Hispanic	-.576	.576
Other	-.806	.806
<i>Cognitive Functioning Skills *</i>		
<i>(N = 3003)</i>		
High	2.445	-2.445
Low	-2.445	2.445

---

\* Chi-square statistic is significant at  $p < .05$ .

Table 17

*Percent Comparison Between the Dropped Cases and the Analytic Sample for Model 4*

	Dropped Cases	Analytic Sample	$X^2$	<i>p</i>
	(N = 1391)	(N = 1624)		
	%	%		
Expected	48.3	51.7		
<i>College Enrollment (N = 2976)</i>				
No	50.5	49.5	13.724	ns
Yes	43.5	56.5		
<i>Disability Category (N = 3015)</i>				
Learning Disability	46.2	53.8	29.614	.023
Speech Impairment	46.2	53.8		
Mental Retardation	54.5	45.5		
Emotional Disorder	58 <sup>a</sup>	42 <sup>a</sup>		
Hearing Impairment	37.1 <sup>a</sup>	62.9 <sup>a</sup>		
Visual Impairment	41.8	58.2		
Orthopedic Impairment	33.2 <sup>a</sup>	66.8 <sup>a</sup>		
Other Health Impairment	42.7	57.3		
Other	52.9	47.1		
<i>Gender (N = 3015)</i>				
Male	50.9	49.1	17.444	ns

Female	42.7	57.3		
<i>Household Income (N = 2945)</i>				
\$25,000 and under	49.2	50.8	15.816	ns
\$25,001 - \$50,000	50.1	49.9		
Over \$50,000	41.9	58.1		
<i>Race/ Ethnicity (N = 3013)</i>				
White	49.2	50.8	19.045	ns
African American	46.7	53.3		
Hispanic	41.9	58.1		
Other	66.5	33.5		
<i>Cognitive Functioning Skills</i>				
<i>(N = 3003)</i>				
High	47.9	52.1	.141	ns
Low	48.9	51.1		

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Note.  $p < .05$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 18

*Standardized Residuals for Chi-Square Analysis Between the Dropped Cases and the Analytic Sample for Model 4*

	Dropped Cases (N = 1391)	Analytic Sample (N = 1624)
<i>College Enrollment (N = 2976)</i>		
No	1.346	-1.346
Yes	-1.346	1.346
<i>Disability Category (N = 3015) *</i>		
Learning Disability	-1.419	1.419
Speech Impairment	-.505	.505
Mental Retardation	1.389	-1.389
Emotional Disorder	2.632	-2.632
Hearing Impairment	-2.202	2.202
Visual Impairment	-1.046	1.046
Orthopedic Impairment	-3.535	3.535
Other Health Impairment	-1.273	1.273
Other	.887	-.887
<i>Gender (N = 3015)</i>		
Male	1.728	-1.728
Female	-1.728	1.728
<i>Household Income (N = 2945)</i>		

\$25,000 and under	.846	-.846
\$25,001 - \$50,000	.820	-.820
Over \$50,000	-1.569	1.569
<i>Race/ Ethnicity (N = 3013)</i>		
White	.514	-.514
African American	-.318	.318
Hispanic	-.946	.946
Other	1.354	-1.354
<i>Cognitive Functioning Skills</i>		
<i>(N = 3003)</i>		
High	-.168	.168
Low	.168	-.168

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\* Chi-square statistic is significant at  $p < .05$ .

Table 19

*Percent Comparison Between the Dropped Cases and the Analytic Sample for Model 5*

	Dropped Cases (N = 2567)	Analytic Sample (N = 448)	$X^2$	<i>p</i>
	%	%		
Expected	87.9	12.1		
<i>College Enrollment (N= 2976)</i>				
No	86.4	13.6	8.609	ns
Yes	90.1	9.9		
<i>Disability Category (N= 3015)</i>				
Learning Disability	87.6	12.4	17.903	ns
Speech Impairment	85.4	14.6		
Mental Retardation	84.8	15.2		
Emotional Disorder	93.9 <sup>a</sup>	6.1 <sup>a</sup>		
Hearing Impairment	84.2	15.8		
Visual Impairment	89.3	10.7		
Orthopedic Impairment	84.5	15.5		
Other Health Impairment	86.6	13.4		
Other	85.1	14.9		
<i>Gender (N= 3015)</i>				
Male	87.8	12.2	.046	ns

Female	88.1	11.9		
<i>Household Income (N= 2945)</i>				
\$25,000 and under	89.1	10.9	13.719	ns
\$25,001 - \$50,000	89.3	10.7		
Over \$50,000	84.5	15.5		
<i>Race/ Ethnicity (N= 3013)</i>				
White	85.8 <sup>a</sup>	14.2 <sup>a</sup>	27.329	ns
African American	93.7 <sup>a</sup>	6.3 <sup>a</sup>		
Hispanic	89.2	10.8		
Other	89.3	10.7		
<i>Cognitive Functioning Skills</i>				
<i>(N= 3003)</i>				
High	88.2	11.8	3.194	ns
Low	85.1	14.9		

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Note.  $p < .05$ .

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 20

*Standardized Residuals for Chi-Square Analysis Between the Dropped Cases and the Analytic Sample for Model 5*

	Dropped Cases (N = 2567)	Analytic Sample (N = 448)
<i>College Enrollment (N= 2976)</i>		
No	-1.438	1.438
Yes	1.438	-1.438
<i>Disability Category (N= 3015)</i>		
Learning Disability	-.356	.356
Speech Impairment	-.756	.756
Mental Retardation	-.910	.910
Emotional Disorder	3.590	-3.590
Hearing Impairment	-1.160	1.160
Visual Impairment	.504	-.504
Orthopedic Impairment	-.970	.970
Other Health Impairment	-.460	.460
Other	-.852	.852
<i>Gender (N= 3015)</i>		
Male	-.085	.085
Female	.085	-.085
<i>Household Income (N= 2945)</i>		

\$25,000 and under	.710	-.710
\$25,001 - \$50,000	.878	-.878
Over \$50,000	-1.312	1.312
<i>Race/ Ethnicity (N= 3013)</i>		
White	-2.323	2.323
African American	3.400	-3.400
Hispanic	.362	-.362
Other	.178	-.178
<i>Cognitive Functioning Skills</i>		
<i>(N= 3003)</i>		
High	.736	-.736
Low	-.736	.736

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Table 21

*Chi-Square Results Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 1229) and those who Have Not Enrolled (N = 1681) Based on Model 1 Variables*

	Did not enroll	Enrolled		
Expected	63.4	36.6		
	%	%	$X^2$	<i>p</i>
<i>Disability Category</i>				
Learning Disability	60.1 <sup>a</sup>	39.9 <sup>a</sup>	116.688	.000
Speech Impairment	50.4 <sup>a</sup>	49.6 <sup>a</sup>		
Mental Retardation	81.6 <sup>a</sup>	18.4 <sup>a</sup>		
Emotional Disorder	77.1 <sup>a</sup>	22.9 <sup>a</sup>		
Hearing Impairment	36.5 <sup>a</sup>	63.5 <sup>a</sup>		
Visual Impairment	29.8 <sup>a</sup>	70.2 <sup>a</sup>		
Orthopedic Impairment	50.5 <sup>a</sup>	49.5 <sup>a</sup>		
Other Health Impairment	51.5 <sup>a</sup>	48.5 <sup>a</sup>		
Other	70.5	29.5		
<i>Gender</i>				
Male	65.5	34.5	11.523	ns
Female	58.9	41.1		
<i>Household Income</i>				
\$25,000 and under	73.3 <sup>a</sup>	26.7 <sup>a</sup>	94.468	.001

\$25,001 - \$50,000	63.4	36.6		
Over \$50,000	52.9 <sup>a</sup>	47.1 <sup>a</sup>		
<i>Race/ Ethnicity</i>				
White	62.5	37.5	5.045	ns
African American	67.2	32.8		
Hispanic	63.8	36.2		
Other	58.6	41.4		
<i>Cognitive Functioning Skills</i>				
High	61.3 <sup>a</sup>	38.7 <sup>a</sup>	35.413	.003
Low	76.8 <sup>a</sup>	23.2 <sup>a</sup>		

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Note.  $p < .01$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 22

*Standardized Residuals for Chi-Square Analysis Between Youth with Disabilities who Enroll in Two- or Four-year College (N =1229) and Those Who Have Not Enrolled (N = 1681) Based on Model 1 Variables*

	Did not enroll	Enrolled
<i>Disability Category</i> *		
Learning Disability	-2.855	2.855
Speech Impairment	-2.738	2.738
Mental Retardation	6.363	-6.363
Emotional Disorder	4.372	-4.372
Hearing Impairment	-5.364	5.364
Visual Impairment	-6.533	6.533
Orthopedic Impairment	-2.517	2.517
Other Health Impairment	-2.708	2.708
Other	1.856	-1.856
<i>Gender</i>		
Male	1.341	-1.341
Female	-1.341	1.341
<i>Household Income</i> *		
\$25,000 and under	3.394	-3.394
\$25,001 - \$50,000	-.008	.008
Over \$50,000	-3.326	3.326

*Race/ Ethnicity*

White	-.527	.527
African American	.778	-.778
Hispanic	.050	-.050
Other	-.332	.332

*Cognitive Functioning Skills\**

High	-3.381	3.381
Low	3.381	-3.381

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\* Chi-square statistic is significant at  $p < .01$ .

Table 23

*Chi-Square Results Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 1124) and those who Have Not Enrolled (N = 1477) Based on Model 2*

*Variables*

	Did not			
	enroll	Enrolled		
Expected	63.7	36.3		
	%	%	X <sup>2</sup>	p
<i>Disability Category</i>				
Learning Disability	60.6 <sup>a</sup>	39.4 <sup>a</sup>	103.583	.000
Speech Impairment	52.5 <sup>a</sup>	47.5 <sup>a</sup>		
Mental Retardation	80.7 <sup>a</sup>	19.3 <sup>a</sup>		
Emotional Disorder	78.6 <sup>a</sup>	21.4 <sup>a</sup>		
Hearing Impairment	35 <sup>a</sup>	65 <sup>a</sup>		
Visual Impairment	27.2 <sup>a</sup>	72.8 <sup>a</sup>		
Orthopedic Impairment	50.8 <sup>a</sup>	49.2 <sup>a</sup>		
Other Health Impairment	51.9 <sup>a</sup>	48.1 <sup>a</sup>		
Other	69.5	30.5		
<i>Gender</i>				
Male	66.6	33.4	19.363	ns
Female	57.7	42.3		
<i>Household Income</i>				
\$25,000 and under	72.4 <sup>a</sup>	27.6 <sup>a</sup>	70.307	.006

\$25,001 - \$50,000	66.1	33.9		
Over \$50,000	54.2 <sup>a</sup>	45.8 <sup>a</sup>		
<i>Race/ Ethnicity</i>				
White	64.3	35.7	4.391	ns
African American	64.3	35.7		
Hispanic	62.5	37.5		
Other	53.2	46.8		
<i>Cognitive Functioning Skills</i>				
High	61.3 <sup>a</sup>	38.7 <sup>a</sup>	38.081	.003
Low	78 <sup>a</sup>	22 <sup>a</sup>		
<i>Parental Education</i>				
No high school degree	77.1 <sup>a</sup>	22.9 <sup>a</sup>	221.192	.000
High school graduate or GED	73.9 <sup>a</sup>	26.1 <sup>a</sup>		
Some postsecondary education, no degree	51.5 <sup>a</sup>	48.5 <sup>a</sup>		
College degree or more	42.9 <sup>a</sup>	57.1 <sup>a</sup>		
<i>Parental Expectations</i>				
Will not graduate from 2 or 4 year college	69.3 <sup>a</sup>	30.7 <sup>a</sup>	104.699	.000
Will graduate from 2 or 4 year college	47 <sup>a</sup>	53 <sup>a</sup>		

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Note.  $p < .007$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 24

*Standardized Residuals for Chi-Square Analysis Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 1124) and Those Who Have Not Enrolled (N = 1477) Based on Model 2 Variables*

	Did not enroll	Enrolled
<i>Disability Category</i> *		
Learning Disability	-2.534	2.534
Speech Impairment	-2.342	2.342
Mental Retardation	5.103	-5.103
Emotional Disorder	4.332	-4.332
Hearing Impairment	-5.767	5.767
Visual Impairment	-7.463	7.463
Orthopedic Impairment	-2.447	2.447
Other Health Impairment	-2.488	2.488
Other	1.435	-1.435
<i>Gender</i>		
Male	1.760	-1.760
Female	-1.760	1.760
<i>Household Income</i> *		
\$25,000 and under	2.502	-2.502
\$25,001 - \$50,000	.655	-.655
Over \$50,000	-3.074	3.074

*Race/ Ethnicity*

White	.288	-.288
African American	.099	-.099
Hispanic	-.151	.151
Other	-.733	.733

*Cognitive Functioning Skills\**

High	-3.458	3.458
Low	3.458	-3.458

*Parental Education\**

No high school degree	2.643	-2.643
High school graduate or GED	3.669	-3.669
Some postsecondary education, no degree	-2.502	2.502
College degree or more	-4.116	4.116

*Parental Expectations\**

Will not graduate from 2 or 4 year college	4.201	-4.201
Will graduate from 2 or 4 year college	-4.201	4.201

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\* Chi-square statistic is significant at  $p < .007$ .

Table 25

*Chi-Square Results Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 1102) and those who Have Not Enrolled (N = 1396) Based on Model 3 Variables*

	Did not enroll	Enrolled		
Expected	63.4	36.6		
	%	%	$X^2$	<i>p</i>
<i>Disability Category</i>				
Learning Disability	60.5 <sup>a</sup>	39.5 <sup>a</sup>	96.169	.000
Speech Impairment	52 <sup>a</sup>	48 <sup>a</sup>		
Mental Retardation	80.5 <sup>a</sup>	19.5 <sup>a</sup>		
Emotional Disorder	77.5 <sup>a</sup>	22.5 <sup>a</sup>		
Hearing Impairment	34.8 <sup>a</sup>	65.2 <sup>a</sup>		
Visual Impairment	26.3 <sup>a</sup>	73.7 <sup>a</sup>		
Orthopedic Impairment	50.1 <sup>a</sup>	49.9 <sup>a</sup>		
Other Health Impairment	52.2 <sup>a</sup>	47.8 <sup>a</sup>		
Other	69.1	30.9		
<i>Gender</i>				
Male	66.5	33.5	21.766	ns
Female	56.9	43.1		

*Household Income*

\$25,000 and under	73.4 <sup>a</sup>	26.6 <sup>a</sup>	83.933	.004
\$25,001 - \$50,000	65.2	34.8		
Over \$50,000	52.9 <sup>a</sup>	47.1 <sup>a</sup>		

*Race/ Ethnicity*

White	64.2	35.8	4.523	ns
African American	63.7	36.3		
Hispanic	61.6	38.4		
Other	53.2	46.8		

*Cognitive Functioning Skills*

High	61 <sup>a</sup>	39 <sup>a</sup>	37.669	.003
Low	77.7 <sup>a</sup>	22.3 <sup>a</sup>		

*Parental Education*

No high school degree	76.8 <sup>a</sup>	23.2 <sup>a</sup>	235.872	.000
High school graduate or GED	74.8 <sup>a</sup>	25.2 <sup>a</sup>		
Some postsecondary education, no degree	50 <sup>a</sup>	50 <sup>a</sup>		
College degree or more	42.1 <sup>a</sup>	57.9 <sup>a</sup>		

*Parental Expectations*

Will not graduate from 2 or 4 year college	69.3 <sup>a</sup>	30.7 <sup>a</sup>	114.213	.000
Will graduate from 2 or 4 year college	45.3 <sup>a</sup>	54.7 <sup>a</sup>		

*Participation in Extra Curricular*

*Activities*

Did not participate	80 <sup>a</sup>	20 <sup>a</sup>	232.227	.000
Participated	50.4 <sup>a</sup>	49.6 <sup>a</sup>		

*Financial Management/*

*Responsibility*

Did not have	81.8 <sup>a</sup>	18.2 <sup>a</sup>	61.262	ns
Had	60.3 <sup>a</sup>	39.7 <sup>a</sup>		

*Grades & Performance*

Mostly A's/ Excellent	36.7 <sup>a</sup>	63.3 <sup>a</sup>	253.996	.000
A's & B's/ Mostly B's/ Above average	46.4 <sup>a</sup>	53.6 <sup>a</sup>		
B's & C's/ Mostly C's/ Average	64.6	35.4		
C's & D's/ Mostly D's/ Below average	75.2 <sup>a</sup>	24.8 <sup>a</sup>		
D's & F's/ Mostly F's/ Failing	92.3 <sup>a</sup>	7.7 <sup>a</sup>		
Other/ wide range of grades	70.9	29.1		

*High School Completion Status*

Graduated	55.2 <sup>a</sup>	44.8 <sup>a</sup>	212.350	.000
Tested out/ Received a certificate	70.2	29.8		
Dropped out	89.1 <sup>a</sup>	10.9 <sup>a</sup>		

Aged out or Other

91.4<sup>a</sup>

8.6<sup>a</sup>

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Note.  $p < .005$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 26

*Standardized Residuals for Chi-Square Analysis Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 1102) and Those Who Have Not Enrolled (N = 1396) Based on Model 3 Variables*

	Did not enroll	Enrolled
<i>Disability Category*</i>		
Learning Disability	-2.346	2.346
Speech Impairment	-2.378	2.378
Mental Retardation	5.009	-5.009
Emotional Disorder	3.898	-3.898
Hearing Impairment	-5.856	5.856
Visual Impairment	-7.557	7.557
Orthopedic Impairment	-2.476	2.476
Other Health Impairment	-2.364	2.364
Other	1.422	-1.422
<i>Gender</i>		
Male	1.817	-1.817
Female	-1.817	1.817
<i>Household Income*</i>		
\$25,000 and under	2.783	-2.783
\$25,001 - \$50,000	.455	-.455
Over \$50,000	-3.114	3.114

*Race/ Ethnicity*

White	.378	-.378
African American	.050	-.050
Hispanic	-.213	.213
Other	-.716	.716

*Cognitive Functioning Skills\**

High	-3.417	3.417
Low	3.417	-3.417

*Parental Education\**

No high school degree	2.634	-2.634
High school graduate or GED	3.986	-3.986
Some postsecondary education, no degree	-2.624	2.624
College degree or more	-4.206	4.206

*Parental Expectations\**

Will not graduate from 2 or 4 year college	4.485	-4.485
Will graduate from 2 or 4 year college	-4.485	4.485

*Participation in Extra Curricular*

*Activities\**

Did not participate	7.287	-7.287
Participated	-7.287	7.287

*Financial Management/*

*Responsibility*

Did not have	3.275	-3.275
Had	-3.275	3.275

*Grades & Performance\**

Mostly A's/ Excellent	-3.021	3.021
A's & B's/ Mostly B's/ Above average	-3.881	3.881
B's & C's/ Mostly C's/ Average	.378	-.378
C's & D's/ Mostly D's/ Below average	2.116	-2.116
D's & F's/ Mostly F's/ Failing	13.594	-13.594
Other/ wide range of grades	.818	.818

*High School Completion Status\**

Graduated	-7.560	7.560
Tested out/ Received a certificate	.689	.689
Dropped out	7.708	-7.708
Aged out or Other	5.046	-5.046

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\* Chi-square statistic is significant at  $p < .005$ .

Table 27

*T-Test Results Between the Mean Self-Determination Scores for Youth with Disabilities who Enrolled and those who Have Not Enrolled in Two- or Four-year College for Model 4*

	Did not enroll (N = 833)		Enrolled (N = 791)		
	Mean	SD	Mean	SD	t
Standardized Self- Determination Score Sum	.0013210	.84957936	.2801576	.84188908	-6.571*

Note. Equal variances assumed.

Analyses conducted in SPSS 16.0 Base version.

\*  $p < .05$

Table 28

*Chi-Square Results Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 791) and those who Have Not Enrolled (N = 833) Based on Model 4*

*Variables*

	Did not enroll	Enrolled		
Expected	57.1	42.9		
	%	%	$X^2$	<i>p</i>
<i>Disability Category</i>				
Learning Disability	53.4 <sup>a</sup>	46.6 <sup>a</sup>	70.082	.000
Speech Impairment	51.6	48.4		
Mental Retardation	79.7 <sup>a</sup>	20.3 <sup>a</sup>		
Emotional Disorder	73.8 <sup>a</sup>	26.2 <sup>a</sup>		
Hearing Impairment	30.6 <sup>a</sup>	69.4 <sup>a</sup>		
Visual Impairment	27.3 <sup>a</sup>	72.7 <sup>a</sup>		
Orthopedic Impairment	43.7 <sup>a</sup>	56.3 <sup>a</sup>		
Other Health Impairment	48.1 <sup>a</sup>	51.9 <sup>a</sup>		
Other	62.1	37.9		
<i>Gender</i>				
Male	57.9	42.1	.725	ns
Female	55.7	44.3		
<i>Household Income</i>				
\$25,000 and under	69 <sup>a</sup>	31 <sup>a</sup>	51.964	ns
\$25,001 - \$50,000	59	41		

Over \$50,000	48 <sup>a</sup>	52 <sup>a</sup>		
<i>Race/ Ethnicity</i>				
White	58	42	1.611	ns
African American	54	46		
Hispanic	57.6	42.4		
Other	53.9	46.1		
<i>Cognitive Functioning Skills</i>				
High	55.1 <sup>a</sup>	44.9 <sup>a</sup>	21.148	ns
Low	72.7 <sup>a</sup>	27.3 <sup>a</sup>		
<i>Parental Education</i>				
No high school degree	72.9 <sup>a</sup>	27.1 <sup>a</sup>	161.781	.000
High school graduate or GED	69.9 <sup>a</sup>	30.1 <sup>a</sup>		
Some postsecondary education, no degree	47.7	52.3		
College degree or more	35.5 <sup>a</sup>	64.5 <sup>a</sup>		
<i>Parental Expectations</i>				
Will not graduate from 2 or 4 year college	61.1 <sup>a</sup>	38.9 <sup>a</sup>	29.678	ns
Will graduate from 2 or 4 year college	45.8 <sup>a</sup>	54.2 <sup>a</sup>		
<i>Participation in Extra Curricular Activities</i>				
Did not participate	80.7 <sup>a</sup>	19.3 <sup>a</sup>	228.998	.000

Participated	42.5 <sup>a</sup>	57.5 <sup>a</sup>		
<i>Financial Management/</i>				
<i>Responsibility</i>				
Did not have	78 <sup>a</sup>	22 <sup>a</sup>	45.414	ns
Had	53.9 <sup>a</sup>	46.1 <sup>a</sup>		
<i>Grades &amp; Performance</i>				
Mostly A's/ Excellent	29.6 <sup>a</sup>	70.4 <sup>a</sup>	168.672	.000
A's & B's/ Mostly B's/ Above average	44.1 <sup>a</sup>	55.9 <sup>a</sup>		
B's & C's/ Mostly C's/ Average	55.7	44.3		
C's & D's/ Mostly D's/ Below average	73.9 <sup>a</sup>	26.1 <sup>a</sup>		
D's & F's/ Mostly F's/ Failing	92.9 <sup>a</sup>	7.1 <sup>a</sup>		
Other/ wide range of grades	52.8	47.2		
<i>High School Completion Status</i>				
Graduated	50.4 <sup>a</sup>	49.6 <sup>a</sup>	146.401	.000
Tested out/ Received a certificate	65.2	34.8		
Dropped out	93.1 <sup>a</sup>	6.9 <sup>a</sup>		
Aged out or Other	88.2 <sup>a</sup>	11.6 <sup>a</sup>		

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Note.  $p < .005$

<sup>a</sup> Standardized residuals are less than -2 or greater than 2.

Table 29

*Standardized Residuals for Chi-Square Analysis Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 791) and Those Who Have Not Enrolled (N = 833) Based on Model 4 Variables*

	Did not enroll	Enrolled
<i>Disability Category *</i>		
Learning Disability	-2.713	2.713
Speech Impairment	-1.113	1.113
Mental Retardation	5.380	-5.380
Emotional Disorder	3.927	-3.927
Hearing Impairment	-5.620	5.620
Visual Impairment	-5.011	5.011
Orthopedic Impairment	-2.534	2.534
Other Health Impairment	-2.054	2.054
Other	.915	-.915
<i>Gender</i>		
Male	.384	-.384
Female	-.384	.384
<i>Household Income</i>		
\$25,000 and under	2.542	-2.542
\$25,001 - \$50,000	.422	-.422
Over \$50,000	-2.777	2.777

<i>Race/ Ethnicity</i>		
White	.379	-.379
African American	-.420	.420
Hispanic	.053	-.053
Other	-.250	.250
<i>Cognitive Functioning Skills</i>		
High	-2.905	2.905
Low	2.905	-2.905
<i>Parental Education*</i>		
No high school degree	2.786	-2.786
High school graduate or GED	3.583	-3.583
Some postsecondary education, no degree	-1.734	1.734
College degree or more	-4.573	4.573
<i>Parental Expectations</i>		
Will not graduate from 2 or 4 year college	2.464	-2.464
Will graduate from 2 or 4 year college	-2.464	2.464
<i>Participation in Extra Curricular Activities*</i>		
Did not participate	8.501	-8.501
Participated	-8.501	8.501

*Financial Management/*

*Responsibility*

Did not have	2.609	-2.609
Had	-2.609	2.609

*Grades & Performance*\*

Mostly A's/ Excellent	-2.716	2.716
A's & B's/ Mostly B's/ Above average	-2.826	2.826
B's & C's/ Mostly C's/ Average	-.375	.375
C's & D's/ Mostly D's/ Below average	2.439	-2.439
D's & F's/ Mostly F's/ Failing	13.372	-13.372
Other/ wide range of grades	-.315	.315

*High School Completion Status*\*

Graduated	-8.698	8.698
Tested out/ Received a certificate	.714	-.714
Dropped out	15.890	-15.890
Aged out or Other	4.446	-4.446

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\* Chi-square statistic is significant at  $p < .005$ .

Table 30

*T-Test Results Between the Mean Self-Determination Scores for Youth with Disabilities who Enroll and those who Have Not Enrolled in Two- or Four-year College for Model 5*

	Did not enroll (N = 269)		Enrolled (N = 179)		
	Mean	SD	Mean	SD	t
Standardized	.1575398	.80419209	.2664729	.75648041	-1.396
Self- Determination Score Sum					

Note. Equal variances assumed.

Analyses conducted in SPSS 16.0 Base version.

Table 31

*Chi-Square Results Between Youth with Disabilities who Enroll in Two- or Four-year College (N = 179) and those who Have Not Enrolled (N = 269) Based on Model 5 Variables*

	Did not		$X^2$	<i>p</i>
	enroll	Enrolled		
Expected	65	35		
	%	%		
<i>Disability Category</i>				
Learning Disability	59.6 <sup>b</sup>	40.4 <sup>b</sup>	22.758	ns
Speech Impairment	87.2 <sup>b</sup>	12.8 <sup>b</sup>		
Mental Retardation	79.9 <sup>b</sup>	20.1 <sup>b</sup>		
Emotional Disorder	84.3 <sup>b</sup>	15.7 <sup>b</sup>		
Hearing Impairment	46.7	53.3		
Visual Impairment	48.1	51.9		
Orthopedic Impairment	44.6 <sup>b</sup>	55.4 <sup>b</sup>		
Other Health Impairment	59	41		
Other	69.3	30.7		
<i>Gender</i>				
Male	67.9	32.1	3.038	ns
Female	59.6	40.4		
<i>Household Income</i>				

\$25,000 and under	69.7	30.3	1.927	ns
\$25,001 - \$50,000	64.9	35.1		
Over \$50,000	62.2	37.8		
<i>Race/ Ethnicity</i>				
White	69.2	30.8	20.077	ns
African American	50.1	49.9		
Hispanic	63.7	36.3		
Other	11.6 <sup>b</sup>	88.4 <sup>b</sup>		
<i>Cognitive Functioning Skills</i>				
High	64.3	35.7	.425	ns
Low	68.2	31.8		
<i>Parental Education</i>				
No high school degree	54.6	45.4	25.472	ns
High school graduate or GED	78.3 <sup>b</sup>	21.7 <sup>b</sup>		
Some postsecondary education, no degree	60.7	39.3		
College degree or more	50.7	49.3		
<i>Parental Expectations</i>				
Will not graduate from 2 or 4 year college	64.8	35.2	.024	ns
Will graduate from 2 or 4 year college	65.6	34.4		
<i>Participation in Extra Curricular</i>				

*Activities*

Did not participate	88.7 <sup>b</sup>	11.3 <sup>b</sup>	66.271	.000
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Participated	50.8 <sup>b</sup>	49.2 <sup>b</sup>		
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*Financial Management/ Responsibility*

Did not have	94 <sup>b</sup>	6 <sup>b</sup>	34.147	ns
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Had	59 <sup>b</sup>	41 <sup>b</sup>		
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*Grades & Performance*

Mostly A's/ Excellent	31.4	68.6	45.634	ns
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A's & B's/ Mostly B's/ Above average	72.3	27.7		
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B's & C's/ Mostly C's/ Average	57.2	42.8		
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C's & D's/ Mostly D's/ Below average	77.7	22.3		
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D's & F's/ Mostly F's/ Failing	97.1 <sup>b</sup>	2.9 <sup>a,b</sup>		
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Other/ wide range of grades	94.9 <sup>b</sup>	5.1 <sup>b</sup>		
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*High School Completion Status*

Graduated	59.2 <sup>b</sup>	40.8 <sup>b</sup>	35.979	.000
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Tested out/ Received a certificate	95.8 <sup>b</sup>	4.2 <sup>a,b</sup>		
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Dropped out	97.6 <sup>b</sup>	2.4 <sup>a,b</sup>		
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Aged out or Other	84	16 <sup>a</sup>		
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*Work Experience*

Did not participate	68	32	2.851	ns
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Participated	60.1	39.9		
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*Vocational Education Classes*

Did not participate 82.6<sup>b</sup> 17.4<sup>b</sup> 14.295 ns

Participated 60.9<sup>b</sup> 39.1<sup>b</sup>

*Transition Plan<sup>c</sup>*

Did not have a transition plan 100 0<sup>a</sup> 3.561 ns

Had a transition plan 64.5 35.5

*Instruction Focused on Transition Plan*

Did not have a transition plan or did not receive instruction on transition plan 64.1 35.9 .080 ns

Received instruction based on it 65.5 34.5

*Had a Goal to Attend a two- or four-year college*

Did not have a transition plan or did not have college enrollment goal 81.2<sup>b</sup> 18.8<sup>b</sup> 28.288 ns

Had college enrollment goal 56.2<sup>b</sup> 43.8<sup>b</sup>

*Course of Study in Transition Plan*

Did not have a transition plan or did not have a course of study in transition plan 68 32 .352 ns

Had a course of study in transition plan 64.4 35.6

*Role Youth Played the Transition*

*Planning Process*

Youth did not have a transition plan or did not participate or participated very little in the transition planning process	91.1 <sup>b</sup>	8.9 <sup>b</sup>	51.548	.002
Youth provided some input during the transition planning process (moderately active participant)	68	32		
Youth took a leadership role in the transition planning process, helping set direction of the discussion, goals, etc.	39.1 <sup>b</sup>	60.9 <sup>b</sup>		

*Assessment Participation*

No such testing at this grade level/ youth does not take such tests	68.2	31.8	6.374	ns
Student participates in an alternative assessment in place of standardized tests	45.5	54.5		
Student participates in the testing program without accommodations or modifications	65.5	34.5		
Student participates in the testing program with accommodations and	69	31		

modifications

*Met with Teacher to Discuss*

*Postsecondary Goals*

Did not meet with teacher	67.8	32.2	.117	ns
Met with teacher	64.8	35.2		

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Note.  $p < .003$

<sup>a</sup> Cell has a frequency of less than 5.

<sup>b</sup> Standardized residuals are less than -2 or greater than 2.

<sup>c</sup> No standardized residuals could be obtained due to zero cell.

Table 32

*Standardized Residuals for Chi-Square Analysis Between Youth with Disabilities who Enroll in Two- or Four-year College(N = 179) and Those Who Have Not Enrolled (N = 269) Based on Model 5 Variables*

	Did not enroll	Enrolled
<i>Disability Category</i>		
Learning Disability	-2.302	2.302
Speech Impairment	3.399	-3.399
Mental Retardation	2.363	-2.363
Emotional Disorder	2.496	-2.496
Hearing Impairment	-1.692	1.692
Visual Impairment	-1.374	1.374
Orthopedic Impairment	-2.306	2.306
Other Health Impairment	-.734	.734
Other	.614	-.614
<i>Gender</i>		
Male	.811	-.811
Female	-.811	.811
<i>Household Income</i>		
\$25,000 and under	.689	-.689
\$25,001 - \$50,000	-.013	.013
Over \$50,000	-.527	.527

<i>Race/ Ethnicity</i>		
White	1.912	-1.912
African American	-1.457	1.457
Hispanic	-.152	.152
Other	-4.912	4.912
<i>Cognitive Functioning Skills</i>		
High	-.276	.276
Low	.276	-.276
<i>Parental Education</i>		
No high school degree	-1.089	1.089
High school graduate or GED	2.586	-2.586
Some postsecondary education, no degree	-.627	.627
College degree or more	-1.4	1.4
<i>Parental Expectations</i>		
Will not graduate from 2 or 4 year college	-.076	.076
Will graduate from 2 or 4 year college	.076	-.076
<i>Participation in Extra Curricular Activities*</i>		
Did not participate	5.954	-5.954
Participated	-5.954	5.954

*Financial Management/*

*Responsibility*

Did not have	5.699	-5.699
Had	-5.699	5.699

*Grades & Performance*

Mostly A's/ Excellent	-1.825	1.825
A's & B's/ Mostly B's/ Above average	1.059	-1.059
B's & C's/ Mostly C's/ Average	-1.670	1.670
C's & D's/ Mostly D's/ Below average	.922	-.922
D's & F's/ Mostly F's/ Failing	12.581	-12.581
Other/ wide range of grades	5.839	-5.839

*High School Completion Status\**

Graduated	-16.164	16.164
Tested out/ Received a certificate	10.258	-10.258
Dropped out	17.745	-17.745
Aged out or Other	1.295	1.295

*Work Experience*

Did not participate	.797	-.797
Participated	-.797	.797

*Vocational Education Classes*

Did not participate	2.387	-2.387
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Participated	-2.387	2.387
<i>Transition Plan</i>		
Did not have a transition plan	--	--
Had a transition plan	--	--
<i>Instruction Focused on Transition Plan</i>		
Did not have a transition plan or did not receive instruction on transition plan	-.153	.153
Received instruction based on it	.153	-.153
<i>Had a Goal to Attend a two- or four-year college</i>		
Did not have a transition plan or did not have college enrollment goal	2.493	-2.493
Had college enrollment goal	-2.493	2.493
<i>Course of Study in Transition Plan</i>		
Did not have a transition plan or did not have a course of study in transition plan	.291	-.291
Had a course of study in transition plan	-.291	.291
<i>Role Youth Played the Transition</i>		

*Planning Process\**

Youth did not have a transition plan or did not participate or participated very little in the transition planning process	5.893	-5.893
Youth provided some input during the transition planning process (moderately active participant)	.877	-.877
Youth took a leadership role in the transition planning process, helping set direction of the discussion, goals, etc.	-2.690	2.690

*Assessment Participation*

No such testing at this grade level/ youth does not take such tests	.322	-.322
Student participates in an alternative assessment in place of standardized tests	-1.188	1.188
Student participates in the testing program without accommodations or modifications	.132	-.132

Student participates in the testing program with accommodations and modifications	.537	-.537
<i>Met with Teacher to Discuss</i>		
<i>Postsecondary Goals</i>		
Did not meet with teacher	.192	-.192
Met with teacher	-.192	.192

---

Note. SPSS could not calculate standardized residuals for the Transition Plan variable because of a zero cell.

\* Chi-square statistic is significant at  $p < .003$ .

Table 33

*Inter-Correlations of Individual and Household Characteristics in Model 1 (N=2910)*

Measure	1	2
1. Gender	--	
2. Cognitive Functioning Skills	.084*	--

Note. The inter-correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPS 16.0 Base version)

Table 34

*Tolerance Statistics for Individual and Household Characteristics in Model 1 (N = 2910)*

Measure	Statistic
1. Gender	.991
2. Cognitive Functioning Skills	.976

Note. A tolerance statistic of less than .20 may indicate a problem with collinearity (Menard, 2002). The tolerance statistics are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

Table 35

*Summary of Logistic Regression Analysis Predicting College Enrollment with Model**1 (N = 2910)*

Variable	B	SE	Odds Ratio	Wald $X^2$ Statistic
Constant	-.624	1.425	.538	.140
<i>Disability Category<sup>a</sup></i>				
Speech Impairment	.315	.213	1.370	2.187
Mental Retardation	-.814	.254	.443	10.287*
Emotional Disorder	-.740	.221	.477	11.223*
Hearing Impairment	.867	.253	2.379	11.754*
Visual Impairment	1.413	.297	4.106	22.683*
Orthopedic Impairment	.381	.239	1.463	2.534
Other Health Impairment	.340	.213	1.405	2.540
Other	-.331	.228	.718	2.101
<i>Gender<sup>b</sup></i>				
Female	.345	.223	1.412	2.400
<i>Household Income<sup>c</sup></i>				
\$25,000 or under	-.882	.268	.414	10.855*
\$25,001 vs. \$50,000	-.394	.267	.674	2.173
<i>Race/ Ethnicity<sup>d</sup></i>				
African American	.260	.288	1.296	.814
Hispanic	.179	.388	1.196	.213

Other	.462	.611	1.587	.571
<i>Cognitive Functioning Skills<sup>e</sup></i>				
Low	-.634	.270	.530	5.510*

---

<sup>a</sup> Comparison group = Learning Disabilities

<sup>b</sup> Comparison group = Male

<sup>c</sup> Comparison group = Over \$50,000

<sup>d</sup> Comparison group= White

<sup>e</sup> Comparison group = High

\*  $p < .05$

Table 36

*Inter-Correlations of Individual, Household, and Parental Characteristics in Model 2*

(*N*=2601)

Measure	1	2	3
1. Gender	--		
2. Cognitive Functioning Skills	.069*	--	
3. Parental Expectations	.066*	.065*	--

Note. The inter-correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 37

*Tolerance Statistics for Individual, Household, and Parental Characteristics in*

*Model 2 (N = 2601)*

Measure	Statistic
1. Gender	.985
2. Cognitive Functioning Skills	.973
3. Parental Expectations	.951

Note. A tolerance statistic of less than .20 may indicate a problem with collinearity (Menard, 2002). The tolerance statistics are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

Table 38

*Summary of Logistic Regression Analysis Predicting College Enrollment with**Model 2 (N = 2601)*

Variable	B	SE	Odds Ratio	Wald $X^2$ Statistic
Constant	-4.038	1.632	.018	4.047*
<i>Disability Category<sup>a</sup></i>				
Speech Impairment	.157	.226	1.169	.478
Mental Retardation	-.520	.284	.594	3.349
Emotional Disorder	-.941	.263	.390	12.823*
Hearing Impairment	.815	.280	2.259	8.499*
Visual Impairment	1.529	.315	4.613	23.545*
Orthopedic Impairment	.180	.242	1.198	.558
Other Health Impairment	.266	.230	1.305	1.344
Other	-.385	.279	.680	1.907
<i>Gender<sup>b</sup></i>				
Female	.352	.228	1.421	2.377
<i>Household Income<sup>c</sup></i>				
\$25,000 or under	-.337	.290	.714	1.352
\$25,001 vs. \$50,000	-.336	.250	.715	1.801
<i>Race/Ethnicity<sup>d</sup></i>				
African American	.405	.324	1.499	1.559
Hispanic	.618	.458	1.856	1.824

Other	.893	.473	2.442	3.562
<i>Cognitive Functioning Skills<sup>e</sup></i>				
Low	-.729	.258	.482	7.966*
<i>Parental Education<sup>f</sup></i>				
High School Graduate or GED	.130	.374	1.139	.121
Some postsecondary education	1.137	.387	3.118	8.619*
College degree	1.271	.388	3.564	10.714*
<i>Parental Expectations<sup>g</sup></i>				
Will graduate from college	.772	.238	2.163	10.487*

---

<sup>a</sup> Comparison group = Learning Disabilities

<sup>b</sup> Comparison group = Male

<sup>c</sup> Comparison group = Over \$50,000

<sup>d</sup> Comparison group = White

<sup>e</sup> Comparison group = High

<sup>f</sup> Comparison group = No high school degree

<sup>g</sup> Comparison group = Will not graduate from college

\*  $p < .05$

Table 39

*Inter-Correlations of Individual, Household, Parental, and High School Achievement Characteristics in Model 3 (N = 2498)*

Measure	1	2	3	4	5
1. Gender	--				
2. Cognitive Functioning Skills	.074**	--			
3. Parental Expectations	.065**	.061**	--		
4. Participation in Extra Curricular Activities	.028	.104**	.160**	--	
5. Financial Management/ Responsibility	.030	.113**	.196**	.113**	--

Note. The inter-correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .05$  (in SPSS 16.0 Base version)

\*\*  $p < .01$  (in SPSS 16.0 Base version)

Table 40

*Tolerance Statistics for Individual, Household, Parental, and High School*

*Achievement Characteristics in Model 3 (N = 2498)*

Measure	Statistic
1. Gender	.976
2. Cognitive Functioning Skills	.950
3. Parental Expectations	.924
4. Participation in Extra Curricular Activities	.911
5. Financial Management/ Responsibility	.900

Note. A tolerance statistic of less than .20 may indicate a problem with collinearity (Menard, 2002). The tolerance statistics are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

Table 41

*Summary of Logistic Regression Analysis Predicting College Enrollment with Model 3**(N = 2498)*

Variable	B	SE	Odds Ratio	Wald $X^2$ Statistic
Constant	-8.052	2.845	.0003	12.295*
<i>Disability Category<sup>a</sup></i>				
Speech Impairment	-.036	.259	.965	.019
Mental Retardation	-2.107	.536	.122	12.168*
Emotional Disorder	-.632	.279	.532	5.112*
Hearing Impairment	.496	.303	1.643	2.682
Visual Impairment	.784	.303	2.190	6.701*
Orthopedic Impairment	.037	.299	.963	.015
Other Health Impairment	.229	.258	1.257	.787
Other	-.803	.323	.448	6.185*
<i>Gender<sup>b</sup></i>				
Female	.514	.232	1.671	4.898*
<i>Household Income<sup>c</sup></i>				
\$25,000 or under	-.664	.306	.515	4.708*
\$25,001 vs. \$50,000	-.332	.283	.717	1.376
<i>Race/ Ethnicity<sup>d</sup></i>				
African American	.650	.320	1.916	4.130*

Hispanic	.705	.368	2.025	3.670
Other	1.070	.435	2.914	6.039*
<hr/> <i>Cognitive Functioning Skills<sup>e</sup></i>				
Low	-1.907	.558	.149	7.840*
<hr/> <i>Parental Education<sup>f</sup></i>				
High School Graduate or GED	-.284	.350	.753	.658
Some postsecondary education	.784	.379	2.191	4.274*
College degree	.975	.386	2.650	6.377*
<hr/> <i>Parental Expectations<sup>g</sup></i>				
Will graduate from college	.582	.239	1.790	5.917*
<hr/> <i>Participation in Extra Curricular Activities<sup>h</sup></i>				
Yes	1.079	.209	2.941	26.625*
<hr/> <i>Financial Management/ Responsibility<sup>i</sup></i>				
Yes	1.147	.432	3.149	7.040*
<hr/> <i>Grades &amp; Performance<sup>j</sup></i>				
A's & B's	-.618	.502	.539	1.515
B's & C's	-1.347	.465	.260	8.396*
C's & D's	-1.372	.531	.254	6.691*
D's & F's	-2.700	.617	.067	19.182*

Wide range	-1.698	.684	.183	6.160*
<hr/> <i>High School Completion Status</i> <sup>k</sup>				
Tested out/ Received a certificate	-.662	.542	.516	1.491
Dropped Out	-.982	.327	.375	9.008*
Aged Out or Other	-1.476	.722	.229	4.176*
<hr/> <i>Interaction: Disability by Cognitive Functioning Skills</i>				
Mental Retardation by Low Cognitive Functioning Skills	-1.849	.611	.157	9.155*

<sup>a</sup> Comparison group = Learning Disabilities

<sup>b</sup> Comparison group = Male

<sup>c</sup> Comparison group = Over \$50,000

<sup>d</sup> Comparison group = White

<sup>e</sup> Comparison group = High

<sup>f</sup> Comparison group = No high school degree

<sup>g</sup> Comparison group = Will not graduate from college

<sup>h</sup> Comparison group = No

<sup>i</sup> Comparison group = No

<sup>j</sup> Comparison group = Mostly A's/ Excellent

<sup>k</sup> Comparison group = Graduated

\*  $p < .05$

Table 42

*Inter-Correlations of Individual, Household, Parental, High School Achievement, and Self-Determination Characteristics in Model 4 (N = 1624)*

Measure	1	2	3	4	5	6
1. Gender	--					
2. Cognitive Functioning Skills	.078*	--				
3. Parental Expectations	.011	.030	--			
4. Extra Curricular Participation	.018	.073*	.108*	--		
5. Financial Management/ Responsibility	.036	.148*	.025*	.083*	--	
6. Self-Determination Skills	.000	-.035	-.007	.156*	.007	--

Note. The inter-correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .01$  (in SPSS 16.0 Base version)

Table 43

*Tolerance Statistics for Individual, Household, Parental, High School Achievement, and Self-Determination Characteristics in Model 4(N = 1624)*

Measure	Statistic
1. Gender	.979
2. Cognitive Functioning Skills	.935
3. Parental Expectations	.919
4. Participation in Extra Curricular Activities	.856
5. Financial Management/ Responsibility	.890
6. Self-Determination Skills	.900

Note. A tolerance statistic of less than .20 may indicate a problem with collinearity (Menard, 2002). The tolerance statistics are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

Table 44

*Summary of Logistic Regression Analysis Predicting College Enrollment with Model 4**(N = 1624)*

Variable	B	SE	Odds Ratio	Wald $X^2$ Statistic
Constant	-6.973	3.664	.0009	7.538*
<i>Disability Category<sup>a</sup></i>				
Speech Impairment	-.079	.277	.924	.081
Mental Retardation	-1.058	.390	.347	7.357*
Emotional Disorder	-.522	.307	.593	2.898
Hearing Impairment	.610	.301	1.840	4.105*
Visual Impairment	.719	.401	2.051	3.214
Orthopedic Impairment	.207	.345	1.280	.511
Other Health Impairment	.283	.284	1.327	.927
Other	-.537	.367	.585	2.137
<i>Gender<sup>b</sup></i>				
Female	.222	.288	1.249	.598
<i>Household Income<sup>c</sup></i>				
\$25,000 or under	-.082	.417	.921	.039
\$25,001 vs. \$50,000	-.046	.308	.955	.023
<i>Race/ Ethnicity<sup>d</sup></i>				
African American	.654	.354	1.923	3.418
Hispanic	.290	.448	1.336	.419

Other	.694	.602	2.002	1.332
<hr/> <i>Cognitive Functioning Skills<sup>e</sup></i>				
Low	-.474	.386	.623	1.504
<hr/> <i>Parental Education<sup>f</sup></i>				
High School Graduate or GED	-.088	.425	.916	.043
Some postsecondary education	.924	.50	2.520	3.36
College degree	1.209	.452	3.349	7.144*
<hr/> <i>Parental Expectations<sup>g</sup></i>				
Will graduate from college	.138	.288	1.149	.231
<hr/> <i>Participation in Extra Curricular Activities<sup>h</sup></i>				
Yes	1.319	.251	3.740	27.525*
<hr/> <i>Financial Management/ Responsibility<sup>i</sup></i>				
Yes	1.448	.550	4.254	6.918*
<hr/> <i>Grades &amp; Performance<sup>j</sup></i>				
A's & B's	-.787	.611	.455	1.661
B's & C's	-1.213	.584	.297	4.312*
C's & D's	-1.758	.675	.172	6.784*
D's & F's	-2.837	.772	.059	13.495*
Wide range	-1.155	.91	.315	1.595
<hr/> <i>High School Completion Status<sup>k</sup></i>				
Tested out/ Received a certificate	-.416	.675	.659	.381
Dropped Out	-1.509	.382	.221	15.619*

Aged Out or Other	-1.461	.812	.232	3.240
<i>Self-Determination Skills</i> <sup>l</sup>	.266	.178	1.305	2.233

<sup>a</sup> Comparison group = Learning Disabilities

<sup>b</sup> Comparison group = Male

<sup>c</sup> Comparison group = Over \$50,000

<sup>d</sup> Comparison group = White

<sup>e</sup> Comparison group = High

<sup>f</sup> Comparison group = No high school degree

<sup>g</sup> Comparison group = Will not graduate from college

<sup>h</sup> Comparison group = No

<sup>i</sup> Comparison group = No

<sup>j</sup> Comparison group = Mostly A's/ Excellent

<sup>k</sup> Comparison group = Graduated

<sup>l</sup> Continuous variable

\*  $p < .05$

Table 45

*Inter-Correlations of Individual, Household, Parental, High School Achievement, Self-Determination, and School Program*

*Characteristics in Model 5 (N = 448)*

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	--											
2. Cognitive Functioning Skills	.097*	--										
3. Parental Expectations	-	.017	--									
4. Participation in Extra Curricular Activities	.193**	.056	-.165**	--								
5. Financial	.157**	.040	.024	.134**	--							

Management/ Responsibility											
6.Self- Determination Skills	.094*	-.170**	.049	.003	.060	--					
7.Work Experience	.138**	.273**	-.065	-.095*	.225**	-.052	--				
8.Vocational Education	-.093	.151**	.038	-.097*	.084	.015	.200**	--			
9.Instruction Focused on Transition	.211**	.245**	-.088	.072	.111*	.094*	.174**	-.080	--		
10.Goal to Attend College	.009	.318**	.165**	.158**	.033	.367**	-.243**	-.005	-.118*	--	
11.Course of	.062	.127**	-.050	-.027	.018	.084	-.062	-.067	-.001	-.015	--

Study	in												
Transition Plan													
12.Met	with	.079	.086	-.204**	.082	-.083	.152**	-.083	-.027	-.040	.132**	-.035	--
Teacher													

---

Note. The inter-correlations are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

\*  $p < .05$

\*\*  $p < .01$

Table 46

*Tolerance Statistics for Individual, Household, Parental, High School Achievement, Self-Determination, and School Program Characteristics in Model 5(N = 448)*

Measure	Statistic
1. Gender	.846
2. Cognitive Functioning Skills	.704
3. Parental Expectations	.664
4. Participation in Extra Curricular Activities	.715
5. Financial Management/ Responsibility	.743
6. Self-Determination Skills	.731
7. Work Experience	.73
8. Vocational Education	.708
9. Instruction Focused on Transition	.696
10. Goal to Attend College	.524
11. Course of Study in Transition Plan	.845
12. Met with Teacher to Discuss Postsecondary Goals	.720

Note. A tolerance statistic of less than .20 may indicate a problem with collinearity (Menard, 2002). The tolerance statistics are only provided for dichotomous or continuous independent variables. Nominal variables with more than two response categories were not included in this analysis due to the inability to meaningfully interpret the correlations.

Table 47

*Summary of Logistic Regression Analysis Predicting College Enrollment with Model 5 (N = 448)*

Variable	B	SE	Odds Ratio	Wald $X^2$ Statistic
Constant	-1.405	7.134	.245	2.909
<i>Disability Category<sup>a</sup></i>				
Speech Impairment	-1.978	1.335	.138	2.195
Mental Retardation	-.377	.978	.686	.148
Emotional Disorder	-5.492	1.962	242.742	.965
Hearing Impairment	1.002	1.397	2.724	.514
Visual Impairment	.461	1.066	1.585	.187
Orthopedic Impairment	.424	.824	1.528	.265
Other Health Impairment	.582	.806	1.790	.523
Other	-.708	.679	.493	1.088
<i>Gender<sup>b</sup></i>				
Female	.440	.665	1.553	.438
<i>Household Income<sup>c</sup></i>				
\$25,000 or under	-1.696	.766	.183	4.901*
\$25,001 vs. \$50,000	-.557	.596	.573	.872
<i>Race/ Ethnicity<sup>d</sup></i>				
African American	.606	1.282	1.834	.224
Hispanic	1.777	.865	5.912	4.221*

Other	3.277	1.240	26.508	6.984*
<i>Cognitive Functioning Skills<sup>e</sup></i>				
Low	-7.282	2.106	.0007	7.559*
<i>Parental Education<sup>f</sup></i>				
High School Graduate or GED	-2.731	1.020	.065	7.163*
Some postsecondary education	-1.707	1.022	.181	2.787
College degree	-1.272	1.074	.280	1.401
<i>Parental Expectations<sup>g</sup></i>				
Will graduate from college	-.406	.708	.666	.329
<i>Participation in Extra Curricular Activities<sup>h</sup></i>				
Yes	2.923	1.010	18.595	8.374*
<i>Financial Management/ Responsibility<sup>i</sup></i>				
Yes	1.878	1.088	6.538	2.976
<i>Grades &amp; Performance<sup>j</sup></i>				
A's & B's	.697	1.193	2.008	.342
B's & C's	.355	1.079	1.426	.108
C's & D's	-1.142	1.322	.319	.747
D's & F's	-2.033	1.985	.131	1.049
Wide range	-1.496	1.802	.224	.689
<i>High School Completion Status<sup>k</sup></i>				
Tested out/ Received a certificate	-3.337	1.546	.036	4.662*
Dropped Out	-1.305	1.771	.271	.543

Aged Out or Other	-2.227	2.567	.108	.752
<hr/>				
<i>Self-Determination Skills<sup>l</sup></i>	.340	.356	1.405	.913
<hr/>				
<i>Work Experience<sup>m</sup></i>				
Yes	.787	.708	2.196	1.236
<hr/>				
<i>Vocational Education<sup>n</sup></i>				
Yes	2.151	.850	8.593	6.406*
<hr/>				
<i>Instruction Focused on Transition Plan<sup>o</sup></i>				
Yes	-.212	.773	.809	.075
<hr/>				
<i>Goal to Attend College<sup>p</sup></i>				
Yes	2.173	.736	8.785	8.711*
<hr/>				
<i>Course of Study in Transition Plan<sup>q</sup></i>				
Yes	.596	.738	1.814	.651
<hr/>				
<i>Role Youth Played in Transition Planning Process<sup>r</sup></i>				
Provided some input	.335	.711	.715	.222
Took a leadership role	2.626	.937	13.814	7.851*
<hr/>				
<i>Assessment Participation<sup>s</sup></i>				
Did not take assessment	1.551	.993	4.718	2.440
Alternate Assessment	1.649	1.121	5.201	2.164
Assessment with Accommodations	-1.626	1.073	.197	2.296
<hr/>				
<i>Met with Teacher to Discuss Postsecondary Goals<sup>t</sup></i>				

Yes	-2.059	.840	.128	6.012*
<i>Interaction: Disability by Cognitive</i>				
<i>Functioning Skills</i>				
Emotional Disorder by Low	8.790	2.451	6564.988	12.864*
Cognitive Functioning Skills				

<sup>a</sup> Comparison group = Learning Disabilities

<sup>b</sup> Comparison group = Male

<sup>c</sup> Comparison group = Over \$50,000

<sup>d</sup> Comparison group = White

<sup>e</sup> Comparison group = High

<sup>f</sup> Comparison group = No high school degree

<sup>g</sup> Comparison group = Will not graduate from college

<sup>h</sup> Comparison group = No

<sup>i</sup> Comparison group = No

<sup>j</sup> Comparison group = Mostly A's/ Excellent

<sup>k</sup> Comparison group = Graduated

<sup>l</sup> Continuous variable

<sup>m</sup> Comparison group = No

<sup>n</sup> Comparison group = No

<sup>o</sup> Comparison group = No

<sup>p</sup> Comparison group = No

<sup>q</sup> Comparison group = No

<sup>r</sup> Comparison group = No or very little participation

<sup>s</sup> Comparison group = Assessment without accommodations

<sup>t</sup> Comparison group = No

\*  $p < .05$

FIGURES

Figure 1  
The NLTS2 Conceptual Framework

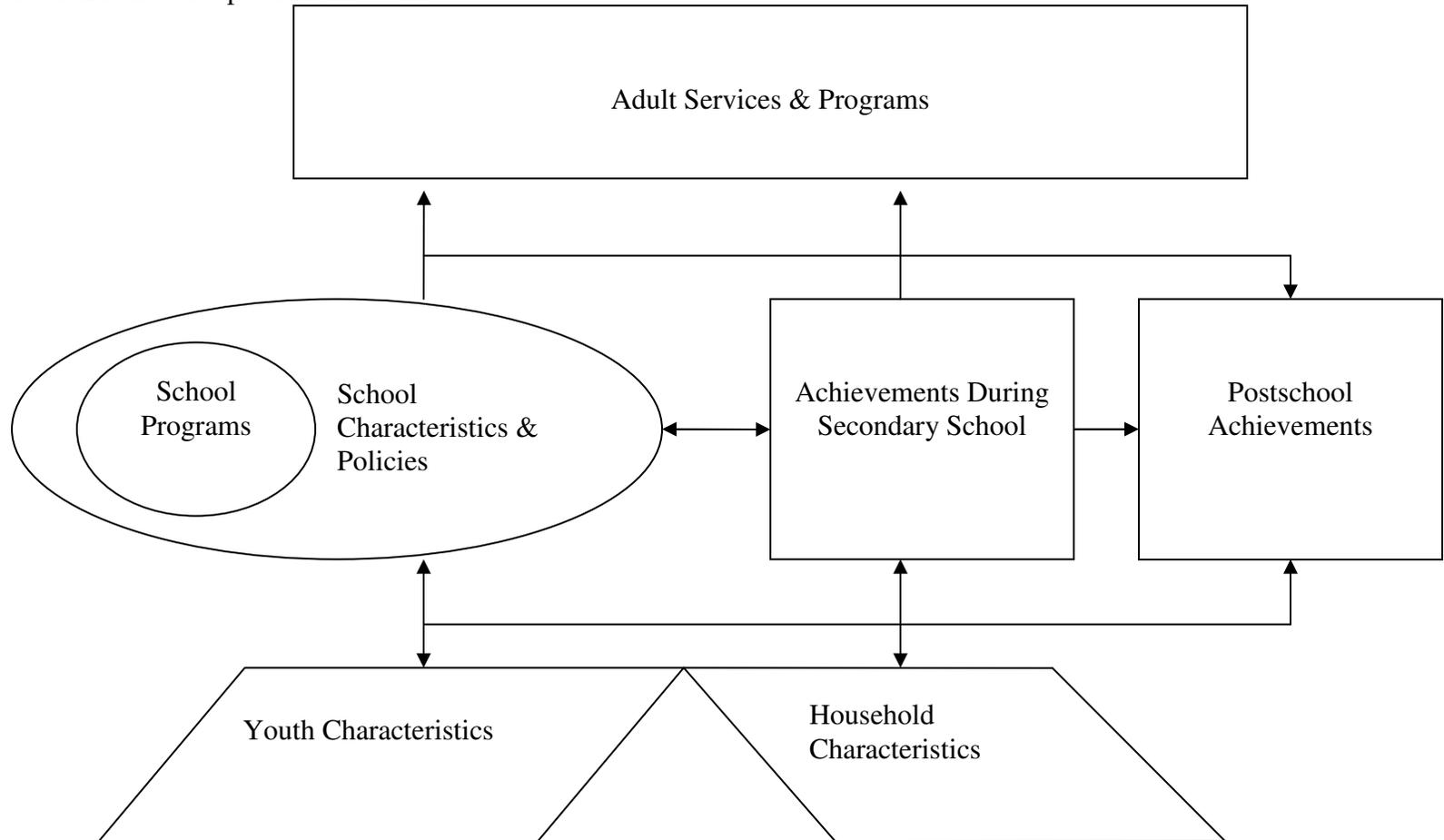
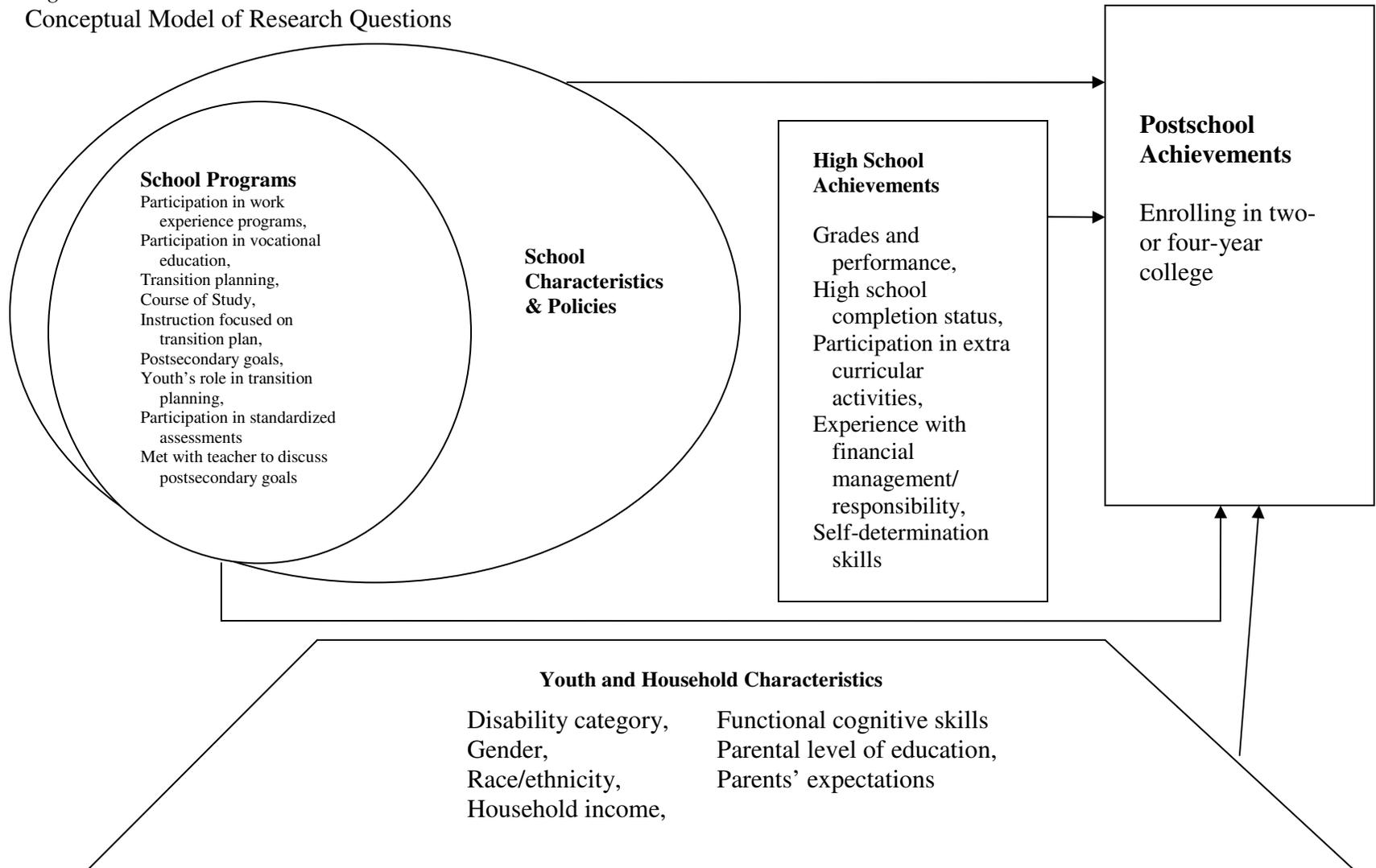
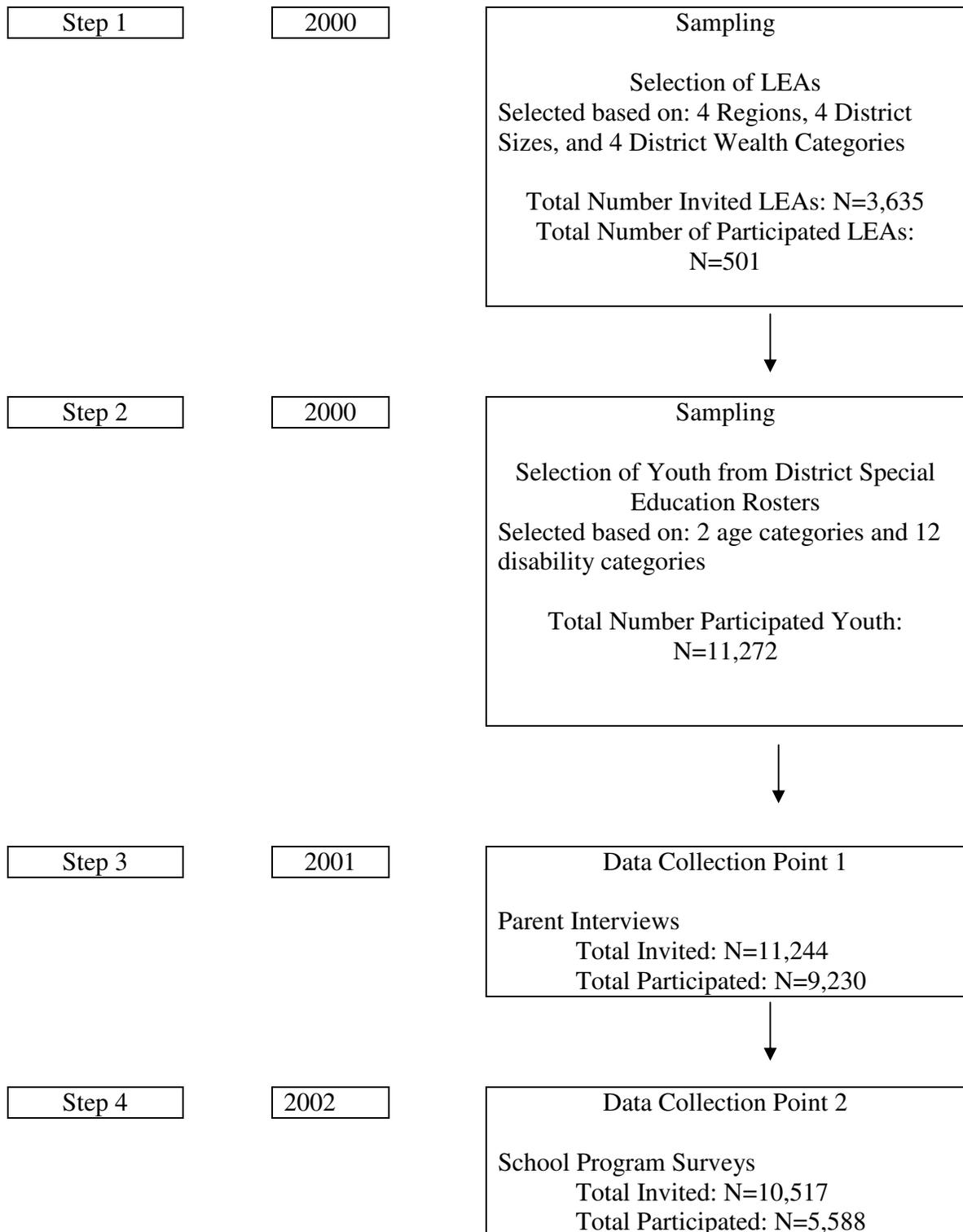
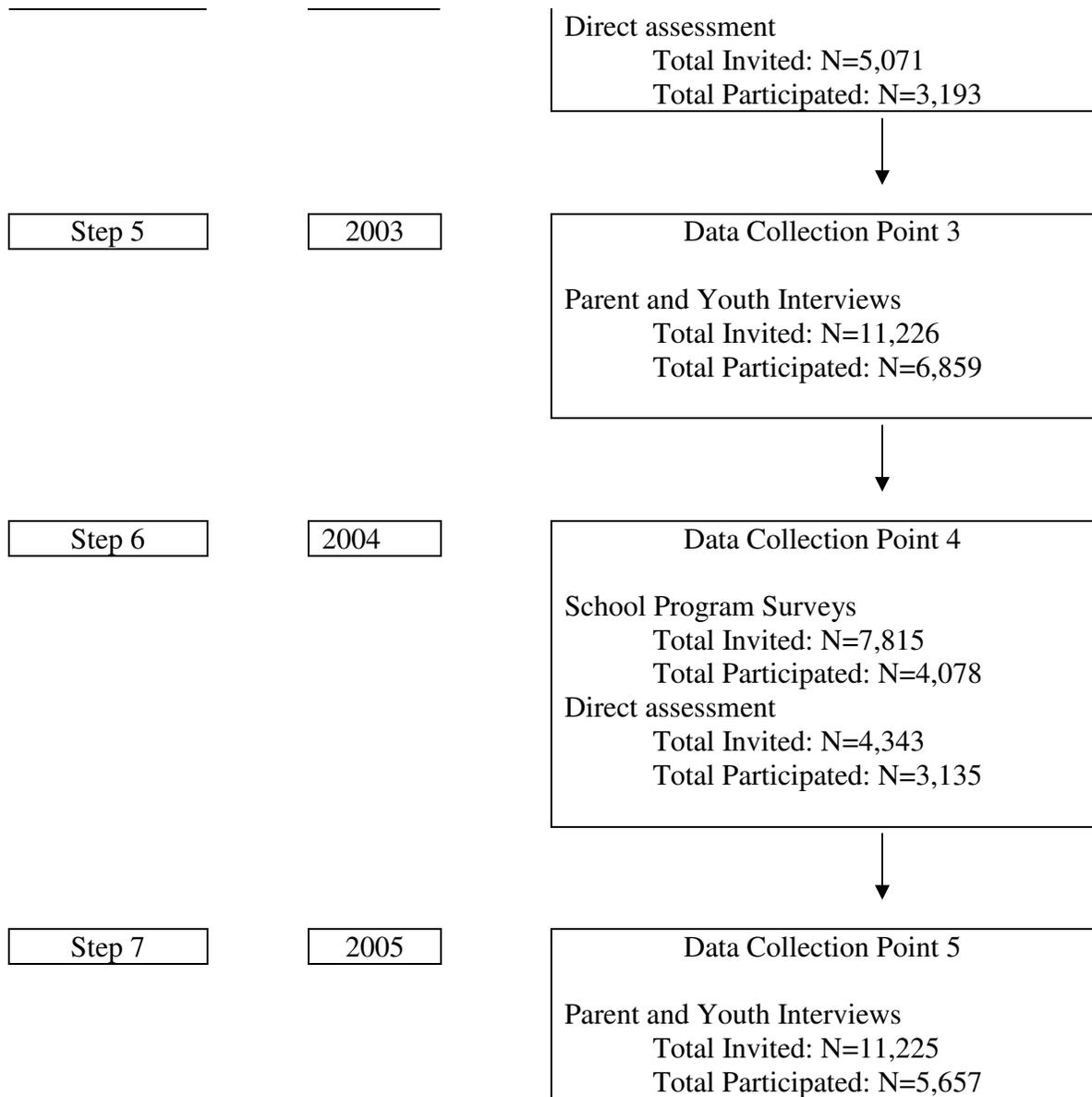


Figure 2  
Conceptual Model of Research Questions



*Figure 3: Flow Chart of the NLTS2 Sample for Data Collection Points 1, 2, 3, 4, and 5*





*Figure 4: Description of the Five Analytic Samples*

**Baseline Sample (N = 3015)**

Youth who are out of high school and participated in the 2005 Parent and Youth Interview

**Analytic Sample Used with Model 1 (N = 2910)**

Youth who are out of high school; participated in the 2005 Parent and Youth Interview; had responses to the college enrollment dependent variable; and had responses to the five individual and household characteristics independent variables

**Analytic Sample Used with Model 2 (N = 2601)**

Youth who are out of high school; participated in the 2005 Parent and Youth Interview; had responses to the college enrollment dependent variable; and had responses to the five individual and household characteristics independent variables; and had responses to the two parental characteristics independent variables

**Analytic Sample Used with Model 3 (N = 2498)**

Youth who are out of high school; participated in the 2005 Parent and Youth Interview; had responses to the college enrollment dependent variable; had responses to the five individual and household characteristics independent variables; had responses to the two parental characteristics independent variables; and had responses to the four high school achievement variables

**Analytic Sample Used with Model 4 (N = 1624)**

Youth who are out of high school; participated in the 2005 Parent and Youth Interview; had responses to the college enrollment dependent variable; had responses to the five individual and household characteristics independent variables; had responses to the two parental characteristics independent variables; had responses to the four high school achievement variables; and had a self-determination score

**Analytic Sample Used with Model 5 (N = 448)**

Youth who are out of high school; participated in the 2005 Parent and Youth Interview; had responses to the college enrollment dependent variable; and had responses to the five individual and household characteristics independent variables; had responses to the two parental characteristics independent variables; had responses to the four high school achievement variables; had a self-determination score; and had responses to the eight school program characteristic variables

## APPENDIX A

### Sampling Strata

The geographic regions were divided into Northeast; Southeast; Central; and West/Southwest. District enrollment was divided into very large (i.e., an estimated enrollment of more than 14,931 in grades 7 through 12); large (i.e., an estimated enrollment from 4,661 to 14,931 in grades 7 through 12); medium (i.e., an estimated enrollment from 1,568 to 4,660 in grades 7 through 12); and small (i.e., an estimated enrollment from 11 to 1,567 in grades 7 through 12). The district/ community wealth stratum was divided into four categories based on the percentage of the student population living below the federal definition of poverty; each category contained approximately 25 percent of the student population in grades 7 through 12. The categories included, high (i.e., 0% to 13%); medium (i.e., 14% to 24%); low (i.e., 25% to 43%); and very low (i.e., over 43%).

## APPENDIX B

### The NLTS2 Data Collection Methods and Instruments

#### *Parent and Youth Interviews*

Parent interviews were first conducted between May and late September 2001 with either a parent or guardian of each youth in the sample. SRI used computer-assisted telephone interviewing (CATI) to complete the Parent Interviews. All interviews were either completed in English or Spanish. If a parent could not be reached by telephone, SRI mailed him/her a self-administered questionnaire with a subset of essential interview questions. The survey collected information on the youths' disability characteristics, health insurance and care, school experiences (e.g., whether the youth is receiving instruction, what type of school the youth attends, whether the youth received a diploma), family interact and involvement (i.e., school–family contact, the IEP process), after-school and extracurricular activities, behavior, services, employment outcomes, parent expectations, and household characteristics (i.e., household composition, socioeconomic status) in 2001. A total of 9,230 interviews were completed with a calculated response rate of 82.1% for the practical sample (Valdes et al., 2006a).

Between May and December of 2003, SRI interviewed both parents and youth interviews. All parents or guardians were administered telephone surveys that collected information on youth's living arrangements and characteristics, disability characteristics, health insurance, school status and secondary school experiences, family involvement, services, youth behaviors and parent expectations, and household characteristics. Parents were asked if his/her child could answer similar questions in a telephone interview. Youth who were able to complete the telephone interview were asked questions about

social and extracurricular activities, health, secondary school experiences and involvement, postsecondary education, employment, risk behaviors, youth's feelings and expectations, and youth's household in 2003. Individual youth who were unable to complete a telephone interview were mailed questionnaires that requested information on his/her social and leisure time, health, household, previous and current high school experiences, personal interests and activities, school-sponsored work, leaving high school, two-year colleges, vocational schools, four-year college, and previous and current jobs. Parents of youth who were unable to complete either a telephone or mail survey were asked to complete a second part (i.e., Part 2a) of the interview. These additional interview questions were on the youth's social and extracurricular activities, youth behaviors, secondary school experiences, postsecondary education, employment, and household characteristics (Valdes et al., 2006a). A total of 6,888 Part 1 interviews and 2,997 Part 2 interviews were completed. A total of 2,934 youth interviews and 441 youth questionnaires were completed. A total of 3,375 youth provided responses. These numbers resulted in a 61.1% response rate for the practical sample of Parent and Youth Interviews in the third data collection point (Valdes et al., 2006a).

SRI again interviewed parents and youth between March and November 2005. The same procedures were followed; however, all respondents were offered the \$20 incentive to complete the interviews and questionnaires. Further, if a youth was over the age of 18 and had been interviewed in the previous Youth Interview, he/she was contacted directly. For this reason, some youth only have data from the Youth Interview in the fifth data collection point and no corresponding data from the Parent Interview. A total of 5,657 Parent and Youth Interviews were completed during the fifth data

collection point, representing a response rate of 50.4% for the practical sample (Valdes et al., 2006a). The number of Parent and Youth Interviews separately was not provided.

#### *Direct Assessments and Youth In-Person Interviews*

Youth who were between the ages of 16 and 18 and still attending a high school were administered direct assessments in reading, math, science, and social studies and in-person interviews focused on self-determination skills, self-concept, and attitudes towards school and learning in 2002. Youth were administered assessments by a trained on-site professional (other than the youth's own teacher). A total of 1,000 field assessors or on-site professionals were trained and prepared to assess youth using these direct and alternate assessments and to administer the in-person student interviews. These on-site professionals were either located in the community and/or affiliated with the school district, local school, or a school of education. The assessments included material from the Woodcock-Johnson Research Edition, the Student Self Concept Scale (SSCS), and the School Attitude Measure (SAM). The assessments took an average of 45 minutes to complete (SRI International, 2000a).

The assessors contacted the schools in which the participating youth attended and the teachers who knew the youth best. Based on the interaction with the teacher, the assessor determined which assessment (i.e., direct or alternate assessment) and which accommodations the individual youth required. The assessor obtained consent from the participating youths' parents (SRI International, 2000a).

The in-person student interview was conducted at the end of the direct assessment administration by the assessor. The youth was asked about his/her aspirations related to schooling and adult life (SRI International, 2000a). A total of 2,583 direct assessment and

580 alternate assessments were completed (Valdes et al., 2006a). These numbers resulted in a 72.2% response rate for the practical sample. The specific number of in-person youth interviews completed was not provided; however, in-person youth interviews were supposed to be conducted directly after the administration of the direct or alternate assessment.

### *School Program Surveys*

During the second data collection point in 2001-02, SRI administered the School Program Surveys to the youth's special education teacher, if the youth was still receiving special education services, or the teacher who best knows the youth's school program, if the youth was no longer receiving special education services. The teacher was asked to complete the survey using the students' school file, the most recent IEP, the most recent transcript and course schedule, the number of absences the student had in February, and the number of suspensions and disciplinary actions for this student during the school year. The survey asked for information pertaining to an overview of the youth's school program (e.g., setting in which the youth takes specific classes, participation in statewide assessments), student performance and family support (grade level results from reading and math assessments, number of days absent, disciplinary actions and suspensions), career and vocational education and services (e.g., whether the youth participates in vocational education, youth's behaviors when in vocational education classes), educational services (e.g., information from the youth's IEP, accommodations, special education and related services), transition to adult life (e.g., transition planning, transition goals), and the teacher's characteristics and role in the school (Valdes et al., 2006b). A

total of 5,635 School Program Surveys were completed, resulting in a 53.1% response rate for the practical sample (Valdes et al., 2006a).

During the fourth data collection point in 2003-04, SRI again administered the School Program Surveys; but only for those youth in the sample who were still attending a secondary school in 2003-04. A total of 4,278 School Program Surveys were completed, resulting in a 52.2% response rate for the practical sample. SRI did not administer School Program Surveys in the fifth data collection point (Valdes et al., 2006a).

APPENDIX C

Table C-1

*Description of the NLTS2 Variables Used in this Study*

<b>NLTS2 Dataset Variable(s)</b>	<b>Description of Variable</b>	<b>Survey/ Interview Question</b>	<b>Response Categories and Coding</b>
np3S3a_D4a1_ever np3S5a_D4a3_ever np2S3a_D4a1 np2S5a_D4a3 np1D4a np1D4f	College enrollment	“[IF IN HIGH SCHOOL IN PRECEDING WAVE OR P2a=1 or P2B NE1: Since leaving high school] [IF ALREADY OUT OF HIGH SCHOOL IN PRECEDING WAVE: In the past 2 years], have you taken any classes from a 2-year, junior, or community college?”	0 = no 1 = yes
W1_Dis12 W2_DisHdr2003	Primary disability category	“With what physical, sensory, learning, or other disabilities or problems has {YOUTH} been diagnosed?”	1=learning disability, 2=speech

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impairment,

3=mental

retardation,

4=emotional

disturbance,

5=hearing

impairment,

6=visual

impairment,

7=orthopedic

impairment,

8=other health

impairment,

9=autism,

10=traumatic brain

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			impairment, 11=multiple disabilities, and 12=deaf/ blindness
w1_Gend2	Gender	“I’d like to ask you some questions about { YOUTH}. Is { YOUTH} male or female?”	1=male
W2_GendHdr2003			2= female
W3_GendHdr2005			
w1_Incm3	Household income	“In studies like these, households are sometimes grouped according to income. Please tell me which group best describes the total income all persons in your household in the last tax year, including salaries or other earnings, money from public assistance, retirement, and so on, for all household members, before taxes. Was your household income in the past year...\$25,000 or less, or more than \$25,000?”	1=\$25,000 or under
W1_IncomeHdr2001			2=\$25,001 to
W2_IncomeHdr2003			\$50,000
np2H14cat			3=over \$50,000
W3_IncomeHdr2005			
np3H14cat			

		and	
		“Was it...\$50,000 or less, or more than \$50,000?”	
W1_eth6	Race/ ethnicity	“Is [YOUTH] of Hispanic, Latino, or other Spanish	1=white
W1_Ethdr2001		origin?” and	2=African
W2_EthHdr2003		“I’m going to read a list of categories. Please choose one	American
np2CombEth		or more categories that best describes [YOUTH’s] race.	3=Hispanic
np2A3b		Is [he/she]...”	4=Asian/ Pacific
W3_EthHdr2005			Islander
np3CombEth			5=American
np3A3b			Indian/Alaska
			Native
			6=Multi-other
np1G4a	Functional cognitive	“How well does { YOUTH } do each of the following	1=not at all well
np1G4b	skills	things on { his/her } own, without help? Tell time on a	2=very well
np1G4c		clock with hands? Read and understand common signs,	3=pretty well

np1G4d		like Stop, Men, Women, or Danger? Count change? Look	4=very well
np2G3a_a	np2G3a_b	up telephone numbers in the phonebook and use the	
np2G3a_c	np2G3a_d	telephone? Get to places outside the home, like to school,	
np3G3a_a	np3G3a_b	to a nearby store or park, or to a neighbor's house?	
np3G3a_c	np3G3a_d	Would you say {he/she} does it very well, pretty well, not very well, or not at all well?"	
np1K8	Parental education	"What is the highest year or grade {you/ {YOUTH}'s	1 = 8 <sup>th</sup> grade or less
np1K10		mother/ father/ legal guardian} finished in school?"	(includes no
np2H7			school)
np2H9			2 = 9 <sup>th</sup> grade or
np3H7			above, not a high
np3H9			school graduate
			3 = high school
			graduate or GED
			4 = post high

---

school education,  
no degree  
5 = vocational-  
technical  
6 = two-year  
college/ AA  
degree/ three-year  
degree  
7 = four-year/ BA,  
BS degree  
8 = some post BA,  
BS work, no  
degree; 9 =  
master's degree,  
e.g., MSW, MA,

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			MFA, MPH
			10 = PhD, MD, JD, LLB, or other professional
			11 = other
np1j4	Parental expectations	“How likely do you think it is that {he/she} will graduate	1=definitely will
np1J5		from a 2-year or community college? Do you think	2=probably will
np2G7b		{he/she} ...” and	3=probably won’t
np2G8a		“How likely do you think it is that {he/she} will graduate	4=definitely won’t
np3G7b		from a 4-year college? Do you think {he/she} ...”	
np3G8a			
npr1C1	Participation in	“Does this student now spend any part of the school day	0 = no
npr2C1	vocational education	in a vocational education or applied academic class (e.g., career planning, prevocational, occupational skills, business, computer technology, industrial arts, some	1 = yes

		home economics classes)?”	
npr1E1	Transition planning	“Has there been planning for transition to adult life for	0=no
npr2E1		this student?”	1=yes
npr1E3	Instruction focused on	“Has this student received instruction specifically focused	0=no
npr2E3	transition planning	on transition planning (e.g., a specialized curriculum designed to help students assess options and develop strategies for leaving secondary school and transitioning to adult life)?”	1=yes
npr1E5	Course of study in	“Does this student’s transition plan or IEP specifically	0=no
npr2E5	transition plan	state what course of study or kinds of classes the student should pursue in order to meet his postschool transition goals?”	1=yes
npr1E4a	Postsecondary goal to	“For the period following high school, the primary goal	0=no
npr2E4a	attend college	of this student’s educational program is to prepare him/her to...Attend a two-or four-year college”	1=yes

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npr1E9	Youth's role in	"Which of the following best describes this student's role	1= this student has
npr2E9	transition planning	in his or her transition planning?"	not attended  planning meeting  or participated in  the transition  planning process  2 = this student had  been present in  discussions of  transition planning  but participated  very little or not at  all  3 = this student  provided some

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input into transition  
planning as a  
moderately active  
participant  
4 = this student has  
taken a leadership  
role in the  
transition planning  
process, helping set  
the direction of  
discussion, goals,  
and programs or  
service needs  
identified

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npr1A5a

Participation in

“During this school year, to what extent will this student

1= there is no such

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nprA5a

standardized  
assessments

participate in any mandated standardized test(s)?"

testing at this grade  
level

2 = student does

not take such tests

3 = student

participates in an  
alternative

assessment, in

place of the

standardized test

4 = student

participates in the

testing program

without

accommodations or

modifications

5 = student

participates in the

testing program

with

accommodations

and modifications

---

npr1C13a	School work	“What percentage of this student’s school day currently is	0=none
npr1C13b	experience	spent in the two activities below (please do not include	1=1%-24%
npr2C13a		after-school employment)”	2=25%-49%
npr2C13b			3=50%-74%
			4=75%-99%
			5= 100%
np1E2d	Met with teacher to	“Did you meet with adults at the school to set goals for	0 = no
np2R7b_E2d	discuss transition plan	what you will do after high school and make a plan for	1= yes

---

np3R7b\_E2d

how to achieve them? Sometimes this is called a transition plan.”

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np3D6M	Grades and	“Overall, across all subjects, did {he/she} get	1 = mostly A’s/
np2D6M	performance	mostly....A’s, A’s and B’s, B’s, B’s and C’s, C’s, C’s,	excellent
np1D9b		and D’s, D’s, D’s and F’s, F’s, or {YOUTH}’s school	2 = A’s and B’s/
np3D6n		does not give these grades?”	mostly B’s/ above
np2D6n			average
np1D9c			3 = mostly B’s and
			C’s/ mostly C’s/
			average
			4 = mostly C’s and
			D’s/ mostly D’s/
			below average
			5 = mostly D’s and
			F’s/ mostly F’s/

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failing

11 = other

12 = wide range of  
grades or

performance

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np1D_1k_2d_5b	High school	“Is {he/she} not in school now because {he/she}...is on	1= graduated
np2D1K_D2d_B3b	completion status	school vacation; graduated; took a test and received a	2 = tested out/ received a
np3D1K_D2d_B3b		diploma or a certificate without taking all of {his/her}	certificate
np2S1b_D3b		high school classes; dropped out or just stopped going;	3 = dropped out
np3S1b_D1K_D2d_		was suspended (temporary); was expelled (permanent);	4 = suspended
D3b		was older than the school age limit; or some other	temporarily
		reason”	5 = expelled
			permanently
			6 = older than age

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limit

7 = other

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np3P5_J1	Participation in extra	“During the past 12 months, has {YOUTH} taken lessons	0 = no
np3P6_J2	curricular activities	or classes {outside of school} in things like art, music,	1= yes
np3P8_J4		dance, a foreign language, religion, or computer skills?”	
np3P9_J5		(Valdes et al., 2006b, p.2); “During the past 12 months,	
np2P5_J1		has {he/she} participated in any school activity outside of	
np2P6_J2		class, such as sports teams, band or chorus, school clubs,	
np2P8_J4		or student government?” (p.3); “During the past 12	
np2P9_J5		months has {he/she} participate in any {out-of-school}	
np1F3		group activities, such as scouting, church or temple youth	
np1F4		group, or {nonschool} sports like soccer, softball, or	
np1F7		baseball?” (p.3); and “During the past 12 months has	
np1F2		{YOUTH} done any volunteer or community service	
		activities? This could include community service that is	

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part of a {school class or other} group activity”

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np3P16a_J14a	Financial management/	“Does {YOUTH} get an allowance or have other money	0 = no
np3P16a_J14b_a	responsibility	that {he/she} can decide how to spend? [IF NEEDED:	1= yes
np3P16a_J14b_b		This could include money earned from a job.]” and	
np3P16a_J14b_c		“Does {he/she} have a...saving account; checking	
np3P16a_J14b_d		account where {he/she} writes checks; and credit cards or	
np2P16a_J14a		charge accounts in {his/her} name?”	
np2P16a_J14b_a			
np2P16a_J14b_b			
np2P16a_J14b_c			
np2P16a_J14b_d			
np1F13			
np1F14a			
np1F14b			
np1F14c			

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ndaSdA_PerItems	Self-determination	“I keep my personal items together;”	1=not when I have
ndaSdB_PersCare	skills (autonomy)	“I keep good personal care and grooming;”	the chance
ndaSd1_MakeFriends		“I make friends with other kids my age;”	2=sometimes
		“I keep my appointments and meetings;”	3=most of the time
ndaSd2_KeepAppts		“I plan weekend activities that I like to do;”	4=every time I
ndaSd3_PlanWeekends		“I am involved in school-related activities;”	have the chance
ndaSd4_School		“I volunteer in things that I am interested in;”	
ndaSd5_Volunteer		“I go to restaurants that I like;”	
ndaSd6_Restaurants		“I do school and free time activities based on career	
ndaSd7_CareerInterests		interests;”	
ndaSd8_ImproveChances		“I work on school work that will improve career	
ndaSd9_Plans		chances;”	
ndaSd10_Work		“I make long-range career plans;”	
ndaSd11_JobTraining		“I work to earn money;”	
ndaSd12_ChooseGift		“I am/have been in career/job training;”	

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ts ndaSd13\_Spend

“I choose gifts for family/ friends;”

and

“I choose how to spent personal money”

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