An Examination of the Relationship between Students with Learning Disabilities and Self-Advocacy/Self-Determination as a Predictor of Post-Secondary School Success

by

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Abstract

This study examined the relationship between background (race, gender, and Socioeconomic Status SES) of students with Learning Disabilities (LDs) and self-advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. Completion at a 2/4-year college/university of students with LDs was the postsecondary education outcome focus.

The data were gathered from the National Longitudinal Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities. Correlations, chi-squares, and multiple linear regressions were used to analyze the data.

The results demonstrated the independent variable of self-determination was the only statistically significant predictor of 4-year university completion of students with learning disabilities. Relationally, demographic factors (race, gender, and SES) did not have any effect on the self-determination of students with LDs and positive post-school outcomes. However, self-determination attributes were predictors of postsecondary outcome success at the 4-year university level completion, but not at the 2-year college level completion.

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"For I know the plans I have for you," declares the Lord, "plans to prosper you and not to harm you, plans to give you hope and a future."

-Jeremiah 29:11

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List of Abbreviations

ADA	American with Disabilities Act
GED	General Education Development
IDEA	Individuals with Disabilities Act
IES	Institute of Education Sciences
LD	Learning Disabilities
NCSER	National Center for Special Education Research at IES
NLTS2	National Longitudinal Transition Study-2
NSTTAC	National Secondary Transition Technical Assistance Center
OSEP	Office of Special Education Programs
PSO	Postschool Outcomes
SES	Socioeconomic Status
SD	Self-determination
SDS	Self-Determination Scale
SREB	Southern Regional Education Board
SRI	Stanford Research Institute
USDE	United States Department of Education
WBL	Work-Based Learning

Chapter 1: Introduction

It's often argued that the primary purpose of education for youth with and without disabilities is to prepare them to be productive with the ability to engage as adults within their communities. In the first few years post high school, young adults are beginning a transition to adulthood and engage in their communities in ways that are typical of adulthood (Wagner, Newman, Cameto, Garza & Levine, 2005). Youth with disabilities faces many barriers in making the transition from high school to stable long-term employment (Lindstrom, Doren, & Miesch, 2011). Halpern (1990) noted in his critical review of follow-up and follow-along studies "many people with disabilities value residential and personal/social adjustment more highly than vocational adjustment" (p.14). Jay (1991) reiterated the importance of looking at a variety of outcomes for students, expanding the definition of a successful transition to include unpaid employment, sheltered work, volunteerism, and training. Levine and Nourse (1998) also stressed the importance of looking at the many outcomes and influences that make youth productive.

According to Frasier (2005), since the 1980s career and technical education has become a major component of secondary education due in part to the United States' development of a highly technological and global society. Research conducted by Blackorby and Wagner (1996) showed that for more than two decades, transition programs have been studied and developed by education constituents at the federal, state, and local levels to improve the postsecondary outcome for all students, including those students who are at-risk and those with disabilities. The

legislation also has been used to reinforce the importance of the postsecondary transition process and has resulted in mandates that schools develop transition plans for students with disabilities.

Frasier (2005) also found that career and technical education research showed that students with specific learning disabilities, tend to achieve more success in vocational training programs, than when compared to those students with learning disabilities who participated in academically oriented programs (Wagner, Blackorby, Cameto, & Newman, 1993). Vocational education programs allow students with disabilities the opportunity to engage in activities that they find relevant to their life experiences, which could lead to career success.

Before the mid-1990s, there were few studies of youth with disabilities in transition that examined postschool outcomes, beyond paid employment (Wagner et al., 2005). While the range of postschool outcomes has expanded, work continues to be the distinct factor in current research (Benz, Youvanoff, & Doren, 1997; Haywood & Schmidt-Davis, 2000). Among students with disabilities represented in the National Longitudinal Transition Study-2 (NLTS2), employment is the most commonly cited transition goal of students with disabilities while in secondary school and paid work is more prevalent in the early post-high school years than postsecondary education (Cameto, Levine, & Wagner, 2004).

While postschool focus is the attainment of paid employment, it is necessary to acknowledge the increasing relevance of postsecondary education and vocational training in the lives of many young adults in the United States (Wagner et al., 2005; SREB, 2005). Research shows that assisting working-age adults complete GED programs and enroll in postsecondary programs has enormous benefits for both the individual and society (SREB, 2005). During the 1990s, enrollment in 2- or 4-year degree- granting institutions increased steadily, from 13.8 million to 15.3 million (Gerald & Hussar, 2002). College enrollment included close to half a

million students with disabilities (Lewis, Farris, & Greene, 1999), and included concerted efforts to increase the access of individuals with disabilities to postsecondary education (Getzel, Stodden, & Briel, 2001; NCRVE, 1999; Stodden, 2001).

The Presidential Task Force on Employment of Adults with Disabilities (1999) found it necessary to recommend that steps be taken at the secondary level and beyond to ensure that individuals with disabilities were able to participate fully in postsecondary education programs resulting in them being adequately prepared to secure meaningful employment. The task force recommended steps and skills that students must master to enter challenging careers, which include transitioning to, and completing a postsecondary education; participating in relevant work experiences, and transitioning from an academic program to a career position. Research by Cunningham, Redmond, and Merisotis (2003) identified several practices which were successful in bringing individuals from underrepresented groups into highly technical, challenging fields of study and employment. These methods include providing access to technology, implementing programs that bridge academic levels to school and work, and incorporating relevant work-based learning experiences, peer support, and mentoring.

In response to research accomplished to determine what was needed for individuals to achieve career success, school-to-work programs were designed by federal and state stakeholders to provide work-based learning opportunities for all students, including those with disabilities, minorities, women, and those individuals who are at-risk (National Transition Network, 1994). Ideally, school-to-work programs were developed with goals in place to prepare students for the highly technical careers that have emerged as a crucial part of American society. However, follow-up research has shown that in practice, students with disabilities have had limited access to relevant work programs because of academic failure, poor social skills, and poor attendance

(Blackorby & Wagner, 1996). According to Goldberger (1993), the majority of students with disabilities, who enrolled in 10th grade, did not qualify for entry into local school-to-work programs, even with the program's requirements of a C average and 85 percent attendance.

Statement of the Problem

Individuals with disabilities tend to experience far less career success than their peers without disabilities, while differences in career success diminished significantly for those individuals who participated in postsecondary education (Blackorby & Wagner, 1996; Yelin & Katz, 1994). Society has shifted to where a bachelor's degree or higher is a prerequisite just to be considered to compete for challenging careers in high-tech fields in STEM and business (Blackorby & Wagner, 1996). There are few individuals with disabilities that can pursue postsecondary academic studies in these areas, and the attrition rate of those who do is high (Stodden & Dowrick, 2000).

High academic focus programs often are the areas where individuals with disabilities experience difficulty. This results in the inadequate preparation of these individuals to pursue high-tech fields of study in a postsecondary setting. It also leads to the high attrition rates of those who do attempt research in these particular areas. Lack of vocational skills and related experiences also limit career options for people with disabilities (Colley & Jamieson, 1998).

For a student with a disability, relevant on-the-job experiences are an essential component of preparing that student to experience career success. However, many students miss out on the appropriate related experiences because they are struggling academically and often do not qualify for entrance into work-based learning programs that are designed to provide relevant on-the-job training. The Stanford Research Institute (SRI) International, under the 1993 National Longitudinal Transition Study of Special Education Children (NLTS), has shown that many

working-age people with disabilities are unemployed and unskilled. As a result, it was necessary to conduct research to determine the predictors of post-school success for students with disabilities, to develop and establish relevant programs within the school systems (Newman & Cameto, 1993).

The National Secondary Transition Technical Assistance Center (NSTTAC) identified evidence-based practices in the field of secondary transition, by conducting a two-part literature review. During part one evidence-based practice based on quality experimental (group and single subject designs) studies were identified. While the evidence-based practices were developed to teach students specific transition-related skills, currently, the empirical literature does not measure the impact of these skills on post-school outcomes.

Based on the lack of literature, the part two review was expanded to include rigorous correlational research in secondary transition to identify evidence-based predictors that correlate with improved post-school outcomes in education, employment, and independent living. Predictor categories were determined based on researchers' consensus, and researchers classified each predictor to reflect a comprehensive term to support each description, which was taken directly from the findings of the studies reviewed. There are currently 11 predictor categories for post-school education, including self-advocacy/self-determination as the sixth predictor.

The NLTS2 investigated four key domains of youth's self-determination by asking youth to judge and report the extent to which their behavior reflects autonomy, self-regulation, self-realization, and psychological empowerment (Wehmeyer & Schwartz, 1997). The direct assessment included a subset of questions from the Arc's Self-Determination Scale (SDS) (Wehmeyer & Kelchner, 1995). The SDS, which is based on the functional theory of self-determination (Wehmeyer, 2003), is a 72-item self-report measure that provides data on self-

determination through measuring the four essential characteristics of self-determined behavior: autonomy, self-regulation, psychological empowerment, and self-realization (Wehmeyer, 1996). It is the most widely used assessment of global self-determination in the disability field and has demonstrated good internal consistency across multiple studies with diverse disability populations, including intellectual disability, learning disabilities, physical disabilities, emotional disturbances, speech impairments, other health impairments, and autism (Lee et al., 2011; McDougall, Evans, & Baldwin, 2010; Shogren et al., 2007). In developing NLTS2, SRI International sampled 26 items from three of the four subscales of the SDS: autonomy (15 of 32 items), psychological empowerment (6 of 16 items), and self-realization (5 of 15 items).

Purpose of the Study

The purpose of this study was to examine the relationship between background (race, gender, and Socioeconomic Status SES) of students with Learning Disabilities (LDs) and self-advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. Postsecondary education outcome data was a representation of students who had reported as a completer at a 2/4-year college/university. Student outcomes were analyzed pertaining to the National Longitudinal Transition Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities. This research will provide better understanding of the affect these factors have on this population of students. This research builds upon what is currently known about student with LDs and serves as a resource to stakeholders involved in the development and improvement of transition.

Research Questions

This study examined the following questions:

1. What is the relationship between race of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
2. What is the relationship between gender of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
3. What is the relationship between SES of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

Significance of the Study

Findings from the National Longitudinal Transition Study (NLTS) of Special Education Children Wagner et al., (2003), reported that 30 percent of children with disabilities dropped out of high school, and an additional eight percent dropped out before ever entering high school. At the time of leaving high school, the average dropout with disabilities was 18 years old and had earned less than one-half the credits needed to graduate.

According to Blackorby and Wagner (1996), employment success for students with disabilities was related strongly to them taking a concentration (at least four courses) in vocational education. Students with learning disabilities or speech impairments were more likely to approach the rate of employment found in the general population. Benz et al., (1997) found competitive employment for these students was enhanced when they: (a) had two or more work experiences during junior and senior year, (b) exited school with high social skills, (c) exited school with strong job-search skills, and (d) had no continuing vocational instruction needs one year out of school.

NLTS findings also showed that early employment experiences influenced the success that young adults with disabilities experienced in the job market. According to Freeman and Wise (1982), the basic work skills, knowledge, and behavior of individuals with disabilities were developed by early work related experiences. However, despite the knowledge that transition planning for all students with disabilities is crucial, a gap continues to exist between educational research and the implementation of transition systems in schools. As a result, researchers have concentrated their efforts on determining which school-to-work components are most successful at predicting post-school success for students with disabilities (Blackorby & Wagner, 1996).

Using information from this study, stakeholders will be better equipped in serving students with LDs from various socioeconomic backgrounds. This study builds on previous research that concluded parents' education, income, and occupation correlates with the college attendance, persistence, and outcomes of college students (Marable, 2003; Orfield & Eaton, 1996; Perna & Titus, 2004; Tinto, 1975, 1993).

Additionally, this study will be beneficial to stakeholders' assisting students with LDs in their adjustment and integration of the academic climate of postsecondary education. This examination can assist students with LDs in better understanding how background factors can shape choices, but access to knowledge and resources can improve the outcome of those decisions.

Limitations of the Study

This research has limitations, which should be taken into consideration by the reader throughout the review of this study:

1. This study used existing data.
2. The information collected from the individuals in the sample was: race, gender, and socioeconomic (SES) of students with learning disabilities.
3. All of these are attribute variables that often place the people into legally protected groups.
4. Attribute variables are unable to be manipulated by the researcher.

Data presented are combined young adults' self-reports and parent-reported data. Data that is combined across the respondents can raise the question of response concurrence – would the same findings result from parents' and students' responses. Results concluded that respondents agreed from 73 percent to 88 percent of the time.

Assumptions of the Study

This study was conducted based on the following assumptions:

1. The respondents answered the questions provided by interview, mail survey, or the Wave 5 parent telephone interview accurately and correctly.
2. Data used in this study is representative of young adults with disabilities, who had been out of high school up to eight years at collection time.
3. NLTS2 is a 10-year long study of the experiences, characteristics, and outcomes of a nationally representative sample of youth/young adults with disabilities who were between the ages of 13-16 and receiving special education services in grade 7 or above on December 1, 2000.

Definition of Terms

The definition of key terms used in this proposal, are as follows:

Adult Education: Activities intentionally designed for the purpose of bringing about learning among those whose age, social roles or self-perception define them as adults (Merriam & Brockett, 1997).

Evidence-Based Practices: Practices that are supported by research and the experts to increase positive student outcomes (Landmark, Ju, & Zhang, 2010).

Learning Disability (LD): A disorder in one or more of the fundamental psychological processes that involve understanding, language usage; spoken or written that may result in a child not being able to listen, think, speak, read, write, spell or do mathematical calculations with average ability. The term does not include children whose learning problems is the result of visual, hearing or motor disabilities, intellectual disabilities, emotional/ behavioral disorders, or environmental, cultural or economic disadvantage (Georgia Department of Education, 2016). According to the Individuals with Disabilities Act of 2004 (IDEA), as
a student identifies as having an LD if they do not achieve adequately at age or grade level standards provided these students have been delivered age and grade at grade level instruction. While primary and secondary schools use the IDEA's definition of LD, universities rely on the American with Disabilities Act's (ADA; n.d.) definition: "A learning disability is a neurological disorder that causes difficulties in learning that cannot be attributed to poor intelligence, poor motivation, or inadequate education" (n.p.).

Postsecondary Education: Any school or training beyond the high
school level (i.e., community college, four-year University, vocational training program) (Think college; 2016).

Postschool Outcomes: Outcomes that the individual experience once exited from high school (Test, Aspel, & Everson, 2005).

Self-Advocacy: The "ability of a student to manage a disability in a proactive manner (e.g., goal setting, knowledge of disability law, selection of appropriate postsecondary transitioning, self-identification, organizing for living and learning, etc.)" (Skinner & Lindstrom, 2003, p. 132).

Self-Determination: The combination of gained knowledge, belief, and skills that enable people to act in such a way that allows them a greater ability to take control of their lives and become successful, productive adults. This attainment can be accomplished by having an understanding of one's strengths, weaknesses, along with a belief in oneself as capable of acting independently and being successful (Georgia Department of Education Transition Manual, 2003-04). The attitude, abilities, and skills that drives' students to define goals for themselves and to take the initiative to reach those objectives (Wehmeyer et al., 2004).

Socioeconomic Status (SES): The social and economic class of an individual as measured by a combination of their education, income, and occupation (American Psychological Association, 2012).

Student Participation: The active participation of students in the decision-making process at the school level to help determine school and postschool options (Flexer, Baer, Luft, & Simmons, 2001).

Transition Assessment: A process of obtaining and using the information to assist young adults with disabilities, families and educators make informed decisions about possible postschool outcomes (Clark, 1996).

Transition Planning Process: Activities, processes, and partnerships that prepare

students with disabilities for postschool settings (Flexer, et al., 2001).

Transition Services: A coordinated set of activities for a child with a disability that is designed to be within a results-oriented process, are based on the individual child's needs, include instruction, related services, community experiences, and the development of employment and other post-school living objectives, which can include the acquisition of daily living skills and functional vocational evaluation (IDEA, 2004, [602(34)]).

Work-Based Learning (WBL): Consists of experiences that "provide opportunities for young people to participate in paid and unpaid work experiences. Through internships, job shadows, volunteer work and other work-based learning experiences, they can prepare for future employment, learn how to self-advocate for accommodations, and practice job-related skills" (Burgstahler, 2002, p. 81).

Organization of the Study

This section addresses what is to come in the remaining chapters. Chapter 1 is an introduction to the study, presenting the problem, purpose, significance, research questions, limitations, assumptions, and definitions of key terms. Chapter 2 reviews the literature that examined the prior research, which was conducted in areas relating to this study. Chapter 3 reiterates the purpose of the study, the research questions, and identifies the methods used to do this research. Chapter 4 presents the findings of this research. Chapter 5 is the final chapter, and it provides a summary, the findings and conclusions, implications, and future research recommendations.

Chapter 2: Review of Literature

Introduction

Chapter 1 provided an introduction to the statement of the problem, as well as the purpose of the research, and the significance of the study. The research questions, limitations, assumptions of the study and definitions for key terms were also provided. Chapter 2 is a review of the literature, which considered the student with Learning Disabilities (LDs) as an adult learner, their race, gender, Socioeconomic Status (SES), and postsecondary education outcomes.

Young Adults with Disabilities up to 8 Years after High School data (National Longitudinal Transition Study -2 (NLTS2) was used in this research (NLTS2, Newman et al., 2011). The data used represents 4,810 sample members who responded to Wave 5 data collection. The NLTS2 design provides a representation of the national picture of the experiences, achievements, and characteristics of youth with disabilities in the NLTS2 age range (13-26 yrs.) as they transitioned to young adulthood (Wagner et al., 2003). Research involving students with LDs were examined, and particular attention was given to graduation rates, outcomes, and the effect of background dynamics on postsecondary education choices. Research on the necessity of postsecondary or adult education was considered, as well as literary works and studies related to race, gender and SES for postsecondary students with LDs. The final portion of this chapter summarizes the most relevant findings in the literature review.

Purpose of the Study

The purpose of this study was to examine the relationship between background (race, gender, and Socioeconomic Status (SES) of students with Learning Disabilities (LDs) and self-advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. Student outcomes were analyzed about the National Longitudinal Transition Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities (NLTS2, Newman et al., 2011). This study will provide better understanding of the effect these factors have on this population of students. This study builds on what is currently known about a student with LDs and serves as a resource to stakeholders involved in the development and improvement of transition practices to bring about effective outcomes for students with disabilities.

Research Questions

This study examined the following questions:

1. What is the relationship between race of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

2. What is the relationship between gender of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

3. What is the relationship between SES of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

Students with Disabilities

Disability Rights Movement

According to the Anti-Defamation League (ADL), Americans with disabilities are a classification of approximately 50 million individuals that strive to lead independent, self-affirming lives, defined according to their personhood – their ideas, beliefs, hopes and dreams – not their disability. For centuries, people with disabilities have had to fight against detrimental stereotypes, prejudiced assumptions, and illogical fears. The stigmatization of disability resulted in the social and economic marginalization of generations of Americans with disabilities, and like many other oppressed minorities, left people with disabilities in a severe state of impoverishment for centuries (Fleischer & Zames, 2001). Throughout history, individuals with disabilities were excluded from the mainstream and denied their human rights (Jaeger & Bowman, 2005).

Disability rights legislation has succeeded in demolishing the unequal status of those individuals with disabilities and the advancement of improved legislation will continue to ensure these rights. While it is not the only system in place, the law serves as a powerful conduit for societal change, development, and advancement.

The insignificant treatment of people with disabilities continued until World War I when returning disabled veterans required the US government to provide rehabilitation programs as a result of their service to the nation. During the 1930s the United States witnessed the establishment of many technological advancements and the initiation of governmental support, which contributed to the self-sufficiency and self-reliance of people with disabilities. During the 1940s and 1950s disabled World War II veterans demanded additional government assistance for rehabilitation and vocational training. World War II veterans made disability issues more visible

to the grateful citizens who were concerned for the long-term care and productivity of young men who had sacrificed their lives to secure the safety of the United States (Fleischer & Zames, 2001).

While the war veteran's plight provided initial advancements towards independence and self-reliance for people with disabilities, access to public transportation, bathrooms, telephones and stores were still unavailable. Office buildings and worksites with stairs provided no accessibility for the disabled who sought employment, and the attitudes from employers created even more detrimental barriers to opportunity. Otherwise talented and eligible people with disabilities were locked out of opportunities for meaningful work (Switzer, 2003).

The American civil and human rights struggles during the 1950s and 1960s influenced advocates for disabilities rights to join their efforts alongside other minority groups and begin the fight for their rights and recognition as people; being just as deserving of acceptance of their differences and the freedom and equality that are the rights of all individuals (Switzer, 2003). Disability rights activists assembled on the local level and demanded national initiatives that confronted the social and physical obstacles facing the disability community.

Parent advocates spearheaded the demand for the removal of their children from asylums and institutions and placement into schools where they were provided the opportunity to engage in society just like their non-disabled peers (Fleischer & Zames, 2001). The early 1950s saw racial segregation in public schools as the norm across America (Jaeger & Bowman, 2005). Also, during this time, the National Association for the Advancement of Colored People (NAACP) started laying the groundwork in the fight against segregation. The groundbreaking 1954 Supreme Court case Brown versus the Board of Education was the catalyst that challenged the constitutionality of racial segregation in public schools.

This historic case provided the opportunity for activists such as Justin Dart, Judith Heumann, and Ed Roberts to establish and champion the Disability Civil Rights Movement, following the example of servant leaders like Dr. Martin Luther King Jr. and President Lyndon B. Johnson. The Vocational Education Act of 1963 guided services for students with disabilities, by providing growth in the development of vocational programs for disadvantaged populations and individuals with disabilities. The Vocational Education Act of 1968 created programs for the recruitment and training of rehabilitation service providers and services for youth and young adults with disabilities (Flexer, et al., 2001). This Act influenced the increase in federal support for vocational education schools, cooperative work-study programs, and research training and demonstrations in vocational education (Vocational Education Act, 1963).

The appearance of the NAACP and the American Disability Rights Movement was supported by a succession of events related to the implementation of the first major civil rights provision protecting people with disabilities (Scotch, 2009). One of these events was the passage of Section 504 of the Rehabilitation Act of 1973. Section 504 was modeled after Title VI of the Civil Rights Act of 1964, which banned racial discrimination by recipients of federal funds. Congressional staff was able to draft and pass this article of the Rehabilitation Act without any debate. Its implications led to the establishment of a national commitment to accessibility rights for people with disabilities that covered local schools, colleges, public transportation systems, government offices, hospitals, and social service agencies.

During the 1960s, specific legislation addressing accessibility rights for individuals with disabilities was passed such as, the Architectural Barriers Act of 1968. This Act required the removal of barriers, like stairs and narrow doorways. It also required the installation of ramps and elevators, providing access to millions who had essentially been homebound. During the

1970s, the Architectural Barriers Act was integrated into the Rehabilitation Act of 1973. This integration provided disability activist groups further power to take legal action against building owners who refused to make adaptations that improved accessibility for individuals with disabilities (e.g., Washington Urban League, Inc. v. Washington Metropolitan Area Transit Authority, Inc., 1973; Rose v. United State Postal Service, 1983; Board of Trustees of the University of Alabama v. Garrett, 2001).

The Rehabilitation Act of 1973 was also the primary federal legislation that established programs that promoted work and independent living for individuals with disabilities. The law included equal access to government facilities receiving federal monies and as significant recipients of federal funds, public schools were also required to be in compliance with this Act. The Education for All Handicapped Children Act of 1975 (EAHCA) provided students with disabilities in public schools their right to a free and appropriate education. This law guaranteed equal educational access for all individuals with disabilities. Disability legislation passed during the 1960s and 1970s induced significant and necessary changes in the rights of individuals with disabilities.

Early 1980s legislation focused on providing more opportunities for adolescents. The Job Training Partnership Act of 1982 assisted economically, disadvantaged youth with disabilities, and those who faced work barriers. Employment preparation of young people with disabilities was addressed with the passage of the Carl D. Perkins Vocational Education Act of 1984. This Act allotted funds for special populations (i.e., individuals with disabilities) and focused on improving workforce labor skills and providing equal opportunities by expanding the reach of legislative protection and employment opportunities. The Rehabilitation Act Amendment of 1986 focused on individuals with severe disabilities and redefined employability

that included an alternative for part-time or full-time employment with supported employment services.

With the passage of the Americans with Disabilities Act of 1990 (ADA), the most inclusive civil rights legislation affecting people with disabilities was established. This law mandated equal employment opportunity for all people with disabilities (Title I), as well as nondiscrimination by disability. The ADA also protected persons with disabilities' equal access, in state and local government services. To assist in preparing youth with disabilities to enter the workforce, the Carl D. Perkins Vocational & Applied Technology Act of 1990 allotted federal funds to help provide vocational-technical education programs and services that include specialized instruction in careers and work experiences. Also in 1990, a focus on youth with disabilities continued as the Education for All Handicapped Children Act of 1975 (EAHCA) was amended and its name changed to the Carl D. Perkins Vocational & Applied Technology Act of 1990. IDEA provided the first formal legislative definition of transition services, acknowledging and addressing the unique needs of older students.

The passage of the Rehabilitation Act of 1992 provided students with disabilities services that promoted post-school activities such as employment. These amendments mandated substantial adjustments in the overall functioning hierarchy of rehabilitation programs. The primary focus is to support persons across the full range of type and extent of disability so they may attain and maintain employment outcomes appropriate to their interests and abilities. The Amendments are guided by the inference of capacity. An individual with a disability, despite the severity, can attain employment and other rehabilitation goals with the provision of appropriate supports and services.

Transition services were significantly impacted by the Workforce Investment Act of 1998 (WIA) and the Carl D. Perkins Act and its amendments (1984, 1990, 1998, and 2006). These two legislative items supported the preparation of individuals with disabilities for employment. The WIA (1998) streamlined workforce development programs to help people who face barriers to employment through one-stop career centers. The Carl D. Perkins Act and its amendments (1998, 1990, 1984, 2006) was passed to improve the workforce labor skills as well as to provide equal opportunities for individuals with vocational education.

The 2000s saw more outcome-oriented legislation focused on youth with disabilities. The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 defines transition as a results-oriented process, which focuses on a child with disabilities' academic achievement and functional performance during their school years. This process gives professionals the means to evaluate the child's current and future potential of academic standards and their ability to apply academic skills in a variety of ways or settings. The Carl D. Perkins Career & Technical Education Act Amendments of 2006 include the new program of study requirements that link academic and technical content across secondary and postsecondary education and strengthened local accountability provisions ensuring continuous program improvement.

The initial ADA (1990) and its subsequent amendments (2008) were a huge advancement in disability rights legislation affecting all aspects of life for individuals with disabilities, including education (Martin, 2001). The ADA Amendments Act of 2008 added additional factors to the law to strengthen its power of protection of persons with disabilities. Such factors included providing a definition of the main life activities considered under the law.

The Workforce Innovation and Opportunity Act (WIOA) became law on July 22, 2014, and took effect on July 1, 2015. This recent enactment places new requirements on state VR

agencies regarding transition-age youth with disabilities and emphasizes the need to identify empirically supported practices, to improve outcomes for this population. The enactment of WIOA (2014) designates that 15 percent of each state's 110 funds are set aside for use in the provision of pre-employment transition services for students with disabilities.

The WIOA (2014) expands services to support the transition of students and youth with disabilities to postsecondary education and employment. It also emphasizes the engagement of employers to provide work-based learning opportunities for individuals with disabilities by incorporating new requirements that ensure collaboration among relevant stakeholders at federal and state levels. The goal is to streamline the workforce development system and increase services to transition-age students and youth with disabilities. Summarily, WIOA (2014) is "designed to help job seekers access employment, education, training, and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy" (U. S. Department of Labor, 2014, para. 1).

The Rehabilitation Act, Americans with Disabilities Act, and Individuals with Disabilities Act, and subsequent amendments were designed to provide and protect individuals' 14th amendment rights. With a focused on inclusion, productivity, and independence, each law seeks to improve the education, employment, transportation, health care, housing, and community living of individuals with disabilities. Despite the vast accomplishments gained in the advancement of disability rights, more work is necessitated to promote future legislation that will continue to secure people with disabilities in our society.

This population faces issues such as poverty, adequate pay, living conditions, etc. at a higher rate than their non-disabled peers. Individuals with a more severe disability are at greater risk of poverty due to their lack of employment experiences (Certo, Brown, Courey, Belanger,

Luecking, & Murphy, 2008). Similar to their predecessor the Civil Rights Movement, the Disability Rights Movement has experienced both progress and regression (Hughes, 2009). Thus the need for continued focus on issues affecting individuals with disabilities.

Transition Defined

According to Section 602 (a) of IDEA Transition Services is defined as:

> A coordinated set of activities for a student, designed within an outcome-oriented process, which promotes movement from school to post-school activities, including postsecondary education, vocational training, integrated employment (including supported employment), and community participation. The coordinated set of activities shall be based upon the individual student's needs, taking into account the student's preferences and interests, shall include instruction, community experiences, the development of employment and other post-school adult living objectives, and if appropriate, acquisition of daily living skills and functional vocational evaluation. (P. L.101-476, Section 602(a))

This definition focused on activities that would allow students with disabilities to participate in a significant transition from high school to postsecondary settings. It also afforded a complete look at postsecondary opportunities such as employment, postsecondary education, vocational training, and independent living. Most fundamentally, it provided educators, parents, and service providers with a rationale to create and implement effective transition services.

The progress from adolescence to adulthood, which begins to take place at the completion of high school is a significant lifetime transition. This time is indicative of young people becoming more independent in their movement toward adulthood. This progression is also the time when entitlement to public education ends and they must be ready to engage in

their young adulthood roles (Benz & Halpern, 1987; Knott & Asselin, 1999; Test, Aspel, & Everson, 2006). Halpern (1994) described transition as "change in status from behaving primarily as a student to assuming adult roles in the community" (p. 117). Additional education, vocational training, employment or independent living are the main options considered as they contemplate future choices.

Students with disabilities often find these options to be more challenging and require support and early planning to be successful. For students with disabilities during their transition process, the participation and coordination of school programs, adult agency services, and natural supports within the community need to be in place (Flexer, Simmons, Luft, & Baer, 2001). The provision of this coordinated set of service delivery enables students with disabilities to meet their current and future transition needs.

The Transition Movement

With the enactment of federal legislation, the transition movement evolved to meet the needs of youth and young adults with disabilities. The work-study programs of the 1960s and the U.S. Department of Education's Office of Special Education Programs (OSEP) model demonstration projects of the late 1980s while in place, did not provide the definition of transition and legality of program enactment that IDEA of 1990 required. The beginning of the transition initiative in special education was in 1984 and spearheaded by then Assistant Secretary of the Office of Special Education and Rehabilitative Services (OSERS), Madeleine Will. Will (1984) wrote Bridges from School to Working Life, and provided the following definition:

> Transition from school to working life is an outcome-oriented process that encompasses a broad array of services and experiences that leads to employment. The transition is a period that includes high school, the point of graduation, additional postsecondary

> education or adult services, and the initial years of employment. The transition is a bridge between the security and structure offered by the school and the opportunities and risks of adult life. Any bridge requires both a good span and secure foundation at either end. The transition from school to work and adult life requires sound preparation in the secondary school, adequate support at the point of school leaving, and obtain opportunities and services, if needed, in adult situations. (p. 30)

In 1997, IDEA was amended to ensure that transition planning became a part of students with disabilities Individualized Education Programs (IEPs). In 2004, the Individuals with Disabilities Education Improvement Act (IDEIA) required that a transition plan is in effect by the time the student is 16 years of age, to increase the post-school success of students with disabilities. IDEA requires a coordinated effort that focuses on incorporating school to post-school transition planning into the IEP of each secondary-aged student receiving special education services (IDEIA, 2004).

The Rehabilitation Act of 1998 and the IDEA 2004 both describe transition as a coordinated set of activities that address the assessment, planning process, and educational and community experiences for youth with disabilities as they turn age 16. The definition of transition services and enactment of federal legislation created to support youth with disabilities during transition solidified the need for a more collaborative approach among service providers.

While original definitions and transition planning primarily emphasized employment, researchers and professionals began to question this limited focus. They argued that the outcome of the transition process should also reflect independent living and recreational activities (Bates, Suter, & Poelvoorde, 1986; Polloway, Patton, Smith, & Roderique, 1991; Wehman, Kregel, Barcus, & Schalock, 1986). In 1994, the Division of Career Development and Transition

(DCDT) of the Council for Exceptional Children presented a broader definition that emphasized community participation, independent living, and recreation in addition to employment:

> Transition refers to change in status from behaving primarily as a student to assuming emergent adult roles in the community. These roles include employment, participating in post-secondary education, maintaining a home, becoming proactively involved in their community as well as experiencing good personal and social relationships. The process of enhancing transition requires the involvement and coordination of school programs, adult agency services, and natural supports within the community. The foundations for transition should be developed during the elementary and middle school years, guided by the broad concept of career development. Transition planning should begin no later than age 14, and students should be encouraged, to the full extent of their capabilities, to assume a maximum amount of responsibility for such planning. (Halpern, 1994, p. 117)

According to Halpern (1994) DCDT's definition reflected the growth of the practice of transition. It combined the terminology of career development from elementary school through high school, accentuated the planning of other life domains, and bolstered the roles of everyone in the planning process.

Both the Rehabilitation Act and IDEIA 2004 enacted policies that have provided youth and young adults with disabilities the opportunity to access the educational and vocational instruction and training needed to transition to productive young adults participating and contributing to their community. Both pieces of legislation promote transition planning, interagency collaboration, and self-determination to improve the post-school outcomes for youth and young adults with disabilities.

Adult Education

What is Adult Education?

Is adult education a practice or a program? A methodology or an organization? A 'science' or a system? A process or a profession? Is adult education different from continuing education, vocational education, higher education? Does adult education have form and substance, or does it merely permeate through the environment like air? Is adult education, therefore, everywhere and yet nowhere in particular? Does adult education even exist? (Jarvis 1987, p. 3) Adult education is a practice in which adults engage in systematic and sustained self–educating activities in order to gain new forms of knowledge, skills, attitudes, or values (Merriam, Sharan, & Brockett, 2007, p. 7).

Part of our effectiveness as adult educators involves understanding how adults learn best (Lieb, 1991). Andragogy originated in Europe in 1950's, and the term was further refined as a theory and model of adult learning by adult educator Malcolm Knowles. According to Knowles, Andragogy is the art and science of adult learning, thus, Andragogy refers to any form of adult learning (Kearsley, 2010). Its emphasis is founded in the value of the process of learning and approaches learning with a problem-based and collaborative context.

Andragogy allows for the emphasis of equality between the teacher/facilitator and learner in the overall educational hierarchy. Merriam and Brockett (1996), defined adult education as: activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self-perception define them as adults.

Adult education encompasses a diverse group of adult learners ranging in age from 18-25 and older that represent a wide range of cultural, educational, and socio-economic backgrounds, abilities, and job/life experiences. When many hear the term 'adult education,' they

automatically reference adult basic education. While this is a part of what adult education represents, there are additional components that contribute to the overall adult education infrastructure.

According to Darkenwald and Merriam (1982), Adult education is concerned not with preparing people for life, but rather with helping people to live more successfully. If there is to be an overarching function of the adult education enterprise, it is to assist adults in increasing competence, or negotiate transitions, in their social roles (worker, parent, retiree, etc.). Also, to help them gain greater fulfillment in their personal lives, and to assist them in solving personal and community problems.

Adult education combines three elements through the process of working with adults, to promote learning for adulthood. When approached via an interest in goals, 'adult' education could involve working with children so that they can achieve adult status. Lindeman (1926), said 'this new venture is called adult education not because it is confined to adults but because adulthood, maturity, defines its limits.'

The Importance of Adult Education Programming

An educated and trained workforce represents social and economic progress in today's society. According to the Southern Regional Education Board (SREB) president David Spence (2010), the economic well-being of the region is at stake if we continue to allow the growing group of less-educated, working-age adults in SREB states to expand further. Their low levels of education contribute to higher health-care costs and unemployment rates, diminish tax revenues and hinder economic development. Where better-trained workers live, good jobs will follow.

In 2000 more than 2.6 million young adults (ages 18-24) in the SREB states lacked high school credentials, and to reach the national average of adults ages 25-44 who have at least a

bachelor's degree, the region would have needed 731,000 more degree-holders in 2000 (SREB, 2010). Studies also show that based on the information-based economy in the United States, 80 percent of all new jobs in the next 20 years will require some postsecondary education to compete effectively in the workforce (U.S. Department of Education, 2005). To function successfully in today's society, we are no longer able to secure jobs with limited education. Production in our global and technological economy requires that its workers are continuously educated on the ongoing updates and advancements in the varied workforce sectors.

Research shows that a person with a high school credential is more likely to have a job. The U.S. employment rate in 2008 was 13 percentage points higher for adults with high school credentials than for those without them. In 2008, a person with a high school diploma or GED credential earned about 50 percent more on average than an adult who had not completed ninth grade. A person with a bachelor's degree earned about 75 percent more on average than an adult with only a high school credential (U.S. Census Bureau, 2008).

Studies also show that less-educated people on average have more health problems and depend on public health services more than better-educated people. State rankings on health are closely related to the population's' education levels. In 2008, the United Health Foundation and the U.S. Census Bureau ranked eighth SREB states among the 10 with the most adults without a high school credential. The SREB states were ranked low on measures of both health and wellness in its annual America's Health Rankings. Those SREB states that ranked higher in the number of adults without a high school credential also ranked higher in health.

Who are Adult Learners?

There are three levels or categories of adult learning. There is the first level or basic education category, the second level or postsecondary education for career advancement category, and the third level or continuing education for personal attainment category. Adult learners are also those individuals who have retired from the workforce, but for personal growth and attainment, continue to pursue varying educational ventures of interest. According to the Department of Education and Science (2000) lifelong learning is the "ongoing, voluntary, and self-motivated" pursuit of knowledge for either personal or professional reasons. Therefore, it enhances social inclusion, active citizenship, personal development and self-sustainability, rather than competitiveness and employability (COM, 2006).

For the purpose of this study, the term adult learner will refer to a young adult with disabilities, who have been out of secondary school 0-8 years, and have pursued postsecondary education options.

Principles of Adult Learning

Recognizing and understanding what the principles of adult learning are assists in the curriculum development phase of program planning and should be approached with the following four tenets identified by Knowles (1980), in mind.

- Adults need to be involved in the planning and evaluation of their instruction.
    - While they appreciate the information and guidance of the ‘expert,' they prefer to have options based on their particular needs and not be told what to do.
    - Experience (including mistakes) provides the basis for the learning activities.

    - Identify what the adult learner can already do and what they want to learn how to do. Develop activities are teaching specific skills that will address the deficits in their knowledge base.
- Adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life.
- Adults will only learn what they feel is necessary, so skills identified need to be used immediately to validate relevance.
- Adult learning is problem-centered rather than content-oriented. (Kearsley, 2010).
    - Life has provided adults with experiences that intrinsically lead them to start with a problem and then work towards finding possible solutions.

When these four factors have been considered throughout the developmental process, end results will most likely be a program that reflects those needs and interests of the adult learners it was designed to reach (Knowles, 1984).

Adult Education Programming

According to the website Study.com (n.d.), adult education programs/courses are located in secondary schools, community colleges, universities and other institutions of business and industry, to churches and community centers. These programs range from providing basic adult literacy education to preparing adult learners to enter into a new industry, for career advancement, to earn a degree or just learn for personal enrichment. Adult education programs focused on basic math, English, reading and job skills training, can be found nationwide. These programs are free and are usually provided through secondary schools and state-run training centers.

Program designs feature classes that assist students in earning their high school equivalency diplomas – General Education Diploma (GED). Courses offer a range of subjects from English as a second language, to entry-level training in office administration, health care, and computer operations professions. Another programming often includes personal enrichment classes with topics like photography, personal finance management, parenting, art, music, dance, and cooking.

At the collegiate level, adult education programming is available through the continuing education departments. One can find some 2-year schools that offer GED preparation and job skills training, but adult education programming at this level is more specifically designed for adult learners who have already obtained their high school diploma (or equivalent) and are working towards career advancement. These course credits can be applied towards undergraduate and graduate degrees and certificates in a variety of professional areas. Non-credit courses are also available in subjects like office management and leadership development.

Adult education programming is also offered through a distance-learning format, at the collegiate level. There are schools where this is the primary design of program instruction; the students complete their programs entirely online and never have to step foot on an actual campus.

Adult Education Program Characteristics

According to the National Center for the Study of Adult Learning and Literacy (NCSALL), programs should engage in a regular planning process that is informed by the input of multiple stakeholders (staff, students, and related institutions). Planning should address the following:

- Student and community need

- Goals for the program
- Goals for student achievement
- Instructional processes
- Professional development needs
- Persistence patterns
- Community Relations
- Staffing and resource need
- Resources and fund development
- Technology needs and resources

The National Adult Education Professional Development Consortium (NAEPDC), discusses how a program plan guides the work; determining precisely how that will happen and describes the five critical elements of the program planning process as follows: 1. Conducting the Needs Assessment: A plan is developed based on the findings of a needs assessment that incorporates a multitude of perspectives. 2. Linkage with Partner Organizations: One key feature of successful adult education programs is linkage to at least five other agencies or organizations (1991 National Evaluation of Adult Education Programs). Beyond their education, this provides the opportunity for additional needs to be addressed, which is often the basis for their participation. 3. Setting Priorities: You cannot do everything. How do current assets match identified needs? Where are the gaps? What are the options for filling those gaps? What can be omitted? Who helps you set those priorities? 4. Developing the Plan: The actual plan provides the framework for program operations. What roles do partners play in developing and implementing the plan? Who else should be involved in developing the plan's content? Are there guidelines for what the plan should include, e.g., the State Plan? Who needs to approve the

plan before it can move forward? Is public comment required? What timelines are involved? What resources will be required for plan development? 5. Evaluating the Results: Evaluation should be an ongoing process through all phases of plan development and implementation. How will you document and monitor the implementation of the plan? How will you evaluate the process and the outcomes?

The utilization of a programming plan guide speaks directly to Maehl's (2000) fifth and sixth principles of effective program evaluation. Linkage to additional agencies provides reference program models that are operating successfully under similar auspices, as well as opportunities to collaborate with experienced adult program administrators and leaders about the elements necessary for programs continuing effectiveness and viability.

There are many program model designs found in the literature, but Caffarella (1994), the Interactive Model for Program Planning, is in 12 ordered steps. This model has been re-conceptualized three different times over the past 20 years (Caffarella, 1994, 2002). The model represents a way of thinking about program planning that is interactive in nature, a non-linear planning process and therefore, a dynamic and ongoing educational plan.

Post-High School Outcomes

Employment

Employment for many adults is a central component of their lives; it provides economic benefits, as well as a social network and sense of worth as a productive member of society (Levinson & Palmer 2005; Rogan, Grossi, & Gajewski 2002). Research shows that employment has been linked to a range of positive outcomes, including financial independence and enhanced self-esteem (Fabian 1992; Lehman et al., 2002; Polak & Warner 1996). According to Cameto, Levine, & Wagner (2004), given the importance of post-high school employment, preparation for employment is a primary focus of many transition services for secondary-school-age youth with disabilities, and achieving employment is the primary transition goal of the majority of secondary students with disabilities served under IDEA.

The demand for effective, high-quality adult learning programs has been necessitated by high unemployment rates, budget cuts, layoffs, and plant closings. Before the recession of 2008, millions of now displaced workers across the United States once had the ability to obtain good-paying jobs without pursuing postsecondary education (SREB, 2005). As mentioned above under the importance of adult education programming, our economy has become more information/technology based; which allows us to operate on a global level (U.S. Department of Education, 2005).

For workers to effectively produce in their positions, continuous training/certifications are necessary. Now, these same groups of adult workers need additional training to compete. This is especially the case for many undereducated adults in the SREB region who dropped out of high school to take jobs in the factory or agricultural sector, following the lead and expectations of their family members before them. As these types of jobs become obsolete, adult

learning in the region is not measuring up to the challenge facing these individuals (SREB, 2010).

According to Wagner et al. (2005) until the mid-1990s, few studies existed of youth with disabilities in transition, which examined post school outcomes other than paid employment. Although the range of post school outcomes has expanded, employment continues to be central in recent studies (Benz et al., 1997; Haywood & Schmidt-Davis, 2000). Even among students with disabilities represented in NLTS2, employment is the most commonly cited transition goal of students with disabilities while in secondary school (Cameto, Levine, & Wagner, 2004), and paid employment is more common in the early post-high-school years than postsecondary education.

While post school focus is primarily paid employment, it is necessary to recognize the increasing importance of postsecondary education and job training in the lives of many young adults in the United States (Wagner et al., 2005; SREB, 2005). Research shows that assisting working-age adults complete high school equivalency programs and enroll in postsecondary programs has tremendous benefits for both the individual and society (SREB, 2005). Enrollment in 2- or 4-year degree-granting institutions increased steadily over the decade of the 1990s, from 13.8 million to 15.3 million (Gerald & Hussar, 2002). College enrollment includes close to half a million students with disabilities (Lewis, Farris, & Greene, 1999), and concerted efforts are under way to increase the access of students with disabilities to postsecondary education (Getzel, Stodden, & Briel, 2001; NCRVE, 1999; Stodden, 2001).

Postsecondary Education

Postsecondary education has been linked to increased earning potential for youth who continue their education after high school, even for those who have not earned a degree

(Marcotte et al., 2005). Research shows that over the course of a lifetime, an individual with a college degree will earn $1 million more on average than a worker with a high school diploma (U.S. Department of Commerce U.S. Census Bureau, 2002). According to Carnevale and Desrochers (2003), as the U.S. economy becomes progressively more knowledge-based, attaining a postsecondary education becomes more critical. For example, in 1959 only 20 percent of workers needed, at least, some college for their jobs; by 2000, that number had increased to 56 percent (Carnevale & Fry, 2000).

Respective to their general population peers; young adults with disabilities are focusing on postsecondary education at an increasing rate. Postsecondary education is a primary post-high school goal for more than four out of five secondary school students with disabilities who have transition plans (Cameto, Levine, & Wagner, 2004). Additionally, youth with disabilities is increasingly taking rigorous academic courses in high school, including college-preparatory courses, such as foreign language and science (Wagner, Newman, & Cameto, 2004).

Research shows that even when they are effectively prepared by their high school programs for postsecondary education, students with disabilities face a variety of obstacles in the transition from secondary to postsecondary school. Postsecondary schools are guided by a legal framework of rights and responsibilities that differ from the framework governing secondary schools (nlts2.org). When students with disabilities leave high school, their education is no longer covered under the IDEA mandates but falls under the auspices of two civil rights laws—Section 504 of the Rehabilitation Act and the Americans with Disabilities Act (ADA) (Stodden, Jones, & Chang 2002; Wolanin & Steele, 2004).

Unlike high school, there is no mandatory Individualized Education Program (IEP) process to identify and provide the supports students may need to succeed in the postsecondary

school (Office for Civil Rights U.S. Department of Education, 2007). In high school, IDEA places "the burden on the school to find and serve the student with an IEP. In higher education the burden is on the student, not the school, to find the appropriate services and navigate through higher education" (Wolanin & Steele, 2004, p. 27).

With this understanding of the challenges that the postsecondary school environment posed for young adults with disabilities, Newman, et al. (2011), examined the following questions:

- To what extent do young adults with disabilities enroll in postsecondary schools?
- How does their level of enrollment compare with that of their peers in the general population?
- What are the experiences of those enrolled in postsecondary schools, including the intensity of their enrollment and their course of study?
- To what extent do those who enroll receive supports and accommodations as part of their postsecondary education?
- What are the completion rates for students who enroll in postsecondary schools?

The following data from the NLTS2 (2011) is the reported postsecondary education experiences of young adults with disabilities who have been out of secondary school up to 8 years:

- Postsecondary students who attended 2-year colleges were more likely to have been enrolled in an academic than the vocational course of study (51 percent vs. 30 percent). Students at all types of colleges focused on a broad range of majors.

- To receive accommodations or supports from a postsecondary school because of a disability, students first must disclose a disability to their school. Sixty-three percent of postsecondary students who were identified by their secondary schools as having a disability did not consider themselves to have a disability by the time they transitioned to postsecondary school.
- Twenty-eight percent of postsecondary students with disabilities identified themselves as having a disability and informed their postsecondary schools of their disability.
- Postsecondary students who were given assistance because of their disability received a range of accommodations and supports from their schools. Additional time to complete tests was the most frequently received type of assistance, with 79 percent receiving this type of accommodation.
- Postsecondary students received help with their schoolwork beyond the support provided by schools because of their disability. Forty-four percent reported receiving some help, whether or not the assistance was related to their disability.
- Most students who received any help with their schoolwork reported that these supports were “very” or “somewhat” useful (88 percent) and that they “probably” or “definitely” (85 percent) were getting enough assistance.
- Forty-three percent of postsecondary students who had not received any help with their school work reported that it would have been helpful to have received assistance with school work.
- On average, students with disabilities who had been out of high school up to 8 years and had attended a 2-year or 4-year college had earned 59-semester credits. Those who had

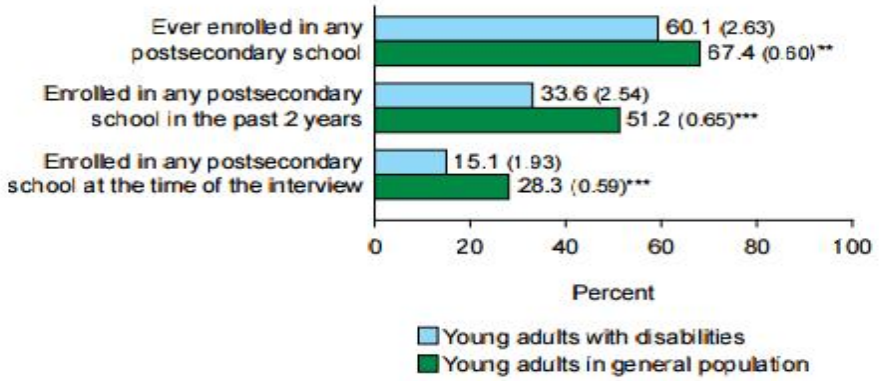
attended 2-year or community colleges had earned on average 23-semester credits, and those who ever had attended a 4-year college had earned 71-semester credits.

- Ninety percent of students with disabilities who were currently enrolled in postsecondary school reported that they were working toward a diploma or certificate.
- At the time of the Wave 5 interview, 41 percent of postsecondary students had graduated from their most recent post-secondary program; 31 percent had left their most recent post-secondary school before completing, and the remaining students still were currently enrolled in their postsecondary program at the time of the interview. Forty-one percent had completed their 2-year college programs, 57 percent had completed their vocational, business, or technical school programs, and 34 percent had completed their 4-year college programs.

Postsecondary School Enrollment

While we now have an understanding of the importance of the pursuit, ensuring that students with disabilities have "access to and full participation in postsecondary education" has been identified as one of the key challenges in the future of secondary education and transition for such students (National Center for Secondary Education and Transition, 2003, p. 1). For young adults in the general population, "postsecondary enrollments are at an all-time high" (Ewell & Wellman, 2007, p. 2). Of young adults with disabilities, 60 percent were reported to have continued to postsecondary education within eight years of leaving high school. The percentage of similar-age young adults in the general population who had ever enrolled in postsecondary school was higher than that of young adults with disabilities (67 percent, $p < .01$) (See Figure 1).

Figure 1. Postsecondary school enrollment of young adults with disabilities and young adults in the general population



** $p < .01$, *** $p < .001$ for the difference between young adults with disabilities and young adults in the general population.
NOTE: Standard errors are in parentheses. Findings are reported for young adults with disabilities out of high school up to 8 years. NLTS2 percentages are weighted population estimates based on a sample of approximately 4,800 young adults with disabilities.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 5 parent interview and youth interview/survey, 2009; U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth 1997 (NLSY97) 2005 youth survey, responses for 21- to 25-year-olds.

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[29] Respondents were asked, "Since leaving high school have you [has YOUTH] taken any classes from a [postsecondary school]?"

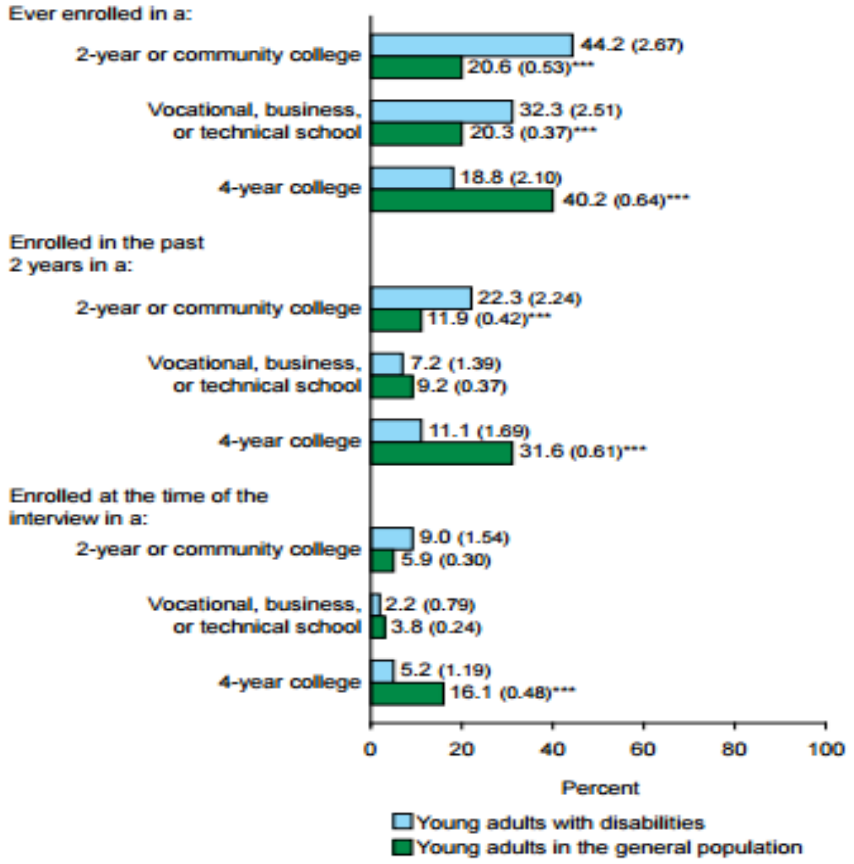
[30] U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth 1997 (NLSY97) 2005 youth survey, responses for 21- to 25-year-olds.

Figure 1. Postsecondary enrollment young adults with and without disabilities (NLTS2, 2011)

The NLTS2 data also showed that thirty-four percent of young adults with disabilities who were out of high school up to 8 years were reported to have been enrolled in a postsecondary program in the two years before the interview, and 15 percent were enrolled at the time they were interviewed. By both measures, young adults in the general population were more likely than young adults with disabilities to be enrolled. Approximately half (51 percent) of young adults in the general population had been enrolled in college in the two years before the interview, and 28 percent were enrolled at the time they were interviewed rates of enrollment varied by type of postsecondary program. Among young adults with disabilities, enrollment in 2-year or community colleges since leaving high school (44 percent) was more common than enrollment in postsecondary vocational, business, or technical schools (32 percent, $p < .001$), and

enrollment in both of these categories of institutions was more common than enrollment in 4-year colleges or universities (19 percent, $p < .001$ for both comparisons; figure 2). ($p < .001$ for both comparisons). Young adults with disabilities were more likely than same-age young adults in the general population to have attended a 2-year college or a postsecondary vocational school at some point since leaving high school (44 percent vs. 21 percent and 32 percent vs. 20 percent, $p < .001$ for both comparisons). In contrast, young adults in the general population were more likely to have attended a 4-year college (40 percent vs. 19 percent, $p < .001$). These patterns of differences also are found for enrollment in 2-year and 4-year institutions in the 2 years before the interview (22 percent vs. 12 percent at 2-year colleges and 11 percent vs. 32 percent at 4-year colleges, $p < .001$ for both comparisons) and for enrollment in 4-year institutions at the time of the interview (16 percent vs. 5 percent, $p < .001$). Almost one-third (31 percent) of young adults with disabilities had enrolled in more than one type of postsecondary institution since leaving high school (not in the table). In comparison, 29 percent reported having attended only one type of postsecondary school since high school (See Figure 2).

Figure 2. Postsecondary school enrollment of young adults with disabilities and young adults in the general population, by school type



*** $p < .001$ for the difference between young adults with disabilities and young adults in the general population.

NOTE: Young adults who had enrolled in more than one type of postsecondary school were included in each type of school they had attended. Standard errors are in parentheses. Findings are reported for young adults with disabilities out of high school up to 8 years. NLTS2 percentages are weighted population estimates based on a sample of approximately 4,800 young adults with disabilities.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 5 parent interview and youth interview/survey, 2009; U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth 1997 (NLSY97) 2005 youth survey, responses for 21- to 25-year-olds.

Figure 2. Postsecondary enrollment young adults with and without disabilities by school type (NLTS2, 2011)

Self-Determination

Self-Determination Defined in Policy

The operational definition of self-determination/self-advocacy is "the ability to make choices, solve problems, set goals, evaluate options, take the initiative to reach one's goals, and accept consequences of one's actions" (Rowe et al., 2013). Self-determination has received significant attention in the field of special education and transition (Shogren et al., 2013). Over the last two decades, federal disability policy has increased focus on the promotion of postsecondary education and self-determination as strategies for improving the post-school outcomes of people with disabilities (Berry, et al., 2012). Under the Obama administration, ambitious goals for increasing the number of students, including those with disabilities, were established focused on the completion of at least one year of higher education or advanced training beyond high school (Obama, 2009).

The 1990s focused on the improvement of the post-school outcomes of youth with disabilities and as a result, promoting student self-determination emerged as an instructional focus area in special education. Wehmeyer (2005) has defined self-determined behavior as "volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one's quality of life" (p. 17). This self-determined behavior refers to actions identified by four main features: (a) the person acts autonomously; (b) the behavior(s) are self-regulated; (c) the person initiates and responds to events in a psychologically empowered manner; and (d) the person acts in a self-realizing manner (Shogren et al., 2007; Wehmeyer & Palmer, 2003).

The notion of self-determination is embedded in the federal policy relating to people with disabilities. The 1992 Amendments to the Rehabilitation Act (the "Act") described disability as "a natural part of the human experience and in no way diminishes the right of individuals to live independently, enjoy self-determination . . . And pursue meaningful careers" (Rehabilitation Act Amendments of 1992). Additionally, the 1998 amendments to the Act emphasized informed choices and decisions for persons with disabilities receiving vocational rehabilitation services. For those youth with disabilities receiving special education and related services, regulations for the Individuals with Disabilities Education Improvement Act (IDEA) of 2004 also focalized an emphasis on self-determination in federal policy by defining transition services as a "coordinated set of activities . . . That is based on the individual child's needs, taking into account the child's strengths, preferences, and interests" (Assistance to States for the Education of Children with Disabilities Rule, 2006). Beyond the IDEA statute, model demonstrations funded by the Office of Special Education Programs were critical in the development of strategies that incorporated self-determination as part of individualized education and transition planning, which were later disseminated through state systems change initiatives (Ward, 2005).

Self-Determination and Instruction

Researchers have documented a relationship between self-determination and school-based outcomes, including student involvement in transition planning (Test et al., 2009), access to the general education curriculum (Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012) and academic skills (Konrad, Fowler, Walker, Test, & Wood, 2007). A limited body of research has suggested a direct relationship between self-determination and post school outcomes, such as employment, independent living, and quality of life (Lachapelle et al., 2005; Martorell, Gutierrez-Recacha, Pereda, & Ayuso-Mateos, 2008; Powers et al., 2012; Wehmeyer

& Palmer, 2003; Wehmeyer & Schwartz, 1997). Wehmeyer and Palmer (2003) found that youth with disabilities who learned self-determination skills was more productively engaged after high school, obtained higher hourly wages, were more likely to live independently and to have employment with a choice of benefits, and displayed more financial independence than youth who did not exhibit self-determination. McDonnall and Crudden (2009) found similar relationships between self-determination and employment for youth with visual impairments. However, neither study examined postsecondary education.

According to Algozzine et al., (2001) researchers have developed and validated instructional strategies that can be used to promote self-determined behavior. Shogren et al. (2013) documented substantial positive impacts of instruction in self-determination skills on school and post school outcomes. For example, Powers and colleagues (2012) examined the impact of the TAKE CHARGE self-determination curriculum (Powers et al., 2001) on 69 youth who received special education and were in the foster care system. They found that youth randomly assigned to the intervention condition (versus the standard foster care independent living program) had higher employment rates and independent living one-year post-intervention. Relatively little is known about the contextual factors that influence the development of self-determination and interventions to promote it (Shogren, 2013).

Contextual factors (student, family, and school factors) can affect both the development of self-determination and effectiveness of interventions to promote it, for example, disability label (student-level factor), may impact the supports students need to develop self-determination skills. The beliefs of family members and teachers and the practices adopted at home and school (family and school-level factors) to promote self-determination skills, can also impact how they respond to interventions (Cook & Odom, 2013), as can their experiences in school with transition

planning and general education access (Shogren et al., 2007). A quantitative study by Morningstar et al. (2010) examined the relationship between self-determination and the high school transition preparation of postsecondary students with disabilities. Students who attended 4-year universities completed a two-part online survey.

The first part assessed psychological empowerment, hope, and locus of control. The second part measured the quality of high school transition preparation as an independent variable. Correlational analyses performed by the authors found that the sampled postsecondary students with disabilities displayed high levels of psychological empowerment, the locus of control, and hope, which were related to specific components of high school transition programs. Shogren et al., (2014) found that the body of research documenting a relationship between self-determination status and post school outcomes is promising, but additional research is needed due to existing research that is characterized by small samples, making conclusions preliminary at best. Also, further research is needed on the impact of exposure to self-determination interventions in secondary school on adult outcomes.

Self-Determination and Diversity

While much attention has been directed at the importance of promoting self-determination in the field of special education, resulting in the emergence of research-based practices to teach the skills associated with self-determination (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Cobb, Lehmann, Newman-Gonchar, & Alwell, 2009; Test et al., 2009), pertinent questions still remain about the appropriateness of the self-determination construct to diverse youth with disabilities (Leake & Boone, 2007; Trainor, 2002). The cultural influence on self-determined behavior has begun to receive more attention in the literature (Shogren, 2011). Each student's personal culture is influenced by a variety of factors, including gender, disability,

race/ethnicity, language, and socioeconomic status (Trainor, Lindstrom, Simon-Burroughs, Martin, & Sorrells, 2008). Each of these factors can potentially affect the manner in which students' express self-determined behavior, which has relevance for the design and implementation of self-determination interventions (Shogren et al., 2014).

One aspect of culture that has been individually examined by a small number of researchers is the influence of race/ ethnicity on self-determination in youth within the United States. For instance, Trainor (2005) interviewed European American, African American, and Hispanic youth with learning disabilities about their experiences with self-determination. She suggested there were "hints that participants with varying cultural identities perceive and experience self-determination differently, but these differences were difficult to capture because opportunities . . . were limited" (p. 243). Leake and Boone (2007) explored the perceptions of Black, Asian, Filipina, Hawaiian, Hispanic, Pacific Islander, and White youth with emotional and behavioral disorders. They found that while all racial and ethnic groups reported diverse cultural values, the diverse youth was more likely to describe responsibility to their family as a central influence on their self-determined behavior.

These studies demonstrate that race/ethnicity may influence the expression of self-determined behavior. However, limited research exists that has specifically examined the relationship between race/ethnicity and student's self-reported level of self-determination. Many literature reviews have found inconsistent reporting of race/ethnicity reported in the self-determination intervention literature, preventing the exploration of differences in self-determination status or outcomes (Wood, Fowler, Uphold, & Test, 2005). Understanding the differences in student's relative levels of self-determination could further clarify the influence of

race/ethnicity on self-determination, broadening our understanding of personal and environmental factors that may affect self-determination (Shogren et al., 2014).

Socioeconomic Status (SES)

Socioeconomic Status Defined

According to the American Psychological Association (APA) 2016, Socioeconomic Status (SES) is often measured as a combination of education, income and occupation. It is commonly conceptualized as the social standing or class of an individual or group. When viewed through a social class lens, privilege, power, and control are emphasized. Furthermore, an examination of SES as a gradient or continuous variable reveals inequities in access to and distribution of resources. SES is relevant to all realms of behavioral and social science, including research, practice, education and advocacy.

APA research also concluded that low SES and its correlates, such as lower education, poverty and poor health, ultimately affect our society as a whole. Inequities in wealth distribution, resource distribution and quality of life are increasing in the United States and globally. Society benefits from an increased focus on the foundations of socioeconomic inequities and efforts to reduce the deep gaps in socioeconomic status in the United States and abroad (APA, 2016). According to Morgan, Farkas, Hillemeier, and Maczuga (2009), children from low-SES households and communities develop academic skills more slowly compared to children from higher SES groups.

Initial academic skills are correlated with the home environment, where low literacy environments and chronic stress negatively affect a child's pre academic skills. The school systems in low-SES communities are often under resourced, negatively affecting students' academic progress (Aikens & Barbarin, 2008). Inadequate education and increased dropout rates

affect children's academic achievement, perpetuating the low-SES status of the community. Improving school systems and early intervention programs may help to reduce these risk factors, and thus increased research on the correlation between SES and education is essential (APA, 2016).

Historical Implications on SES

Gloria Ladson-Billings (2006) called attention to the relationship between wealth and what she determined to be an achievement debt accruing to African Americans over centuries in the United States. Her thesis, supported by a growing body of research (Conley, 1999; Orr, 2003; Shapiro, 2004) and testimony among African American scholars and elders, was that differences in educational outcomes between African American and European American students related to the historical denial of resources-social, intellectual, and financial capital-as a legacy of slavery, Jim Crow policies, and subtler institutional racism.

Easton-Brooks and Davis (2007), found that in the 1960s, researchers began making use of SES as a proxy measure of the accrued historical differences in resources and status. A likely explanation for the Black and White portrayal of the disparity in educational outcomes leads back to the Equality of Educational Opportunity Study (Coleman et al., 1966), which sought to examine the educational differences between Whites and Blacks in the 1960s. The Coleman Report was said to be the first to apply SES to educational outcomes (Easton Brooks & Davis, 2007); furthermore, Kiviat (2000) proclaims, "The Coleman Report is widely considered the most important education study of the 20th century" (n.p.). Starting with the Equality of Educational Opportunity Study [The Coleman Report] (Coleman et al., 1966).

It has been cited heavily in the literature (Easton-Brooks & Davis, 2007; Howard, 2010; Mortimore & Blackstone, 1982), and nearly unanimously, researchers conferred with the

findings of Coleman et al., which suggested the lowest performers and poorest students are African Americans (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009). Conversely, the wealthy and high achieving students are Caucasians (Anyon, 2005; Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966; Easton-Brooks & Davis, 2007; Griffin, Jayakumar, Jones, & Allen, 2010; Howard, 2010; Rothstein, 2004; Wilson, 2009).

Hundreds of studies use SES to account for variance in educational outcomes and to explain differences in outcomes across ethnic and racial groups (p. 530). Most commonly measured by educational attainment, income, and occupation, SES has been, and will likely always be, one of the great considerations in educational research, practice, and policy. SES represents a variety of differences in individual student backgrounds, and is useful in understanding the educable traits of students.

SES is for many, a means to educational advancement, as it stands as the gateway to resources in primary and secondary schooling. As stated by Howard (2010), "the mantra of education as the proverbial 'equalizer' is promoted more in the United States than perhaps in any other nation in the world; it is seen as the commodity that helps to transform life chances, improve and reduce the gap between the haves and the have-nots" (p. 9).

Low SES Interventions

While research dictates that early intervention programs may be the key in reducing certain SES risk factors, the reality faced by families from low-SES communities is the inability to provide their children with academic support due to a lack of financial resources or time availability. According to Aikens & Barbarin (2008), children's initial reading competence is correlated with the home literacy environment; number of books owned and parent distress.

Yet, parents from low-SES communities may be unable to afford resources such as books, computers, or tutors to create this positive literacy environment (Orr, 2003). A nationwide study of American kindergarten children, found that only 36 percent of parents in the lowest-income quintile read to their children on a daily basis, compared with 62 percent of parents from the highest-income quintile (Coley, 2002). However, research found that when enrolled in a program that encouraged adult support, students from low-SES groups reported higher levels of effort towards academics (Kaylor & Flores, 2008). The factors that follow were found to improve the quality of schools in low-SES neighborhoods: a focus on improving teaching and learning, creation of an information-rich environment, building of a learning community, continuous professional development, and involvement of parents and increased funding and resources (Muijs et al., 2009). The APA (2016) reported that research by Aikens and Barbarin (2008), found that school conditions contribute more to SES differences in learning rates than family characteristics.

Schools in low-SES communities tend to suffer from high levels of unemployment, migration of the best qualified teachers and low educational achievement (Muijs, Harris, Chapman, Stoll, & Russ, 2009). Gimbert, Bol, and Wallace (2007) found that a teacher's years of experience and quality of training is correlated with children's academic achievement. Yet, children in low income schools are less likely to have well-qualified teachers. In fact, of high school math teachers in low income school districts 27 percent majored in mathematics in college as compared to 43 percent of teachers who did so in more affluent school districts (Ingersoll, 1999).

SES and Academic Achievement

The APA (2016) reported that research continues to link lower SES to lower academic achievement and slower rates of academic progress as compared with higher SES communities. According to Aikens and Barbarin (2008), children from low-SES environments acquire language skills more slowly, exhibit delayed letter recognition and phonological awareness, and are at risk for reading difficulties. Children with higher SES backgrounds were more likely to be proficient on tasks of addition, subtraction, and ordinal sequencing and math word problems than children with lower SES backgrounds (Coley, 2002).

Palardy (2008) found that students from low-SES schools entered high school 3.3 grade levels behind students from higher SES schools. In addition, students from the low-SES groups learned less over 4 years than children from higher SES groups, graduating 4.3 grade levels behind those of higher SES groups. In 2007, the high school dropout rate among persons 16-24 years old was highest in low-income families (16.7 percent) as compared to high-income families (3.2 percent) (National Center for Education Statistics, 2008).

According to the APA (2016) there is increasing evidence that supports the link between lower SES and learning disabilities or other negative psychological outcomes that affect academic achievement. Morgan et al. (2009) found that children from lower SES households are about twice as likely as those from high-SES households to display learning-related behavior problems. A mother's SES was also related to her child's inattention, disinterest, and lack of cooperation in school. Identifying as part of a lower/working class in college has been associated with feelings of not belonging in school and intentions to drop out of school before graduation (Langhout, Drake, & Rosselli, 2009). It was also determined that perception of family economic stress and personal financial constraints affected emotional distress/depression in students and

their academic outcomes (Mistry, Benner, Tan, & Kim, 2009).

While past research in the field of special education has asserted the possibility that racism is the underlying factor in the over-identification of racial/ethnic minorities, it is a possibility that these are valid identifications resulting from the greater possibility of racial/ethnic minorities to have low SES (Blair & Scott 2002; Daniels 1998; MacMillan & Reschly, 1998; O'Connor & Fernandez, 2006; Skiba et al., 2008). A multidisciplinary report released in 2000 by the National Research Council and Institute of Medicine of the National Academies determined that early experiences influence brain development; culture influences, and early development through child-rearing beliefs and practices; and that the brain can actually be harmed by poor nutrition, health or chronic stress (Shonkoff & Phillips, 2000).

Similarly, DSM-IV (2000) explicitly links cognitive disorders and environmental factors, associating Mixed Receptive-Expressive Language Disorder with Environmental Deprivation in one example. Although some studies have made the theoretical connection between race and SES, a major contribution of this study to the disproportionality literature is the analytic consideration of race and SES in conjunction.

Reflective of the implied implications of SES as related to postsecondary education, the research has deemed the investigation of SES in education to be of immense value to the scholarly body of knowledge in the field of higher education. It is important because it further illustrates what is known about student engagement and integration as posed by Tinto (1975, 1987, 1993), Astin (1975, 1993b), and others (DiPerna, 1997; DiPerna, & Elliott, 1999; Elliot & DiPerna, 2002; Hu, 2010; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; National Survey of Student Engagement, 2004, 2007; Reason, Terenzini, & Domingo, 2006).

In reemphasizing the sentiments of Easton-Brooks and Davis (2007) who indicated that hundreds of studies have been conducted related to SES, it can be said, the breadth of literature related to SES as it applies to education is voluminous; however, this study examined aspects of SES which are relevant to academic competence, social fluency, and college integration. In inspecting the literature, it was clear, the most abundant and quite possibly most meaningful association drawn between SES and education was related to the achievement gap, which in the words of Howard (2010), "… [is] perhaps the single most pressing and perplexing issue in education today…" (p. 10). The achievement gap, as defined by many (Bowen, Kurzweil, & Tobin, 2005; Howard, 2010; Mortimore & Blackstone, 1982; Rothstein, 2004), refers to the discrepancy in educational outcomes between individuals from high SES backgrounds and low SES backgrounds, as well as educational disparities between various races or ethnic groups. Not to be mistaken, the achievement gap is not purely an academic construct.

"The gap is reflected most clearly in grades, standardized test scores, high school graduation rates, placement in special education and advanced placement course, and suspension and expulsion rates" (Howard, 2010, p. 12). It is the chasm between the education related, academic, and social achievements and outcomes of the rich and the poor, and Whites and Blacks. This is by no means a suggestion that other ethnic groups (Latin Americans, Native Americans and some Asian Americans) are not commonly identified as low scholastic performers (Bowen, Kurzweil, & Tobin, 2005; Coleman et al., 1966), nor that one group (Whites) comprises the higher performers (as Asians are also 70 frequently cited as high achievers) (Coleman et al., 1966), it is simply accenting what the literature emphasizes most when referring to the achievement gap.

The Coleman Report provided a lens by which to examine the effect of SES on the achievement gap. Coleman et al. (1966) discussed the findings, "One must… be aware of the relative importance of a certain kind of thing to a certain kind of person. Just as a loaf of bread means more to a starving man than to a sated one…" (p. 8). This statement illustrates that access to educational resources is more valuable to students from low SES families than to those from upper SES families. Coleman et al. raised other pertinent issues including the idea that the achievement gap was residual and compounded as students matriculated through primary and 73 secondary education; while, deficient schools were cited as being incapable of remedying this problem.

Summary of Literature

Chapter 2 reviewed the literature which described the origins of disability rights and the passage of pertinent laws leading to the educational and workforce attainments of individuals with disabilities. The literature suggests that despite the significant gains made in the advancement of disability rights, much needs to be continued to be done to maintain equity and inclusion. Chapter 2 also discussed the importance of adult education and adult education programming. Also examined, was post high school outcomes of students with disabilities; the necessity and challenges faced in ensuring access and full participation in postsecondary education. This being identified as one of the key challenges in the future of secondary education and transition for students with disabilities. Self-determination and the importance of teaching and building self-advocacy skills while at the secondary level; on the postschool outcomes of students with disabilities was also discussed. Socioeconomic Status (SES) as it pertains to students with disabilities and factors to improve the quality of schools in low-SES neighborhoods was also addressed.

Chapter 3: Methods

Introduction

This study was a secondary analysis of data provided by the SRI International, under the 1993 National Longitudinal Transition Study of Special Education Children (NLTS). This chapter presents the purpose of this study, research questions, sample population used, as well as the settings, locations, conditions, and method by which data were gathered.

The instrumentation used was examined along with the reliability and validity of the given survey. The data collection process was described, and ultimately, this chapter culminated in a description of the analytical procedures used to conduct this study.

Purpose of the Study

The purpose of this study was to examine the relationship between background (race, gender, and Socioeconomic Status SES) of students with Learning Disabilities (LDs) and self-advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. Postsecondary education outcome data was a representation of students who had reported as a completer at a 2/4-year college/university. Student outcomes were analyzed pertaining to the National Longitudinal Transition Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities. This research will provide better understanding of the affect these factors have on this population of students. This research builds upon what is currently known about student with LDs and serves as a resource to stakeholders involved in the development and improvement of transition practices to bring about successful outcomes for students with disabilities.

Research Questions

This study examined the following questions:

1. What is the relationship between race of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
2. What is the relationship between gender of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
3. What is the relationship between SES of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

Participants

NLTS2 research sought to examine the characteristics, experiences, and outcomes of a nationally representative sample of young adults with disabilities. The data for the NLTS2 report were obtained on approximately 4,810 sample members with responses to the Wave 5 survey who were known to be out of high school at the time of the Wave 5 data collection in 2009.

Respondents included a nationally representative sample of White, African American, Hispanic, male, and female youth with disabilities who were 13 to 16 years old and receiving special education services in grade 7 or above on December 1, 2000, when the study was initiated. Other racial/ethnic categories of youth were less than 3 percent of the population of youth with disabilities; too small to report findings on separately. NLTS2 results were generalized to youth with disabilities nationally and to those in each of the 12 federal special education disability categories in use for students in the NLTS2 age range. This current study focused specifically on the data specifically identified for youth with learning disabilities (LDs).

Instrumentation

The NLTS2 (2011) study employed quantitative methods to analyze secondary data collected using multiple data sources to describe the post-high school experiences of young adults with disabilities at the time of the Wave 5 interview, who were known to be out of secondary school at the time of the Wave 5 data collection. Primary sources used in this report were the Wave 5 youth telephone interview and mail survey or the Wave 5 parent telephone interview, conducted in 2009. In addition, those variables that describe young adults' experiences since leaving high school were constructed on the basis of data from the Waves 2 through 4 (conducted in 2003, 2005, and 2007, respectively) youth telephone interviews and mail surveys or the Waves 2 through 4 parent telephone interviews for young adults who were out of high school at that time. School district rosters, high school transcripts, and the Wave 1 parent interview or mail survey also provided a small amount of the NLTS2 data.

Data Collection Procedures

Young Adult/Parent Data

Wave 5 Data

Youth telephone interview. The majority of the data for the NLTS2 (NLTS2, 2011) was obtained from young adults with disabilities. Responses came from either a telephone interview or a self-administered mail survey that included a subset of key items from the telephone interview. Eligible NLTS2 sample members for a Wave 5 youth telephone interview were those who (1) had working telephone numbers or addresses and were available to be reached by phone, and (2) whose parents/guardians (referred to here as parents) had reported in the Wave 2 parent telephone interview (if interviewed at that time) or in later-wave parent interviews (if interviewed in later waves for the first time)

that the young adult could answer questions about their experience by phone (an approximate total of 4,180 young adults).

After making the initial telephone contact with the parents of sample members and completing items intended only for parent respondents, parents were asked whether their children with disabilities were able to respond to questions about their experiences by telephone for themselves. Parents who responded affirmatively and whose sample children were under the age of 18 were asked for permission for their children to be interviewed and informed of the types of questions that would be asked.

Data was provided by parents for young adults who were reported by parents to be unable to respond to an interview, complete a questionnaire, or who did not respond to interview or survey attempts. Parents of young adults who were 18 or older were informed of the types of questions their children would be asked however, permission was not required as they were no longer minors. Interviewers obtained contact information for these young adults and attempted to complete telephone interviews with them. Wave 5 telephone interviews were completed with approximately 2,410 young adults, 77 percent of the approximately 4,180 who were eligible.

Youth mail survey. If parents responded during the telephone interview that their children with disabilities were unable to answer questions about their experiences by telephone, interviewers asked whether they were able to complete a mail questionnaire. Young adults' respondents could also request to be sent a mail questionnaire, as an option to the phone interview. Mailing addresses were obtained for those request and questionnaires were sent to those sample members. Additionally, the questionnaires were tailored to the individual circumstances of the young adults.

For example, if a parent had indicated during the telephone interview that a young adult was employed, that young adult received a questionnaire that specifically included a section on employment experiences. Approximately 790 questionnaires were returned, representing 40 percent of the approximately 2000 young adults who were mailed a survey. Approximately 760 respondents to the mail survey were out-of-high school young adults who are part of the sample that generated the findings reported. Approximately 2,360 respondents to the Wave 5 telephone interview were out-of-high school young adults.

Parent/guardian interview. Parents completed a telephone interview for sample members who did not respond for themselves due to not being able to do so or who were reported capable to respond, but couldn't be reached or declined to participate. In the latter case, parents were contacted to complete a subset of interview questions that could be answered by many parents (e.g., whether a young adult was employed or enrolled in postsecondary education). Approximately 1,690 young adults who were out of secondary school are represented by parents as the sole respondents.

Out-of-high school young adults whose parents responded for them did not differ significantly in their disability category, age identified as having a disability, age when first special education services were received, health status, or most functional abilities, with one exception. Young adults whose parents responded for them were less likely to have been reported to have high functional abilities than those who had responded for themselves (56 percent vs. 74 percent; appendix B provides in depth information regarding comparisons between these groups).

For the current study, demographic data were used looking at students with LD's who reported completion (graduated, received diploma, certificate, etc.) at a 2-yr. college or 4-yr. university (N= 425). Race was representative of African-American, White, and Hispanic. Gender (male or female), and SES was indicative of low household income=$5,000-$25,000; median household income=$25,000-$50,000; and high household income = over $50,001.

Validity and Reliability

With all empirical research it is imperative to establish validity and reliability of the instrument or instruments being used. According to Wiersma and Jurs (2009), validity is concerned with the accurate interpretability of results and the generalizability of those results. The validity of research findings specifies the soundness of the answers obtained from the study and is considered the most important quality of any research test. Therefore, validity is specific to the interpretation being made and the group being tested (Gay and Airasian, 2000, p. 162). The three most important types of validity are construct, content, and criterion related.

According to Gay & Airasian (2000) construct validity is the degree to which a test measures a non-observable trait. While traits such as intelligence, depression, or attitudes are not directly observable, they are used to explain behavior. The NLTS2 investigated four key domains of youth's self-determination by asking youth to judge and report the extent to which their behavior reflects autonomy, self-regulation, self-realization, and psychological empowerment (Wehmeyer & Schwartz, 1997).

Content validity is the degree of adequacy of measuring and sampling of the intended content area (Gay & Airasian, 2000). This type of validity is determined by expert judgements. The direct assessment included a subset of questions from the Arc's Self-Determination Scale

(SDS) (Wehmeyer & Kelchner, 1995). The SDS, which is based on the functional theory of self-determination (Wehmeyer, 2003), is a 72-item self-report measure that provides data on self-determination through measuring the four essential characteristics of self-determined behavior: autonomy, self-regulation, psychological empowerment, and self-realization (Wehmeyer, 1996).

According to Kerlinger (1973) criterion-related validity compares an instrument's scores with external criteria known or believed to measure the attributes under study. With the SDS researchers are able to calculate subscale scores for these four characteristics, as well as a total self-determination score. Wehmeyer (1996) developed and normed the SDS with 500 adolescents with cognitive disabilities. The SDS had adequate reliability and validity in measuring self-determination.

It is the most widely used assessment of global self-determination in the disability field and has demonstrated good internal consistency across multiple studies with diverse disability populations, including intellectual disability, learning disabilities, physical disabilities, emotional disturbances, speech impairments, other health impairments, and autism (Lee et al., 2011; McDougall, Evans, & Baldwin, 2010; Shogren et al., 2007).

Subsequent research (Shogren et al., 2008) has verified the proposed theoretical structure of the SDS (i.e., four related but distinct latent constructs [autonomy, self-regulation, psychological empowerment, and self-realization] that contribute to a higher order self-determination construct). In developing NLTS2, SRI International sampled 26 items from three of the four subscales of the SDS: autonomy (15 of 32 items), psychological empowerment (6 of 16 items), and self-realization (5 of 15 items).

According to Ross and Shannon (2008) each theoretical construct should be rooted in the literature and a careful examination of prior research should be done in order to identify and

establish the validity of both the construct and its indicators (these being the items used to measure the construct). The present research was mainly concerned with constructs including race, gender, socioeconomic status (SES), learning disabilities (LD), and self-advocacy/self-determination traits.

According to Touliatos and Compton (1988) reliability of research findings lies in the repeatability of results. Findings are considered reliable when another researcher is able to follow the same procedures, use the same type of subject and method of analysis and achieves comparable results. To be useable an instrument must be reliable and valid, thus reliability is the dependability that repeated responses will exhibit little variability (Gay & Airasian, 2000; Touliatos & Compton, 1988).

The NLTS2 conceptual framework and research questions were designed with the intention of allowing analyses of the relationships between NLTS2 data and data generated by OSEP's Special Education Elementary Longitudinal Study (SEELS). The SEELS 6-year study followed a group of students in special education (6 to 12 years old as of September 1, 1999) and assessed the experiences and achievements of students during their K-12 transitions from elementary to high school.

The overlap of NLTS2 and SEELS students in high school provide linkage of the early school factors measured in SEELS with postschool experiences measured in NLTS2. The design of NLTS2 also reflects a careful alignment with the first National Longitudinal Transition Study (NLTS), conducted by SRI International for OSEP from 1985 through 1993. The inclusion of many of the same research questions and data items that appeared in NLTS, allowed NLTS2 data to provide important information about the ways in which secondary education and postschool experiences have changed for youth with disabilities in the previous decade or more. The data

collection instruments (youth and parent interview/survey) were designed to include items that were collected in national databases for the general youth population. This allows appropriate comparisons to be made between NLTS2 youth and those of the same ages in the general population of youth (Newman et al., 2011).

Data Analysis

This research utilized quantitative methods including both inferential and descriptive statistical analyses. This section provides the constructs and indicators used for each variable analyzed in the current study as well as the methods and specific procedures used to analyze the data. According to NLTS2 the three data sources for Wave 5 (youth telephone interview, youth mail survey, and parent telephone interview) were combined for the analyses and was subsetted to only include data for out-of-high school young adults. NLTS2 data analysis involved simple descriptive statistics (e.g., percentages, means) and bivariate relationships (i.e., cross-tabulations).

All statistics were weighted to be representative of a larger population of young adults. These analysis approaches excluded cases with missing values; no imputation of missing values was conducted. While the initial data set provided by NLTS2 included over 4,000 students receiving special education services in the U.S. in each federally recognized 12 disability categories; this study was only interested in identifying and attending to those respondents who were students with learning disabilities.

In regards to Self-advocacy/self-determination, the (NLTS2) has investigated four key domains of youth's self-determination by asking youth to judge and report the extent to which their behavior reflects autonomy, self-regulation, self-realization, and psychological empowerment (Wehmeyer & Schwartz, 1997). NLTS2 selected items from The Arc's Self-

Determination Scale (Wehmeyer & Kelchner, 1995) that address these topics and included them as part of an in-person interview with youth. Items were selected from among those in the original instrument with the highest factor loading and face validity to reflect the four conceptual domains noted above.

This interview followed a direct assessment of the youth's academic achievement, which together took approximately 1 hour to complete. Responses to all items are self-reports by youth. For the purpose of the current study, to ascertain the data that was representative of self-advocacy/self-determination attributes, data from the survey/questionnaire and interview protocol were reviewed for specific identifying questions that were pulled from the Arc's Self-Determination Scale (Wehmeyer & Kelchner, 1995).

The following method used to analyze the data for the purpose of the present study were consistent with previous literature on this topic. Multiple linear regressions were performed. Correlations and test were used to determine if a statistically significant relationship existed between two variables. They provided information about the relation of the independent variables (race, gender, SES, LD, self-advocacy/self-determination) to the dependent variable of 2/4-year college/university completion outcome.

No cause or effect relationship is expressed by correlations. Pearson's correlations were used depending on the variables. The Pearson correlation was used when the variables examined were ordinal in nature (Green & Salkind, 2014). The Pearson Chi-Square test allows the investigator to determine if the variation in the sample occurs as it is expected and if the number of observed cases are consistent with the expected frequency based on the sample size (Green & Salkind, 2014). This analysis is an effective choice when data is categorical and sample sizes are smaller; not meeting the assumptions for other quantitative tests.

The Multiple Linear Regression Model was used to determine explain the relationship between one continuous dependent variable from two or more independent variables. The independent variables can be continuous or categorical. According to McDonald (2014) multiple regressions are used when you have three or more measurement variables. One of the measurement variables is the dependent (*Y*) variable.

The rest of the variables are the independent (*X*) variables; you think they may have an effect on the dependent variable. The purpose of a multiple regression is to find an equation that best predicts the *Y* variable as a linear function of the *X* variables. One can also use multiple regression to try and understand the functional relationships between the dependent and independent variables, to try to see what might be causing the variation in the dependent variable.

Alpha was set at .05 for all analyses, as this is the standard in educational research (Punch, 2009; Spalding, Voegtle, & Lodico, 2010). This level provides an acceptable amount of assurance that test results are not coincidental. The independent variables were either categorical or ordinal and the dependent variable was categorical. The computer program IBM SPSS was used to conduct the statistical analyses.

Summary

This study was a secondary analysis of data provided by the SRI International, under the 1993 National Longitudinal Transition Study of Special Education Children (NLTS). Student outcomes were analyzed pertaining to the National Longitudinal Transition Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities. No personal identifiers were collected about the participants. The information that was retrieved from the data provided by IES directly answers the research questions proposed in this study.

The methods used to analyze the data for the purpose of the present research were consistent with previous literature on this topic. Correlations, Pearson's chi-square tests, and multiple linear regressions were the statistical test performed in this study. All of the independent variables were analyzed for their relationship to the dependent variable of 2/4-year college/university completion outcome. Chapter 4 will provide the analyses of results for each research question proposed.

Chapter 4: Findings

Introduction

This chapter contains the results of the data analyses. IBM SPSS software was used to conduct the statistical tests. An analysis for each research question follows. The method used to analyze these data was multiple linear regressions.

Purpose of the Study

The purpose of this study was to examine the relationship between background (race, gender, and Socioeconomic Status SES) of students with Learning Disabilities (LDs) and self-advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. Postsecondary education outcome data was a representation of students who had reported as a completer at a 2/4-year college/university. Student outcomes were analyzed pertaining to the National Longitudinal Transition Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities. This research will provide better understanding of the affect these factors have on this population of students. This research builds upon what is currently known about student with LDs and serves as a resource to stakeholders involved in the development and improvement of transition practices to bring about successful outcomes for students with disabilities.

Research Questions

This study examined the following questions:

1. What is the relationship between race of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
2. What is the relationship between gender of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
3. What is the relationship between SES of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

Results

Question 1. What is the relationship between race of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

The race sample represented in this data were (1) White, (2) African-American, and (3) Hispanic. Standard multiple regression was conducted to determine the accuracy of the independent variables (race of students with LDs [*Race*] and (self-determination of students with LDs [*SD*] predicting completion at a 2-year college. Regression results indicate that the overall model insignificantly predicts 2-year college completion of students with LDs, $R^2 = .006$, $R^2_{adj} = -.002$, $F(2, 253) = .754$, $p > .05$. This model accounts for only 0.6% of variance in 2-year college completion. A summary of regression coefficients is presented in Table 1 and indicates that neither variable significantly contributed to the model.

Table 2 represents the summary of regression coefficients that looked at the standard multiple regression conducted to determine the accuracy of the independent variables (race of students with LDs [*Race*] and (self-determination of students with LDs [*SD*] predicting completion at a 4-year university. Regression results indicate that the overall model

insignificantly predicts 4-year university completion of students with LDs, $R^2 = .026$, $R^2_{adj} = .019$, $F(2, 253) = 3.435$, $p > .05$. This model accounts for only 2.6% of variance in 4-year university completion.

Table 1

Coefficients for Race and SD 2-yr. Model Variables

	B	*β*	*t*	*p*	*Bivariate r*	*Partial r*
Race	-.199	-.038	-.600	.549	-.036	-.038
SD	-.200	-.068	-1.083	.280	-.067	-.068

Table 2

Coefficients for Race and SD 4-yr. Model Variables

	B	*β*	*t*	*p*	*Bivariate r*	*Partial r*
Race	.071	.023	.376	.708	.026	.024
SD	-.274	-.160	-2.586	.010	-.161	-.160

Question 2. What is the relationship between gender of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

The gender sample represented in this data were (1) Male and (2) Female. Standard multiple regression was conducted to determine the accuracy of the independent variables (gender of students with LDs [*Gender*] and (self-determination of students with LDs [*SD*] predicting completion at a 2-year college. Regression results indicate that the overall model insignificantly predicts 2-year college completion of students with LDs, $R^2 = .007$, $R^2_{adj} = -.001$, $F(2, 253) = .890$, $p > .05$. This model accounts for only 0.7% of variance in 2-year college

completion. A summary of regression coefficients is presented in Table 3 and indicates that neither variable significantly contributed to the model.

Table 4 represents the summary of regression coefficients that looked at the standard multiple regression conducted to determine the accuracy of the independent variables (gender of students with LDs [*Gender]* and (self-determination of students with LDs [*SD*] predicting completion at a 4-year university. Regression results indicate that the overall model significantly predicts 4-year university completion of students with LDs, $R^2 = .039$, $R^2_{adj} = .031$, $F(2, 253) = 5.092$, $p < .05$. This model accounts for 3.9% of variance in 4-year university completion. It should be noted that in this particular model, self-determination significantly contributed to the 4-year university completion. There is a negative (SD) and positive (Gender) relationship represented. This might indicate that the greater the population based on gender (boy or girl), the less determined that gender group are in 4-yr. university completion.

Table 3

Coefficients for Gender and SD 2-yr. Model Variables

	B	*β*	*t*	*p*	*Bivariate r*	*Partial r*
Gender	-48.5	-.050	-.795	.427	-.044	-.050
SD	-.210	-.071	-1.131	.259	-.067	-.071

Table 4

Coefficients for Gender and SD 4-yr. Model Variables

	B	*β*	*t*	*p*	*Bivariate r*	*Partial r*
Gender	63.8	.113	1.836	.068	.125	.115
SD	-.260	-.152	-2.458	.015	-.161	-.153

Question 3. What is the relationship between SES of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

The SES sample represented in this data were (1) low household income = $5,000-$25,000; (2) median household income = $25,001-$50,000; and High household income = $50,001and higher. Standard multiple regression was conducted to determine the accuracy of the independent variables (Socioeconomic status of students with LDs [*SES*] and (self-determination of students with LDs [*SD*] predicting completion at a 2-year college. Regression results indicate that the overall model insignificantly predicts 2-year college completion of students with LDs, $R^2 = .005$, $R^2_{adj} = -.003$, $F(2, 253) = .676$, $p > .05$. This model accounts for only 0.5% of variance in 2-year college completion. A summary of regression coefficients is presented in Table 5 and indicates that neither variable significantly contributed to the model.

Table 6 represents the summary of regression coefficients that looked at the standard multiple regression conducted to determine the accuracy of the independent variables (Socioeconomic status of students with LDs [*SES*] and (self-determination of students with LDs [*SD*] predicting completion at a 4-year university. Regression results indicate that the overall model insignificantly predicts 4-year university completion of students with LDs, $R^2 = .027$, $R^2_{adj} = .020$, $F(2, 253) = 3.551$, $p > .05$. This model accounts for only 2.7% of variance in 4-year university completion.

Table 5

Coefficients for SES and SD 2-yr. Model Variables

	B	*β*	*t*	*p*	*Bivariate r*	*Partial r*
SES	-.095	-.020	-.452	.652	-.026	-.028
SD	-.201	-.068	-1.085	.279	-.067	-068

Table 6

Coefficients for SES and SD 4-yr. Model Variables

	B	*β*	*t*	*p*	*Bivariate r*	*Partial r*
SES	.073	.038	.605	.546	.043	.038
SD	-.273	-.160	-2.574	.011	-.161	-.160

Summary

The purpose of this study was to examine the relationship between background (race, gender, and Socioeconomic Status SES) of students with Learning Disabilities (LDs) and self-advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. This chapter discussed the results of the analyses conducted in this study. Correlations, Chi-Squares and multiple linear regressions were used. The IV self-determination was the only statistically significant predictor of 4-year university completion. Chapter 5 will provide a detailed summary and discussion of the findings and their implications.

Chapter 5:

Limitations, Recommendations, Implications, and Summary

Introduction

The data for this study were obtained from the National Longitudinal Transition Study-2 (NLTS2) and focused on Wave 5 data (2009) which was representative of the post-high school outcomes of young adults with disabilities up to 8 years after high school. The NLTS2 report was published September 2011. Data represented also utilized the Wave 1 and Wave 2 Direct assessment, which provided the data indicative of the self-determination levels of the respondents included in the sample.

No personal identifiers were collected about participants. This study found that demographic factors (race, gender, and SES) did not show any statistical significance in relation to the self-determination of students with LDs and positive post-school outcomes. The findings were consistent with previous research. This chapter will discuss limitations of this study and conclusions. It will also list future possibilities for research in this field. Finally, it will conclude with implications for practice.

Purpose of the Study

The purpose of this study was to examine the relationship between background (race, gender, and Socioeconomic Status SES) of students with Learning Disabilities (LDs) and self-

advocacy/self-determination attributes on the impact of their postsecondary education outcomes for predictors of post-school success. Postsecondary education outcome data was a representation of students who had completed their degree at a 2/4-year college/university. Student outcomes were analyzed pertaining to the National Longitudinal Transition Study-2 (NLTS2) data sources for post-high school experiences of young adults with disabilities.

This research will provide better understanding of the affect these factors have on this population of students. This research builds upon what is currently known about student with LDs and serves as a resource to stakeholders involved in the development and improvement of transition practices to bring about successful outcomes for students with disabilities.

Research Questions

This study examined the following questions:

1. What is the relationship between race of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
2. What is the relationship between gender of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?
3. What is the relationship between SES of students with LDs and self-advocacy/self-determination on their completion at a 2/4-year college/university?

Limitations of the Study

This research has limitations, which should be taken into consideration by the reader throughout the review of this study. This study used existing data to conduct a secondary analysis. The information collected from the individuals in the sample was: race, gender, and socioeconomic (SES) of students with learning disabilities. All of these are attribute variables that often place the people into legally protected groups and attribute variables are unable to be

manipulated by the researcher. Data presented are combined young adults' self-reports and parent-reported data. Data that are combined across the respondents can raise the question of response concurrence – would the same findings result from parents' and students' responses. Results concluded that respondents agreed from 73 percent to 88 percent of the time (NLTS2.org).

Regarding self-determination attributes, the direct assessment of NLTS2 only included a subset of items from three of the four subscales of *The Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995). This limitation would create issues in interpreting the constructs that were measured (Shogren et. al, 2014). During the direct assessment only a subset of the overall NLTS2 sample participated, and some students participated in an alternative process because they were unable to complete *The Arc's Self-Determination Scale* (Wehmeyer &Kelchner, 1995), resulting in the data not being representative of the entire population of students with disabilities, but only representing those who were vetted to be capable of participating in the direct assessment. This caused problems in assessing self-determination, because measures required that students be able to reliably respond to complex questions in order to validate the findings.

Data on students' disability categories were provided by school districts, and these data were used to group students into disability categories for the present analyses. According to Shogren et al. (2014) when conducting secondary data analysis, there is no method that exists to account for school, district, and state variations in disability classification; there also is no way to verify the accuracy of diagnoses.

Recommendations for Future Research

Self-determination was the only variable that was a predictor of successful postsecondary outcomes however, it was only statistically significant at 4-year university completion; not 2-year college completion. Future research can investigate the difference between measures of self-determination of students with LDs and their completion rates at 2-yr colleges and 4-yr universities. Vocational training completion rates can also be added into the analyses as an additional form of postsecondary education completion.

Demographic factors (race, gender, and SES) did not show any statistical significance in relation to the self-determination of students with LDs and positive post-school outcomes. The findings were consistent with previous research. For example, The NLTS2 found that few differences in self-determination scores were associated with a youth's demographic characteristics. However, boys express a similar greater sense of self-realization than girls; 62% of boys have high scores, compared with 48% of girls.

Scores on autonomy in career planning were similar for white and African-American youth, but differed from scores of Hispanic youth. Hispanic youth were less likely to score in the high range of this self-determination domain and more likely to score in the low range than peers in other racial/ethnic groups (18% vs. 30% or 32% high and 21% vs. 10% or 12% low, Hispanic vs. white and African-American, respectively) (OSEP, 2005).

Implications for Practice

The information provided in this study is beneficial because it adds to one area of research receiving attention focused on the potential impact of individual and environmental factors on self-determination (Walker et al., 2011; Wehmeyer, Abery, et al., 2011). Research has begun to explore specific individual and environmental factors that affect self-determination (Carter, Trainor, Owens, Sweden, & Sun, 2010; Lee et al., 2012; Nota, Ferrari, Soresi, & Wehmeyer, 2007; Shogren et al., 2007). One student factor that has received attention in the literature is disability category and/or characteristics associated with specific disability categories (e.g., intelligence, adaptive behavior, support need).

It can then be assumed that a student's disability or support needs may influence their capacity for self-determination (Wehmeyer & Garner, 2003); researchers have also found differences in relative levels of self-determination among students served under different disability categories. For example, students with intellectual disability generally report lower overall levels of self-determination than students with learning disabilities (Shogren et ah, 2007; Wehmeyer & Garner, 2003; Williams-Diehm, Wehmeyer, Palmer, Soukup, & Garner, 2008). Researchers have also found differences between students with emotional and behavioral disorders and those with learning disabilities (Carter et al., 2010). For educators to recommend and provide the appropriate supports and accommodations, they must be trained to understand the individual factors that affect relative levels of self-determination.

Summary

This study examined the relationship between demographic variables of students with learning disabilities and self-determination attributes on completion at a 2/4-year college/university. Relationally, demographic factors (race, gender, and SES) did not have any effect on the self-determination of students with LDs and positive post-school outcomes. However, self-determination attributes were predictors of postsecondary outcome success at the 4-year university level completion, but not at the 2-year college level completion. Consistent with prior research, the current findings suggest that while demographic factors are not significant factors in determining successful post-school outcomes, high self-determination attributes of students with LDs is a significant predictor of 4-year college completion rates.

This research builds upon what is currently known about student with LDs and can serve as a resource to stakeholders involved in the development and continual improvement of transition practices to bring about successful postsecondary education attainment outcomes for students with disabilities.

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Appendix A

Institutional Review Board Approval Letter

AUBURN UNIVERSITY INSTITUTIONAL REVIEW BOARD for RESEARCH INVOLVING HUMAN SUBJECTS

RESEARCH PROTOCOL REVIEW FORM

FULL BOARD or EXPEDITED

For Information or help contact **THE OFFICE OF RESEARCH COMPLIANCE (ORC)**, 115 Ramsay Hall, Auburn University
Phone: 334-844-5966 **e-mail:** IRBAdmin@auburn.edu **Web Address:** http://www.auburn.edu/research/vpr/ohs/index.htm

Revised 2.1.2014 **Submit completed form to IRBsubmit@auburn.edu or 115 Ramsay Hall, Auburn University 36849.**

Form must be populated using Adobe Acrobat / Pro 9 or greater standalone program (do not fill out in browser). Hand written forms will not be accepted.

1. PROPOSED START DATE of STUDY: May 1, 2016

PROPOSED REVIEW CATEGORY (Check one): ☐ FULL BOARD ☑ EXPEDITED

SUBMISSION STATUS (Check one): ☑ NEW ☐ REVISIONS (to address IRB Review Comments)

2. PROJECT TITLE: An Examination of the Relationship between Students with Learning Disabilities and Self-Advocacy/Self-Determination as a Predictor of Post-Secondary School Success.

3. Tiffany Rocker (PRINCIPAL INVESTIGATOR) | Doctoral Student (TITLE) | EFLT/Education (DEPT) | tlr0013@auburn.edu (AU E-MAIL)

1424 S. Donahue Drive Unit B Auburn, AL 36832 (MAILING ADDRESS) | (404) 395-1234 (PHONE) | frasiert4@gmail.com (ALTERNATE E-MAIL)

4. FUNDING SUPPORT: ☑ N/A ☐ Internal ☐ External Agency: _____ ☐ Pending ☐ Received

For federal funding, list agency and grant number (if available). N/A

5a. List any contractors, sub-contractors, other entities associated with this project:

N/A

b. List any other IRBs associated with this project (including Reviewed, Deferred, Determination, etc.):

N/A

PROTOCOL PACKET CHECKLIST

All protocols must include the following items:

- ☐ **Research Protocol Review Form** (All signatures included and all sections completed) (Examples of appended documents are found on the OHSR website: http://www.auburn.edu/research/vpr/ohs/sample.htm)
- ☐ **CITI Training Certificates** for all Key Personnel.
- ☐ **Consent Form or Information Letter** and any Releases (audio, video or photo) that the participant will sign.
- ☐ **Appendix A**, "Reference List"
- ☐ **Appendix B** if e-mails, flyers, advertisements, generalized announcements or scripts, etc., are used to recruit participants.
- ☐ **Appendix C** if data collection sheets, surveys, tests, other recording instruments, interview scripts, etc. will be used for data collection. Be sure to attach them in the order in which they are listed in # 13c.
- ☐ **Appendix D** if you will be using a debriefing form or include emergency plans/procedures and medical referral lists (A referral list may be attached to the consent document).
- ☐ **Appendix E** if research is being conducted at sites other than Auburn University or in cooperation with other entities. A **permission letter** from the site / program director must be included indicating their cooperation or involvement in the project. NOTE: If the proposed research is a multi-site project, involving investigators or participants at other academic institutions, hospitals or private research organizations, a letter of **IRB approval** from each entity is required prior to initiating the project.
- ☐ **Appendix F** - Written evidence of acceptance by the host country if research is conducted outside the United States.

FOR ORC OFFICE USE ONLY

DATE RECEIVED IN ORC: _____ by _____ PROTOCO
DATE OF IRB REVIEW: _____ by _____ APPROVA
DATE OF IRB APPROVAL: _____ by _____ INTERVA
COMMENTS:

The Auburn University Institutional Review Board has approved this Document for use from 06/21/2016 to 06/20/2019
Protocol # 16-165 EX 1606

Appendix B

Wave 1/2 Direct Assessment

(Self-Determination Indicators)

Assessment Information Variables					
	Variable Name	**Source**	**Variable Description**	**Variable Type and Values** **Notes: Assignments, Modifications, and/or Validations**	**Base: Which Respondents Asked**
•	ID	(created)	Individual youth ID	**Numeric Variable Values** 5-digit ID number **Notes** Randomly generated for public use data	**Base** All respondents
•	wt_na	(created)	Student's assessment weight	**Numeric Variable Values** Weight	**Base** All respondents
•	wt_na_repl_… [01-32]	(created)	Student's assessment replicate weights	**Numeric Variable Values** Weight	**Base** All respondents
•	w2_Dis12	(created)	Primary disability category for column headings	**Numeric Variable Values** 1 Learning disability 2 Speech impairment 4 Emotional disturbance 3 Mental retardation 5 Hearing impairment 6 Visual impairment 8 Other health impairment 7 Orthopedic impairment 9 Autism 10 Traumatic brain injury 12 Deaf-blindness 11 Multiple disabilities	**Base** All respondents
•	nda_Age	(created)	Age at time of assessment	**Numeric Variable Values** Age	**Base** All respondents
•	na_Age4	(created)	Age at time of assessment categorized for column headings	**Numeric Variable Values** 1 16 years of age 2 17 years of age 3 18 years of age 4 19-20 years of age	**Base** All respondents
•	w2_Gend2	(created)	Gender for column headings	**Numeric Variable Values** 1 Male 2 Female	**Base** All respondents
•	w2_Incm3	(created)	Household income level for column headings	**Numeric Variable Values** 1 $25,000 and under 2 $25,001 to $50,000 3 Over $50,000	**Base** All respondents

Assessment Information Variables				
Variable Name	Source	Variable Description	Variable Type and Values Notes: Assignments, Modifications, and/or Validations	Base: Which Respondents Asked
• w2_Eth6	(created)	Race/ethnicity for column headings	**Numeric Variable Values** 1 White 2 Black 4 Asian/Pacific Islander 3 Hispanic 5 American Indian/Alaska Native 6 Multiple/other	**Base** All respondents
• w2_Urb3	(created)	Urbanicity of school youth attended for column headings	**Numeric Variable Values** 1 Rural 2 Suburban 3 Urban	**Base** All respondents
• nda_Grade	(created)	Grade level at time of assessment	**Numeric Variable Values** Grade level	**Base** All respondents
• na_Grade4	(created)	Grade level at time of assessment categorized for column headings	**Numeric Variable Values** 1 10th or below 2 11th grade 3 12th grade 4 Ungraded	**Base** All respondents
• na_Incm3	(created)	Household income level at time of assessment	**Numeric Variable Values** 1 $25,000 and under 2 $25,001 to $50,000 3 Over $50,000	**Base** All respondents
• ndaAssessDate	Assessment	Date assessment was administered	**Numeric Variable Values** Date	**Base** All respondents
• ndaEng	Assessment	Assessment administered in English	**Numeric Variable Values** 1 Yes	**Base** All respondents
• ndaASL	Assessment	Assessment administered in ASL	**Numeric Variable Values** 1 Yes	**Base** All respondents
• ndaBraille	Assessment	Assessment administered in Braille	**Numeric Variable Values** 1 Yes	**Base** All respondents
• ndaLprint	Assessment	Assessment administered in large print	**Numeric Variable Values** 1 Yes	**Base** All respondents
• ndaFurniture	Assessment	Adaptive furniture was provided for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
• ndaPerson	Assessment	A familiar person was present at the assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
• ndaLight	Assessment	Special lighting was provided assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents

Assessment Information Variables					
	Variable Name	**Source**	**Variable Description**	**Variable Type and Values Notes: Assignments, Modifications, and/or Validations**	**Base: Which Respondents Asked**
•	ndaAM	Assessment	Morning break/multiple session provided for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaBreaks	Assessment	Morning break provided for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaNumBreaks	Assessment	Number of morning breaks in assessment	**Numeric Variable Values** Number of breaks	**Base** All respondents
•	ndaPm	Assessment	An afternoon break/multiple session provided	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaMultSess	Assessment	An afternoon break provided for the assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaNumMult	Assessment	Number of afternoon breaks for the assessment	**Numeric Variable Values** Number of breaks	**Base** All respondents
•	ndaCalculator	Assessment	Calculator provided for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaAssist	Assessment	Instructional assistant present for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaInterpreter	Assessment	ASL interpreter present for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaAbacus	Assessment	Abacus provided for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents
•	ndaDevice	Assessment	Communication device provided for assessment	**Numeric Variable Values** 1 Yes	**Base** All respondents

Assessment Variables					
	Variable Name	**Source**	**Variable Description**	**Variable Type and Values Notes: Assignments, Modifications, and/or Validations**	**Base: Which Respondents Asked**
•	nda[Syn, PC, Calc, AP, SS, Sci]_pr	(created)	Academic knowledge percentile rank	**Numeric Variable Values** Percentile rank	**Base** All respondents
	ndaSyn_pr	Synonym-antonym percentile rank		**Notes** From: Woodcock-Johnson III (Research Edition). See Woodcock, R. W., McGrew, K.S., and Mather, N. (2001).	
	ndaPC_pr	Passage comprehension percentile rank			
	ndaCalc_pr	Calculation percentile rank			
	ndaAP_pr	Applied problems percentile rank			
	ndaSS_pr	Social studies percentile rank			
	ndaSci_pr	Science percentile rank			
•	nda[Syn, PC, Calc, AP, SS, Sci]_w	(created)	Academic knowledge W-score	**Numeric Variable Values** W-score	**Base** All respondents
	ndaSyn_w	Synonym-antonym W-score		**Notes** From: Woodcock-Johnson III (Research Edition). See Woodcock, R. W., McGrew, K.S., and Mather, N. (2001). The w-score is centered on a value of 500	
	ndaPC_w	Passage comprehension W-score			
	ndaCalc_w	Calculation W-score			
	ndaAP_w	Applied problems W-score			
	ndaSS_w	Social studies W-score			
	ndaSci_w	Science W-score			
•	nda[Syn, PC, Calc, AP, SS, Sci]_ss	(created)	Academic knowledge standard score	**Numeric Variable Values** Standard score	**Base** All respondents
	ndaSyn_ss	Synonym-antonym standard score		**Notes** From: Woodcock-Johnson III (Research Edition). See Woodcock, R. W., McGrew, K.S., and Mather, N. (2001). Standard scores are centered on a mean of 100 and can range from 0 to 200.	
	ndaPC_ss	Passage comprehension standard score			
	ndaCalc_ss	Calculation standard score			
	ndaAP_ss	Applied problems standard score			
	ndaSci_ss	Science standard score			
	ndaSS_ss	Social science standard score			

Student Interview				
Variable Name	**Source**	**Variable Description**	**Variable Type and Values Notes: Assignments, Modifications, and/or Validations**	**Base: Which Respondents Asked**
• ndaSD… [see below]	(created)	Self-determination (autonomy):	**Numeric Variable Values**	**Base**
ndaSdA_PersItems	I keep my personal items together		1 Not when I have the chance 2 Sometimes 4 Every time I have the chance 3 Most of the time **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	All respondents
ndaSdB_PersCare	I keep good personal care and grooming			
ndaSd1_MakeFriends	I make friends with other kids my age			
ndaSd2_KeepAppts	I keep my appointments and meetings			
ndaSd3_PlanWeekend	I plan weekend activities that I like to do			
ndaSd4_School	I am involved in school-related activities			
ndaSd5_Volunteer	I volunteer in things that I am interested in			
ndaSd6_Restaurants	I go to restaurants that I like			
ndaSd7_CareerInt	I do school and free time activities based on career interests			
ndaSd8_Improve Chances	I work on schoolwork that will improve career chances			
ndaSd9_Plans	I make long-range career plans			
ndaSd10_Work	I work to earn money			
ndaSd11_JobTraining	I am/have been in career/job training			
ndaSd12_ChooseGifts	I choose gifts for family/friends			
ndaSd13_Spend	I choose how to spend personal money			
• ndaSD… [see below]		(created) Self-determination (self-realization):	**Numeric Variable Values** 1 Never agree 2 Sometimes agree 4 Always agree 3 Usually agree **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents
ndaSd14_LikePeople	I can like people even if I don't agree with them			
ndaSd15_DoBest	I know what I do best			
ndaSd16_LikeSelf	I like myself			
ndaSd17_Limitations	I know how to make up for my limitations			
ndaSd18_Confident	I am confident in my abilities			
• ndaSd19_Opinions	(created)	Self-determination (empowerment): RE: opinions, I usually...	**Numeric Variable Values** 1 I tell others when I have new or different opinions/ideas 2 I usually agree with others' opinions/ideas **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents

Student Interview

	Variable Name	Source	Variable Description	Variable Type and Values Notes: Assignments, Modifications, and/or Validations	Base: Which Respondents Asked
•	ndaSd20_Decisions	(created)	Self-determination (empowerment): RE: decisions, I usually...	**Numeric Variable Values** 1 I can make my own decisions 2 Other people make decisions for me **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents
•	ndaSd21_WorkLuck	(created)	Self determination (empowerment): RE: getting what I want, I usually...	**Numeric Variable Values** 1 I can get what I want by working hard 2 I need good luck to get what I want **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents
•	ndaSd22_QuitKeepup	(created)	Self determination (empowerment): RE: failure, I usually...	**Numeric Variable Values** 1 It is no use to keep trying because it will not change things 2 I keep trying even after I get something wrong **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents
•	ndaSd23_GoodChoices	(created)	Self determination (empowerment): RE: choices, I usually...	**Numeric Variable Values** 1 I usually do not make good choices 2 I usually make good choices **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents
•	ndaSd24_MakeChoices	(created)	Self determination (empowerment): RE: choices made, I usually...	**Numeric Variable Values** 1 My choices will not be honored 2 I will be able to make choices that are important to me **Notes** From: The Arc's Self-Determination Scale (Adolescent version). See Wehmeyer, M. & Kelchner, K. (1995).	**Base** All respondents

Student Interview				
Variable Name	**Source**	**Variable Description**	**Variable Type and Values** **Notes: Assignments, Modifications, and/or Validations**	**Base: Which Respondents Asked**
• ndaSC…[see below]	(created)	Confident:	**Numeric Variable Values** 1 Not at all 2 Not sure 3 Confident **Notes** From: Student Self Concept Scale. See Gresham, F. & Elliott, S. (1990).	**Base** All respondents
ndaSC8a_1rule	I can follow classroom rules			
ndaSC8a_2turn	I can take turns in games/activities			
ndaSC8a_3fun	I am fun to be with			
ndaSC8a_4hmwk	I can do my homework on time			
ndaSC8a_5liked	I can do things to be liked by classmates			
ndaSC8a_6proud	I am proud of who I am			
ndaSC8a_7listen	I can listen when teacher is presenting lesson			
ndaSC8a_8talk	I can talk calmly w/kids my age when we disagree			
ndaSC8a_9nice	I am a nice person			
ndaSC8a_10speak	I can speak in class when called on			
ndaSC8a_11friend	I can make friends easily			
ndaSC8a_12easy	I am easy to like			
ndaSC8a_13wrk	I can finish school work easily			
ndaSC8a_14feel	I can tell classmates when feelings hurt			
ndaSC8a_15look	I can look as nice as peers			
• ndaSC…[see below]	(created)	Important:	**Numeric Variable Values** 1 Not Important 2 Important 3 Very Important	**Base** All respondents
ndaSC8b_1rule	I can follow classroom rules			
ndaSC8b_2turn	I can take turns in games/activities			
ndaSC8b_3fun	I am fun to be with			
ndaSC8b_4hmwk	I can do my homework on time			
ndaSC8b_5liked	I can do things to be liked by classmates		**Notes** From: Student Self Concept Scale. See Gresham, F. & Elliott, S. (1990).	
ndaSC8b_6proud	I am proud of who I am			
ndaSC8b_7listen	I can listen when teacher is presenting lesson			
ndaSC8b_8talk	I can talk calmly w/kids my age when we disagree			
ndaSC8b_9nice	I am a nice person			
ndaSC8b_10speak	I can speak in class when called on			
ndaSC8b_11friend	I can make friends easily			
ndaSC8b_12easy	Important: I am easy to like			
ndaSC8b_13wrk	Important: I can finish school work easily			

Student Interview					
	Variable Name	**Source**	**Variable Description**	**Variable Type and Values** **Notes: Assignments, Modifications, and/or Validations**	**Base: Which Respondents Asked**
	ndaSC8b_14feel	Important: I can tell classmates when feelings hurt			
	ndaSC8b_15look	Important: I can look as nice as peers			
•	ndaF1_friend	(created)	I can find a friend when I need one	**Numeric Variable Values** 1 Yes 2 No 3 Sometimes **Notes** From: Loneliness in children. See Asher, R. R. (1984).	**Base** All respondents
•	ndaF2_lonely	(created)	I'm lonely at school	**Numeric Variable Values** 1 Yes 2 No 3 Sometimes **Notes** From: Loneliness in children. See Asher, R. R. (1984).	**Base** All respondents
•	ndaFavorite_…[1-10]	Assessment	Youth's favorite things about school	**Numeric Variable Values** 0 No 1 Yes	**Base** All respondents
	ndaFavorite_1	Friends/socializing/free time/hanging out			
	ndaFavorite_2	Teachers/staff/principal/coaches			
	ndaFavorite_3	Academics			
	ndaFavorite_4	Learning/studying/graduation/good grades			
	ndaFavorite_5	Computers/cooking/calculators/sports/ activities			
	ndaFavorite_6	Job/work			
	ndaFavorite_7	Food/lunch			
	ndaFavorite_8	Away from home/safe environment			
	ndaFavorite_9	Nothing/hate school/going home/weekends			
	ndaFavorite_10	Everything			