TRANSITION PRACTICES: PREDICTORS OF POSTSECONDARY OUTCOMES FOR STUDENTS WITH DISABILITIES

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ABSTRACT

TRANSITION PRACTICES: PREDICTORS OF POSTSECONDARY OUTCOMES FOR STUDENTS WITH DISABILITIES

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For school districts to adequately prepare students with disabilities for successful post-graduation life, it is essential to understand if various variables predict postsecondary outcomes. The purpose of this study is to examine the relationship between gender, race/ethnicity, participation in career technical education (CTE) programs, diploma type, grade point average (GPA), disability classification, and graduation year for students with disabilities self-reported post-graduation plan of employment. The study aims to determine if the independent variables predict postsecondary outcomes for students with disabilities and to identify disparities that exist in subgroups when controlling for gender and race/ethnicity. Findings can assist educational leaders and stakeholders improve existing transition practices or initiate new transition programs to better support students with disabilities in achieving optimal outcomes. The sample consisted of 267 students from a large suburban secondary school in the Northeastern part of the United States, with a majority of Latino or Hispanic and Black or African American student populations. The quantitative ex post facto study used archived data using binary logistic regression analysis to uncover predictive relationships. Findings indicated significant relationships with race/ethnicity, diploma type, graduation year, and grade point average

with postsecondary outcomes. White students, students receiving a local diploma, and students graduating in 2022 were less likely to report attending postsecondary education, while higher grade point averages predicted postsecondary education. These findings emphasize the importance of designing effective educational programs for students with disabilities to ensure greater success in postsecondary outcomes.

DEDICATION

This dissertation is dedicated to my family, whose support, faith, and love have been the pillars of my journey. To my mom, who has shown me how to be strong and independent. To my dad, who always believed in me. To Ed, who has the patience of a saint and has supported me unconditionally. To Belle, Ethan, and Ava, you are my joy, love, and heart. This dissertation is dedicated to you to serve as a small testament to the boundless possibilities that await you. Your futures are limitless. Be fierce in all you do and conquer every goal you set for yourselves with passion, courage, and determination. May your journey be marked by the pursuit of excellence, and always remember that you have the power to achieve anything and everything. Most importantly, remember to enjoy every second.

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CHAPTER 1

Introduction

Schools across America are built on the premise that *all* students have equal access to education and strive to ensure successful postsecondary outcomes. However, students with disabilities are less successful than their non-disabled peers in postsecondary education, employment, and independent living (Newman et al., 2011). Similarly, research has shown that gender and race/ethnicity reveal lower success rates in some postsecondary outcomes for individuals in other subgroups (Gardenhire et al., 2016). The lack of postsecondary successful outcomes for students with disabilities has several adverse outcomes. Not only are there negative financial and mental effects for individuals, but there is also a financial cost to society. Social Security Insurance (SSDI) and Supplementary Security Income (SSI) programs for individuals with disabilities (American Psychological Association, 2023) are funded through federal and state agencies. The Federal and state governing bodies are aware of the impact of poor outcomes for individuals with disabilities and have made strives to rectify the effects by implementing positive mandates and regulations. In response to the need for improved services for individuals with disabilities, schools implemented transition services, and the National Technical Assistance Center of Transition (NTACT) was formed. As a result, schools look for programming and practices to improve successful postsecondary outcomes for students with disabilities. NTACT provides research findings indicating that career technical education (CTE) and exit exam requirements/high school diploma status (NTACT, 2021) predict postsecondary success. Many schools in New York State send students to CTE at additional cost. School districts also work diligently to provide the best options for diploma types and pathways for students. Another standard measure

of academic success for postsecondary college entrance and employment is students' grade point averages (GPA). Still, it is essential to know whether this is a predictor for students with disabilities or a contributing factor along with their strengths and skillsets. While GPA is a frequently used measure for college success (Whittman, 2022) and hiring practices for employers (National Association of Colleges & Employers, 2018), Whittman (2022) found better measures of success. A student's Individualized Education Plan (IEP) provides a disability classification for each student. While this outlines the nature of the student's disability, there continues to be a need for further research on the postsecondary outcomes based on such classifications. Federal, state, and local educators must know current data, future projections, and whether the current system works to ensure schools implement best practices, leading to optimal postsecondary successes for students with disabilities while being fiscally responsible. This study aims to examine whether there is a relationship with postsecondary outcomes.

In the 2021-22 school year, The National Center for Education Statistics reported that 15% of public-school students ages 3-21 years old received special education services under the Individuals with Disabilities Education Act (IDEA) (NCES, 2022). Students with a classification of learning disability (33%) made up the highest percentage of students served under IDEA, followed by speech and language (19%), other health impaired (15%), and students with a classification of either Autism, intellectual disabilities, developmental disabilities, or emotional disabilities (5%-12%). Race/ethnicity differed for students receiving services under IDEA, with American Indian/Alaska Native students with the highest percentage at 19%, followed by Black students (17%), White (approximately 16%), and Spanish (about 15%) (NCES, 2022).

Male students received services under IDEA at 18%, while female students comprised 10% of students who received services. In the 2019-2020 school year, 76% of students aged 14-21 years old who received services under IDEA exited the school with a regular high school diploma compared with the nationally adjusted four-year cohort completion of 86% for all students in 2018-2019 (NCES, 2021), while 13% were reported as dropouts, 10% received an alternative certificate, and one percent aged out of school before completion (NCES, 2022). The NCES provides invaluable information on students with disabilities, race/ethnicity, gender, and diploma that lead to postsecondary outcomes.

Individuals with disabilities experience diminished postsecondary outcomes when compared to their non-disabled peers. The United States Department of Labor Office of Disabilities (2023) found that in 2022, only 34.8% of individuals with disabilities over 16 participated in the labor force compared to 74.4% of their non-disabled peers. The unemployment rate for individuals with disabilities was 7.6% compared with non-disabled peers at 3.5% (USDOL, 2023). These unemployment rates increase depending on the type of disability, with individuals with intellectual disabilities at over 80% (Butterworth et al., 2015). Employment is not the only discrepancy with postsecondary outcomes for students with disabilities. Education is another barrier that impacts students with disabilities after graduating or exiting from high school. Sanford et al. (2011) found that for students who enroll in postsecondary education, only 38% of individuals with disabilities complete their programs compared to 51% of their counterparts. Similarly, The U.S. Census Bureau (2015) found that the rate of a four-year college degree for individuals was half (15.1%) that of individuals without disabilities (33%). While the

research is glim for students with disabilities, additional factors might contribute to postsecondary outcomes.

The research on gender, race/ethnicity, and postsecondary outcomes is bleak and compounded when there is a disability. The U.S. Department of Education and the White House Initiative on Education Excellence for Hispanics (2011) reported that while Latino students in grades k-12 made up 27% of the population, they had the highest dropout rate compared with any other race/ethnicity subgroup (National Center for Education Statistics, 2009). Similarly, Aud et al. (2011) found that Latino males had the poorest outcomes, with a high school completion rate of 57% at age 25 compared with 80% for Black males and 89% for White males. A study by Adkison-Bradley et al. (2016) found that while being a Black male does not result in an increase in a diagnosis of a learning disability compared with other races, another study found Black males were placed in special education programs at a higher rate and less likely to be enrolled in honor courses (Ingels et al., 2011). The research has shown that individuals of color and gender have similar outcomes with college and career aspirations, with men of color encountering barriers to reaching their goals (Gardenhire et al., 2016). Interestingly, research has shown disparities in postsecondary outcomes for gender as well. Daviso et al. (2016) found that not only were African American students (51%) less likely to be employed after completing a CTE program, but females (60%) had even lower employment outcomes one year after completion. These adverse outcomes have a more considerable impact than on disadvantaged individuals or groups.

There are negative impacts on individuals and society when students with disabilities have poor postsecondary outcomes. Test et al. (2006) found that employment

is essential to economic and financial security and increased independent living. However, the researchers found that students with disabilities were less likely than their non-disabled peers to experience these successes (Blackorby & Wagner, 1996). Socioeconomic status impacts students with disabilities and postsecondary outcomes as well. Wager et al. (2005) found that students with disabilities had higher rates of poverty compared to families of students in the general population. Research has shown that Hispanics have the lowest level of income across ethnic groups, with the principal factor being a low level of education attainment (Lopez et al., 2000). The federal government uses funds from taxes to support individuals with disabilities through the Social Security Insurance (SSDI) program for individuals who have paid Social Security income taxes for at least 40 months and the Supplementary Security Income (SSI) program for individuals with disabilities with low income who have little to no work experience and is a tradition welfare program (American Psychological Association, 2023). There are several other guidelines and mandates to assist individuals with disabilities and from disadvantaged groups.

The state and federal governments have made many positive strides, starting with the Smith-Hughes Act of 1917, which provided vocational rehabilitation services for disabled veterans (Hayward & Benson, 1993). Other state and federal legislation followed the Rehabilitation Act and the Americans with Disabilities Act (ADA), which protected individuals with disabilities against discriminatory behavior in a postsecondary educational setting (Naugle & Campbell, 2010). The Rehabilitation Act also discusses the importance of transitioning students smoothly from school to the adult world, including employment (Cheong & Yahya, 2012). The monumental legislation for school-aged

students was the Individuals with Disabilities Education Act (IDEA), requiring school districts to provide a “free and appropriate public education” (FAPE) to each qualified student 29 U.S.C. § 794. The IDEA includes federal funding for transition-focused initiatives” (Kohler & Field, 2003).

These federal and state initiatives paved the way for transition services. In 1990, the IDEA defined transition services to assist students with disabilities in moving from high school to post-high school. These services must be included in students' Individualized Education Plans (IEP) (Test et al., 2014). The amendment required a student’s development of needs, interests, and preferences with Individualized Education Plans (IEP) beginning the year a student turns 16 with a statement of transition services and agency linkages (Kohler & Field, 2003). An amendment to IDEA in 1997 mandated the IEP to include transition needs in the course of study for students with disabilities, with their educational content focused on their postsecondary plans (Kohler & Field, 2003). Another IDEA amendment in 2004 added a mandate requiring a transition plan on the IEP to generate sustainable postsecondary outcomes (Newman et al., 2011). The need for transition services resulted in additional oversight and recommendations for best practices.

The National Technical Assistance Center on Transition: The Collaboration (NTACT: C) emerged due to the need for transition services. NTAT: C is a federal program funded by the Rehabilitation Service Administration (RSA) and Office of Special Education Programs (OSEP) to ensure that youth with disabilities receive exemplary educational services (RSA, 2023). They provide resources and support to educational entities and vocational rehabilitation agencies throughout the United States.

The goals of NTACT align with RSA and OSEP to ensure youth with disabilities receive evidence and promising research-based practices in the secondary level for transition, to reduce dropout rates and increase graduation rates, and to prepare students for postsecondary employment, career, and education while using data to develop and plan to improve services (RSA, 2023). Specifically, NTACT emphasizes the importance of identifying in-school predictors that lead to postsecondary outcomes for individuals with disabilities so stakeholders can build successful transition programs (2023). While there are several identified predictors, career technical education (CTE) and exam requirements/high school diploma status from NTACT will be part of the focus of this research while also examining GPA and disability classification.

Many schools offer opportunities for students to attend career technical education (CTE) programs at the secondary level. According to NTACT (2023), research indicated that CTE programs improved postsecondary outcomes for students with disabilities with evidence-based outcomes for employment and research-based outcomes for education. Similarly, research found students who took three or more high school credits in a career path were more likely to be employed full-time after completing the program than their counterparts who took fewer CTE credits (Lee et al., 2016). Similarly, Haber et al. (2016) conducted a meta-analysis of prior research and found career technical education to be a significant factor in postsecondary outcomes in employment. Education leaders need to be aware of the discrepancies in postsecondary outcomes so they can find solutions and best practices to improve those outcomes. While there are indicators that CTE programs lead to improved postsecondary outcomes, there is room to explore whether the

relationship between CTE programs and education will result in evidence-based practices. Other areas show promise but require further exploration.

Schools use exam requirements and high school diploma types to acknowledge that students have met set learning standards. The NCES (2018) data included students who received high school diplomas, not equivalency credentials, with a national graduation rate of approximately 85% in 2016-2017. States differ on graduation exam requirements and diploma types**.** In New York State, there are several types of diplomas and credentials, with some offering more academic preparation than others (Kieffer & Parker, 2017). New York State Education Department (2023) graduation requires students to pass 22 credits, and depending on the number of successful completions of exams, it can lead to a local diploma, a Regents diploma, or a Regents diploma with advanced designation. Several pathways lead to specific diploma types and a Career Development and Occupational Studies (CDOS) commencement credential that can be used as a New York State 4+1 pathway, an endorsement to a diploma, or a sole exiting credential (NYSED, 2023). A Skills and Academic Commencement Credential is an exiting credential for students with severe disabilities (NYSED, 2014). While students have the opportunity to pursue diplomas with advanced designations, some exiting credentials are only offered to special education students. One study examined cost efficiency for vocational rehabilitation services and found high school diplomas were cost-efficient while a special education diploma was not (Whittenburg et al., 2020). While this study looked at vocational rehabilitation programs, educators in New York State must understand whether diploma types equate to improved postsecondary.

Grade point average (GPA) is a commonly used academic performance measurement in education. Camera and Echternacht (2000) found GPA to be a significant part of the admission process into postsecondary education and employment. McDonnell and Crudden (2009) examined students with disabilities and postsecondary outcomes in employment and found academic competence to be a predictor. Specifically, there was significance for students with disabilities who scored higher on reading and math with postsecondary employment outcomes. While NTACT does not list GPA as a predictor for postsecondary outcomes, a study by Rojewski et al. (2014) found that students with disabilities were 1.12 times more likely to work longer hours based on each one-unit increase in their GPA, regardless of disability status. Therefore, academic performance will be evaluated through grade point average to explore a relationship with postsecondary outcomes for students with disabilities.

Under section 300.8 in the IDEA (U.S. Department of Education, 2018, 2019), disability classifications are identified, with 13 disability classifications under the New York State Commissioner's Regulations Part 200.1. The classifications are autism, deafness, deaf-blindness, emotional disturbances, hearing impairment, learning disability, intellectual disabilities, orthopedic impairment, other health impairments, speech or language impairment, traumatic brain injury, visual impairment, including blindness, and multiple disabilities. While there are several disability categories, most of the research has focused on learning disabilities, emotional disturbances, and intellectual disabilities (Murray et al., 2021). According to the U.S. Department of Education (2018), out of the 10% of all students receiving special education services in a public school setting, over 50% fall into one of the three categories of learning disability, emotional disturbances, or

intellectual disabilities. Many of the studies conducted focus on limited categories and not all 13. Connor et al. (2014) found that students with visual impairments had higher rates of unemployment compared with their non-disabled peers. However, limited studies include all 13 categories of disability classifications in studies. Test, Mazzotti, et al. (2009) identified the lack of disaggregated data by disability category as a limitation in their study to predict postsecondary outcomes for students with disabilities. It is a viable discussion to examine whether there is a relationship between specific disability classification and postsecondary outcomes.

Educational leaders need to know successful secondary practices that lead to optimal postsecondary outcomes to allot spending accordingly, especially when budgeting for future projections. According to the National Center for Educational Statistics (NCES) (2018), a record number of students will be entering secondary public school, with a projected increase of over 1% from 2018 to 2028. The increase in projected students entering secondary schools has the potential to impact spending, especially the high cost of special education services for students with disabilities. School spending per pupil for special education is substantially higher than general education per pupil, with New York spending the highest (Kingsbury, 2020). In 2018-2019, New York spent $32,359 per pupil on special education (data.nysed.gov, 2019) compared to the national expenditures of $13,701 per pupil for general education (NCES, 2022). New York State also leads the nation in the number of students receiving special education services and the number of special education students served under the Individuals with Disabilities Education Act (IDEA) part B (Kingsbury, 2020). In 2018, New York State showed that while general education student enrollment remained primarily consistent,

the spending increased a little over 10%, compared with special education enrollment, showing an increase of 15%, with spending growing over 25% (Kingsbury, 2020). In the same year, data from NCES (2018) found almost twice as many students served in New York under the IDEA, part B compared with Texas. States need to be fiscally responsible with increasing student populations, especially among students with disabilities, while ensuring postsecondary success. With the current projections, educational leaders in New York should possess knowledge of best practices for students with disabilities to ensure school districts are spending public funds optimally.

Purpose of Study

The purpose of this quantitative, non-experimental ex post facto study was to identify predictors of postsecondary outcomes for students with disabilities. The study explored whether there is a relationship between gender, race/ethnicity, career technical education programs, diploma type, grade point average, disability classification, and graduation year and students with disabilities self-reported postsecondary outcomes of education. The researcher used existing archival data from a suburban public school district in New York State for this study. The researcher collected the data through several sources. This data included students' demographic information collected through the district's eSchool Management System software. This data included students' gender, race/ethnicity, and schedule, including attendance at the CTE program. The school district's web-based software management system, ClearTrack Information Network, tracks and manages data for Individualized Education Plans (IEP) and 504 plans. The New York State Report Card provided data on gender, race/ethnicity, students with disabilities, graduation rate, and diploma type reported in 2018 and 2021. Students' post-

graduation plans (PGP) are self-reported to their guidance counselors, who enter the responses into eSchool.

There has been valuable research on the positive impact of vocational and career technical education (CTE) programs on individuals with disabilities (Iwanaga et al., 2020). However, there is still a need for more information regarding students of color with disabilities' postsecondary outcomes and what factors, in any, contribute to successful postsecondary outcomes. Additionally, the New York State Education Department (2023) has several diploma types and pathways for graduation. Knowing if these diploma options align with more successful postsecondary outcomes is essential so educators can better prepare students to reach more effective diploma types. NTACT (2023) has shown evidence-based correlations with CTE programs and employment and research-based correlations with CTE programs and education. NTACT (2021) has established a promising correlation between exit exam requirements/high school diploma status and employment. Still, no data exists on exit exam requirements/high school diploma status and education. While there is information on GPA and disability classification, more research is required. With this data, administrators, teachers, support staff, teachers, the Board of Education, and all stakeholders will be able to use the knowledge for the best resources, such as funding, professional development for staff, and other solutions to assist students while they are in high school that will lead to optimal postsecondary outcomes for all students. This research dissertation will explore whether a suburban school district in the northeastern United States will yield similar results to current data, build on existing data, and fill the gap in missing data from NTACT (2023) (2021) and from older studies, including the most recent National

Longitudinal Transition Study-2 (NLTS2) that was completed in 2010 (Newman et al., 2011).

Figure 1

National Technical Assistance Center on Transition (NTACT) (2021)

Predictors/Outcomes	Education	Employment	Independent Living
• Career Awareness	Promising	Promising	
• Career Technical Education (Vocational Education)	Research-based	Evidence-based	
• Community Experiences		Promising	
• Exit Exam Requirements/High School Diploma Status		Promising	
• Goal setting	Research-based	Research-based	Research-based
• Inclusion in General Education	Research-based	Research-based	Research-based
• Interagency Collaboration	Promising	Promising	
• Occupational Courses	Promising	Promising	
• Paid Employment/Work Experience	Research-based	Research-based	Promising
• Parent Expectations	Promising	Research-based	
• Parental Involvement		Promising	
• Program of Study	Research-based	Research-based	
• Psychological Empowerment (new)	Promising	Promising	Promising
• Self-Advocacy/Self-Determination	Research-based	Research-based	Promising
• Self-Care/Independent Living	Promising	Promising	Research-based
• Self-Realization (new)		Promising	Promising
• Social Skills	Promising	Promising	
• Student Support	Promising	Research-based	Promising
• Technology Skills (new)		Promising	
• Transition Program	Research-based	Promising	
• Travel Skills		Promising	
• Work Study		Research-based	
• Youth Autonomy/Decision-Making	Research-based	Research-based	Promising

Theoretical and Conceptual Frameworks

Theoretical Framework

The theoretical framework that will guide this study is Paula Kohler's taxonomy of transition programming 2.0 (Kohler, 2016) and Peter Senge's learning organization (Senge, 2012). Kohler's taxonomy for transition programming 2.0 is arguably one of the keystones of transition practices utilized today. There are five categories to the taxonomy encompass effective transition practices. The second, Peter Senge's Learning Organizations, discusses the interconnectedness of five disciplines working together to experience an optimal organization. This researcher believes that aligning these two models is the bridge that will guide this dissertation.

Kohler's taxonomy for transition programming 2.0 (Kohler, 2016) is a comprehensive framework of transition practices that guide how schools and teachers deliver education and services. These concrete strategies provide an individual-centered paradigm using self-determination and a family and student involvement approach (Kohler & Field, 2003). There are five taxonomy categories: student-focused planning, student development, interagency and interdisciplinary collaboration, family engagement, and program structure and attribute (Kohler et al., (2016). Using Peters and Heron's (1992) criteria, the model was evaluated using theory, supporting literature, positive student outcomes, and socially validated measures from transition experts to identify these five categories in effective transition practices. The five categories align directly with the areas of this research study.

Learning organizations (Senge, 2012) examine an organization and the people working together to determine outcomes. Successful learning organizations are a

continuous, innovative learning process where people work together at all levels while seeing the entire system for overall success (Senge, 2012). Furthermore, Senge (2012) explained that a learning organizations' differences and distinct attributes are the organization and individual's ability to master the disciplines. Senge's (2012) five disciplines include personal mastery, shared vision, mental models, team learning, and systems thinking. Similar to the five taxonomy of transition programming 2.0 categories, these five disciplines directly connect with the areas of this study.

The theoretical framework is the lens that guided this dissertation. This research study examined each student with disabilities, exploring their long-term goals while looking at the entire system entity. In the preceding chapter, the researcher elaborated on the intersection of the two models, resulting in a theoretical framework that is the cornerstone of this dissertation.

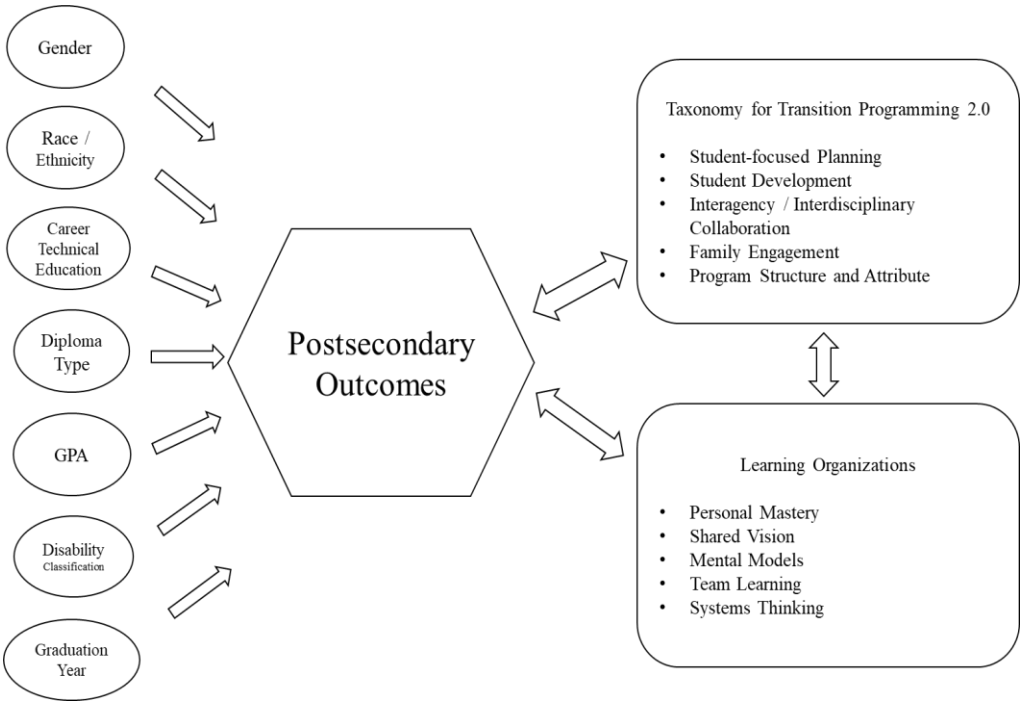
Conceptual Framework

Grant and Osanloo (2014) use the process of building a house as a metaphor for the theoretical and conceptual frameworks, with the theoretical framework similar to the blueprint that guides and encompasses the entire process of building and writing a dissertation, while the conceptual framework is compared with the floor plan and is a visual representation of connecting concepts. The conceptual framework is a visual diagram depicting the interconnectedness of the independent variables of gender, race/ethnicity, CTE participation, diploma type, GPA, disability classification, graduation year, and their relationship to the dependent variable of postsecondary outcomes. Transition services are crucial in supporting students with disabilities and are included in the conceptual framework diagram. The theoretical framework of Kohler's taxonomy of

transition programming 2.0 and Senge's learning organizations and five disciplines guide this study. They are therefore included in the model with the variables that intertwine the framework with the variable. The independent variables line up and point toward the dependent variable to show all the variables that make up the student, with the dependent variable as the significant result and outcomes. The arrows of postsecondary outcomes, Taxonomy for Transition Programming 2.0, and Learning Organizations have arrows leading toward each other, depicting the nature of their interconnectedness.

Figure 2

Conceptual Framework



Significance of the Study

Determining if there is a significant difference in students with disabilities based on various variables is imperative for the future outcomes of our students with

disabilities. The New York State Education Regulations of the Commissioner of Education, Special Education Part 200, provided clear regulations for transition services (NYSED, 2016). Transition services begin on a student's IEP no later than age 16 and earlier if deemed necessary. Mandates to include transition services:

> A coordinated set of activities for a child with a disability that is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; is based on the individual child's needs, taking into account the child's strengths, preferences, and interests; and includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and when appropriate, acquisition of daily living skills and national vocational evaluation *(20 U.S.C. § 1401 sec. 602 [34](5).*

While there is a myriad of research on postsecondary outcomes for students with disabilities, there continues to be a lack of systems thinking and interconnectedness. Much of the research looks at students with disabilities and postsecondary outcomes. Research focuses on individual variables such as students' gender, students of color, students with low socioeconomic status, career technical participation (CTE), graduation, GPA, and disability classification on the postsecondary outcome. However, there is

limited research on students with disabilities who use these variables together. There is also a lack of research on students with disabilities, along with the previously mentioned variable, diploma types, GPA, and all disability classifications. Last, while there is research on postsecondary outcomes, there is little research on specific postsecondary plans students seek. This study looks at students with disabilities with demographic factors of gender, race/ethnicity, participation in CTE programs before exiting high school, diploma type, GPA, disability classification, and specific postsecondary outcomes.

Connection with Social Justice and Vincentian Mission in Education

Students with disabilities are a disadvantaged population, have higher rates of unemployment and underemployment, and are underrepresented in postsecondary education (Newman et al., 2011). Furthermore, students of color encounter barriers to reaching their goals even when they have similar aspirations to their White male counterparts (Gardenhire et al., 2016). Students with disabilities have families with poverty-level incomes at higher rates than general education students. This study aimed to address these issues by researching the issue of social justice for these disadvantaged and underrepresented groups.

Research Design and Research Questions

Quantitative Research Questions

1. To what extent does gender predict postsecondary outcomes for students with disabilities?
2. To what extent does race/ethnicity predict postsecondary outcomes for students with disabilities?

3. To what extent does participation in career technical education (CTE) programs predict the postsecondary outcomes for students with disabilities?
4. To what extent does diploma type predict postsecondary outcomes for students with disabilities?
5. To what extent does GPA predict postsecondary outcomes for students with disabilities?
6. To what extent does disability classification predict postsecondary outcomes for students with disabilities?
7. To what extent does graduation year predict postsecondary outcomes for students with disabilities?

Hypotheses

H_0: There will be no relationship between gender and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between gender and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between participation in CTE programs and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between CTE participation and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between diploma type and postsecondary outcomes for disabled students.

H_1: There will be a relationship between diploma type and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between GPA and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between GPA and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between disability classification and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between disability classification and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between graduation year and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between disability graduation year and postsecondary outcomes for students with disabilities.

The independent variables in this study will be gender, race/ethnicity, participation in a CTE program, diploma type, GPA, and disability classification, with the dependent variable being postsecondary outcomes.

Definition of Terms

The following terms are defined to provide a standard understanding of the ideas discussed in this document.

Career Technical Education

Programs provide academic and technical instruction in the content areas of agriculture, business and marketing, family and consumer sciences, health sciences, trade and technical education, and technology education (New York State Education Department, 2023).

Diploma Type

The types of diplomas approved by NYSED include local, Regents, and Regents with advanced designation (New York State Education Department, 2022).

Ethnicity

Large groups of "people are classified according to common racial, national, tribal, religious, linguistic, or cultural origin or background" (Blakemore, 2019).

Evidenced-based

According to the National Technical Assistance Center on Transition (2023), "demonstrates a strong record of success in improving outcomes, uses rigorous research designs, and adheres to indicators of quality research".

Individualized Education Plan

A written statement for each child with a disability that is developed, reviewed, and revised in a meeting in accordance with §§300.320 through 300.324 (U.S. Department of Education. (2017).

Individuals with Disabilities

A person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment (U.S. Department of Justice Civil Rights Division, 2020).

Postsecondary Outcomes

A pupil's activities after high school graduation may include pursuing postsecondary education and training, including at a technical college, college, or university, entering the workforce, serving in the armed forces, or undertaking other personal growth and development activities (Law Insider, 2023).

Promising research

According to the National Technical Assistance Center on Transition (2023), "there has been some success in improving outcomes; more quality research is needed to raise to an evidence- or research-based practice."

Race

A category of humankind that shares certain distinctive physical traits (Blakemore, 2019).

Research-based

According to the National Technical Assistance Center on Transition (2023), "demonstrates a sufficient record of success in improving outcomes, uses rigorous research designs, and may adhere to indicators of quality research".

Students with Disabilities (SWD)

A student who gets services approved by a district who has physical, mental, or emotional reasons and has been identified as having a disability (New York State Education Department, 2016).

Transition Services

A coordinated set of activities for students with disabilities is designed with a results-oriented process to promote movement from school to post-school activities. Transition services must be based on the individual student's needs, considering the student's strengths, preferences, and interests (NYC Department of Education, 2022).

CHAPTER 2

Introduction

This section provides an in-depth description of the theories that guided this study and a review of existing research. The subsequent literature review explores what is already known about postsecondary outcomes and formulates an argument on areas where additional investigation is needed while keeping the theoretical framework at the root of this study. It includes postsecondary outcomes for students with disabilities, the effects of students with disabilities factors of gender, race/ethnicity, or socioeconomics and postsecondary outcomes, vocational and career technical education programs (CTE) contributions for students with disabilities, and predictors related to successful postsecondary outcomes. The review examines empirically reviewed quantitative and qualitative research that lead to an argument for additional research on students with disabilities across demographics, CTE programming, diploma type, GPA, and disability classification.

Theoretical Framework

Taxonomy for Transition Programming 2.0

There are five taxonomy categories: student-focused planning, student development, interagency and interdisciplinary collaboration, family engagement, and program structure and attribute (Kohler et al., 2016). Student-focused planning focuses on students learning about themselves to determine their strengths, preferences, and interests leading to their goals. Students learn about themselves and gain self-awareness through assessment while leading to goal setting (Powers et al., 1996). Student development focuses on learning experiences. Through self-determination, students learn

about employment and life through real-life experiences that prepare them for independent lives (Kohler & Field, 2003). Collaborative service delivery focuses on all stakeholders working together on transition services. While the research found that successful collaboration among stakeholders leads to the achievement of transition goals, poor collaboration impedes goals (Devlieger & Track, 1999). Family engagement focuses on participation, empowerment, and training in the planning and delivery of transition services. Blackorby and Wagner (1996) found family involvement to have positive student outcomes, including improved educational attendance, self-esteem, and lower drop-out rates. The last category of program structure incorporates the overall transition services, including academic planning, philosophy, policy, and resources (Kohler, 1998). This is where the implementation of transition services and practices that lead to postsecondary outcomes occur (Kohler & Field, 2003).

Successful transition planning is crucial for students with disabilities, and Kohler's taxonomy for transition planning is the foundation. The Individuals with Disabilities Education Act (IDEA) indicates student-focused planning with all stakeholders working together as best practice in transition (Kohler & Field, 2003). This is imperative when developing and maintaining an individual education plan (IEP). Student development involves training and employment skill preparedness and is essential for students in life skills training, independent living training, and education beyond traditional high school. Interagency collaboration works to unite all stakeholders for the betterment of the student. This category connects materials like students' assessments, information, and discussions between secondary and postsecondary education institutions to work together on outcomes. Last, the program structure connects

the transition to a long-term approach. This is where postsecondary goals become outcomes, and students living, learning, and earning are looked at together.

Learning Organization

In Peter Senge's book *Schools that Learn* (2012), the five disciplines of learning organizations are personal mastery, mental models, shared vision, and team learning, which are the core disciplines, with systems thinking as the cornerstone. In learning organizations, successful organizations are ones where individuals are learning. Personal mastery is a lifelong learning process that constantly clarifies and sharpens one's vision (Smith, 2001). Mental models are embedded beliefs and generalizations that are the lens through which individuals see the world and actively act (Senge, 2006). A shared vision is a critical element of learning organizations and is the uniting of individual ideas for the future as a whole of its sum, with the organization's success coming from the enthusiasm and clarity of the group (Smith, 2001). Team learning is another imperative cog in the wheel of learning organizations. This discipline builds on personal mastery and shared vision, merging ideas on the capacities of the whole group to work together to think for the most desired outcomes (Senge, 2012). During this phase, individuals learn quickly because of the flow of the combined group and a greater level of intelligence that they could only attain together (Senge, 2012). The linchpin, systems thinking, amalgamates all disciplines into a whole and is the fifth discipline. Successful organizations work together as a whole entity with long-term visions. The inability of an organization to understand this or react without realizing long-term consequences will lead to failure (Senge, 2006). Successful organizations have individuals who constantly learn, look inward, and build a unified vision while working together, all while working toward the long-term goal.

Learning organizations are used in schools, with Park (2008) even finding internal validity in a vocational school in Asia. This theoretical framework aligns with the current dissertation. Educators, leaders, school districts, community, local and state governing bodies, and all stakeholders must work with students to produce the most successful outcomes for each student based on their individuality and postsecondary goals. Education is built on the premise of continual learning and personal mastery. Students and educators should seek this out. Mental models are ingrained thought processes that must be understood and reflected upon for students to build upon them and explore future options. A coalescence of alliances and a shared vision with all stakeholders leads to long-term goal-setting. With all parties working together, team learning, innovation to improve programming, and options for students will flourish. These five disciplines working together produce the optimal long-term plan for a student and lead to successful postsecondary outcomes.

Review of Related Literature

The literature review examines extensive qualitative and quantitative studies on postsecondary outcomes for students with disabilities. The researcher organized these studies through subcategories that compiled a set of research that focused on each independent and dependent variable. The initial category examines an overview of postsecondary outcomes for students with disabilities. The second category focused on demographics and postsecondary outcomes. Research on vocational and career technical education programs and findings on postsecondary outcomes follows. The next focus area is limited research on diploma types and connecting research on post-high school.

The final area is research on predictors of postsecondary outcomes for students with disabilities.

The researcher conducted a thorough methodology search to obtain studies for this literature review. These searches included social sciences and educational databases, including ERIC, ProQuest Central, EBSCOHost, Sage journals, and Google Scholar. Keywords and search terms included “postsecondary outcomes,” “predictors,” “transition,” “career technical education”, “vocational”, “students with disabilities”, “demographics”, “gender”, “race/ethnicity”, “diploma”, “diploma type”, “grade point average”, “GPA”, “disability classification”, and “graduation year”. Searches were limited to peer-reviewed published between 2018 and 2021 but expanded to include relevant research articles. Inclusive criteria included articles with keywords that had gender, race/ethnicity, career technical education programs, diploma type, grade point average (GPA), and disability classification and discussed postsecondary outcomes.

Postsecondary Outcomes for Students with Disabilities

Postsecondary outcomes for individuals with disabilities lag behind that of their non-disabled peers. These less successful outcomes are across postsecondary employment, education, and independent living. This section provides an overview of postsecondary outcomes for students with disabilities using qualitative and quantitative research articles.

Domin et al. (2020) conducted a qualitative grounded theory study to explore employment preparation for students with intellectual disabilities (ID) in higher education programs. The purpose of the study was to look at Transition and Postsecondary Education Programs for Students with Intellectual Disability (TPSID) with the highest

rates of employment for exiting students with intellectual disabilities (ID) and how they approached employment services as part of the overall postsecondary education (PSE) programs. The researchers were interested in understanding the perspective of TPSID staff on paid employment for their students and the approaches they implemented to support their students' goals.

Domin et al. (2020) looked at prior research to examine studies and determine if research gaps existed. Research conducted by Lipscomb et al. (2017) found that compared with other disabilities, youth with ID have the lowest rates of engagement in work, school, or preparedness shortly after high school. In 2016, the employment rate for working-age adults with disabilities was half that of their peers without disabilities (StateData, 2018). Factors that impacted postsecondary outcomes for students with ID are the gaps in services and lack of opportunity for integrated work (Green et al., 2017).

Domin et al. (2020) used purposive sampling of 14 staff from TPSID sites in this study. They used a two-tiered sampling process to examine students with 90-day paid employment retention and the number of students in the program to ensure that they represented a sufficient number of employed students. The staff were located across the United States with differences in program size, varying job titles, job responsibilities, training, and education.

The researchers used a series of focus groups and supplemental short surveys to collect data. The questions were open-ended, relating to the participants' TPSID programs, such as staff roles, professional qualifications, and staff structure. Data were analyzed using qualitative data software using procedures described by Miles et al. (2014) for thematic analysis. The research team developed a list of preliminary codes,

compared their findings, and agreed on consistently applying codes. Triangulation enhanced the analysis (Archibald, 2016) by utilizing additional researchers.

Domin et al. (2020) found that TPSID employment staff had a consensus on the employment goals and expectations of TPSID students. The staff expected students with ID to have similar college and employment experiences to their peers without ID. There was variability in the approach to career development, work-based learning, or employment support. Despite these differences, the TPSID staff participating in the focus groups still had more success with student employment outcomes.

Domin et al. (2020) provided a clear purpose and aim for the study. While the study had participants in the United States, the researchers conducted the focus online, resulting in a possible lack of comfort for some participants who might not feel at ease with technology. This might have led to different findings if the sessions had been in person. The researchers used triangulation to increase the trustworthiness of this study.

Heron et al. (2020) conducted a quantitative, non-experimental study to explore employment barriers individuals with intellectual and developmental disabilities (I/DD) encounter. The study's purpose was to examine the recruitment, hiring, and retention process of individuals with I/DD and evaluate a conference. The research aimed to examine these practices while examining the outcomes of a one-day conference focused on demonstrating successful strategies and methods to improve postsecondary employment outcomes for individuals with I/DD.

Heron et al. (2020) provided a descriptive literature review highlighting the employment barriers and challenges for individuals with disabilities and initiatives for employers to improve hiring practices. While the Americans with Disabilities Act worked

to improve overall employment for individuals with disabilities, this segment of the population continues to encounter discrimination and lower rates of employment (Katz & DeRose, 2010). Research has shown that the employment gap continued to grow since 2008 (Kraus, 2017). Research reports the common barriers for individuals with disabilities include qualification of candidates, training, organizational culture, beliefs on cost, and negative attitudes among employees (Erickson et al., 2018), with individuals with I/DD attending postsecondary education at fewer rates (Newman et al., 2011). While there have been several initiatives for employers to hire employees with disabilities, there continue to be lower levels of employment for these individuals.

There were 44 participants ($N = 44$) who completed a survey on recruitment practices, strategies, and helpful strategies for hiring individuals with I/DD. An ordinal logistic regression was used to explore factors of gender, race/ethnicity, education, and size of companies. The results found that employers used postings with workforce employment centers most (45.5%), advocacy organizations (38.6%), and college career centers (34.1%) to recruit individuals with disabilities. Employers reported the challenges to hiring candidates with I/DD were the nature of work (59.5%), unsure of possible accommodations cost (48.9%), qualified applicants with I/DD (50%), the actual cost of accommodations (56.8%), fear of litigation (56.8%) and specialized training (54.1%). Attitudes on hiring based on race/ethnicity were significant, with White respondents finding supervisor attitudes more of a challenge than African Americans with a 6.877 unit increase in ordered log-odds ($p<.05$). Results found Hispanic/Latinos feared litigation less than their non-Hispanic/Latino counterparts with a 4.941 increase in ordered log-odds ($p<.05$).

The article provided a vital literature review from the researchers. They identified recruitment, hiring, and retention as areas to survey during a one-day conference with employers while informing employers on employment initiatives. While the results indicated positive avenues to recruit and retain individuals I/DD, participants continue to be concerned about hiring. A significant finding was that the race/ethnicity of participants was significant in hiring attitudes and fear of litigation. While this study provided information on recruitment, hiring, and retention for individuals with I/DD, it lacks information on participants' attitudes on these practices with all disabilities, gender, race/ethnicity, participants who participated in career technical education programs, and diploma type.

Bouck and Park (2018) conducted a quantitative, non-experimental study to explore postsecondary outcomes for students with autism spectrum disorder (ASD) across time out of school. The researchers conducted a secondary National Longitudinal Transition Study-2 (NLTS) analysis. The purpose of this study was to examine the immediate and long-term post-school outcomes for students with ASD and how they compare. The aim was to examine students with ASD postsecondary education, employment, and independent living across time out of school.

The researchers provided evidence through the literature review to explore these postsecondary outcomes for students with ASD. As previous research has revealed, students with disabilities have historically had lower rates of postsecondary institutions, employment, and independent living (Blackorby & Wagner, 1996). Research suggests these outcomes are even lower for students with ASD. Only 55.1% of students with ASD

had paid employment, and only 34.7% attended a two-year or four-year college (Shattuck et al., 2012), while less than one-fifth lived independently (Anderson et al., 2014).

There were 4,665 respondents with ASD in the data from the NLTS study. The researchers looked at data from three of the four waves that focused on postsecondary experiences after two, four, and six years while focusing on two of the six data collections of parent/youth and the school program survey. The researchers used SPSS to aggregate data using a test equivalent to an *F*-test. The results found that students with ASD graduated at (87%, *SE* 3.2) with one-fourth to one-third attending postsecondary education. The study found that attendance rates for two-year and four-year colleges increased the longer students were out of school 27% (*SE* 6.8), 30.6% (*SE* 7.4), and 29.2% (*SE* 6.9) schools the longer they were out of secondary school. While employment for students with ASD increased for two years and four years, there was a decrease for four years and six years (63.9%, *SE* 9.7, and 52%, *SE* 10.7). The longer students with ASD were out of school, the more difficult it was for them to find a job independently, decreasing from 25.6% (*SE*, 6.3) to 5.2% (*SE* 2.4). Working full-time and earning more than minimum wage also decreased. Independent living was highest during the four years of exiting but less than 5% for two- and six-year frequencies. The study found no significance over time for postsecondary options over time. There were significant differences for paid employment during the two-year wave and within six years (*F*=59.42, p,.001) and four years of exiting (F=8.61, p,.01). There was also significance for students with ASD for current employment at the time of data collection with two years and four years (F=19.75, p,.001) and within two years and six (F=9.60, p<.01).

There was also significance between two years and four years of independent living ($F=13.77$, $p<.001$) and four years and six years ($F=12.2$, $p<.001$).

This study showed that students with ASD are more likely to graduate from postsecondary education and have paid employment the longer they are out of secondary school. However, they are less likely to live independently, earn more than the minimum, or work full-time. While this study provides a look at postsecondary outcomes for students with ASD, it has limited information on race/ethnicity and career technical education program outcomes for students with all disability groups.

Joshi et al. (2012) conducted a quantitative non-experimental study. The researchers used National Longitudinal Transition Study-2 (NLTS2) data to explore employment preparation for students with mild intellectual disabilities and postsecondary outcomes. The study aimed to look at employment-related transition activities, these activities about school demographic variables, and these activities compared to postsecondary outcomes.

The researchers conducted an in-depth review of the literature. The review discussed the importance of employment, economic and financial security, and increased independent living (Test, Aspel, & Everson, 2006). However, students with disabilities were less likely than their non-disabled peers to experience these successes (Blackorby & Wagner, 1996). Another study found that many times, students with disabilities overestimated their capabilities, had limited awareness of skills (Capella et al., 2002), and experienced challenges in understanding directions, learning, and performing new skills (Bucholz et al., 2008). There is positive research on schools' impact on students with disabilities with employment (Benz et al., 2000). Some research has found that

geographical characteristics are correlated to post-school employment (Rabren et al., 2002). Significant findings indicate that much of the disabilities are aggregated into data, especially for mild intellectual disabilities, which can have implications for postsecondary outcomes in employment (Bouck, 2004).

There were 62,513 students with mild intellectual disabilities in the secondary analysis of the NLTS2. NLTS2 used several waves of collection during the longitudinal study. The parent/youth survey during the first four waves, the school program survey for waves 1 and 2, and the school characteristics from wave 1, while only students in school in the one wave and out of school in the succeeding wave were used. The results reflect students who responded to the questions and were not representative of all students in the study.

The researchers used multiple and logistic regression analysis for this study. Results of the study indicated that students with mild disabilities participated in employment-related transition activities, with instruction on how to find jobs as the most frequent (81.3%, *SE*=4.9) and the least frequent being tech prep programs (5.9, *SE*=2.3). Second, a relationship existed between students participating in employment-related transition activities and postsecondary employment. For example, students with mild disabilities reported they engaged in employment after leaving school (75%, SE=6.4), with students being 1.2 times likely to be employed post-school if they participated in one additional transition activity $t(28)=2.144$, $p = .004$, with odds ratio 1.20. Last, there were differences in results based on school demographics for employment-related transition activities. For example, rural and urban schools showed significance

$t(21)=2.263$, $p<.034$, with an odds ratio of 5.980, indicating urban areas were more likely to have paid employment experiences than their rural peers.

This study provided information on postsecondary outcomes for students with mild intellectual disabilities. However, there are some limitations. For example, this study utilized data from the NLTS2; respondents self-reported, and some did not answer all the questions. The researchers noted that the logistic regression incorrectly specified school-sponsored work as the dependent variable and school demographics as the independent variable. While this study produced valuable information, it did not discuss the results of student gender, race/ethnicity, career education programs specifically, or diploma type.

Bouck (2014) conducted a quantitative, non-experimental study to examine postsecondary outcomes for students with and without disabilities. The purpose of this study was to explore the postsecondary outcomes for students and whether there are differences between students with and without disabilities based on gender, ethnicity, and socioeconomic status. A secondary purpose was to explore the challenges local districts encounter when collecting information on postsecondary outcomes for their students.

Bouck (2014) completed a literature review highlighting The Individuals with Disabilities Education Improvement Act (IDEA) Amendments of 2004 mandating transition planning and The No Child Left Behind (NCLB) Act of 2001 requiring higher standards for students and for them to pass academic assessments. While transition services are essential to ensure students with disabilities have a free, appropriate public education with a focus on preparing them for postsecondary life, NCLB focuses on rigorous coursework while in school, including students with disabilities. Thus, with so

much time spent preparing students with disabilities for standardized exams, there is limited time for transition instruction. In 1984, the Office of Special Education and Rehabilitation Services (OSERS) focused on the transition to special education at the federal level (Will, 1984). The need for follow-up studies resulted in the first National Longitudinal Transition Study (NLTS) in 1987. In 2004, the Office of Special Education Programs (OSEP) authorized states to document their State Performance Plan on Effective Transition, Indicator 14. This indicator collects data on postsecondary outcomes for students with Individual Education Plans (IEPs) one year after exiting high school (National Post-School Outcomes Center, 2006). As discussed, legislation focused on four areas of postsecondary outcomes: employment, education, independent living, and leisure (National Transition Network, 1997).

The researchers used a stratified random sample to select 76 students with disabilities and 152 general education students graduating with a regular diploma in 2005 from a mid-sized city in a southern state. However, the final response resulted in 6o special education students and 129 general education students for 189 participants. A log-linear analysis and chi-squared distribution were used to run data from the survey questionnaire results. The results examined educational setting, gender, ethnicity, and socioeconomic status with postsecondary employment, education, independent living, and recreation and leisure. Employment was found to have significance with a school setting ($L2$=7.99, df=3, p = .046) and socioeconomic status ($L2$=18.09, df=1, p = .000) with no significance with gender and ethnicity. Students in special education were almost half (47%) unemployed compared to general education students (32%) six months after graduating. For postsecondary education, the researchers examined no postsecondary

education, two-year college, four-year college, employment-related training, and originally vocational/technical school. However, they collapsed the latter as only two percent of participants selected the response. The results indicated that education setting $L2=11.104$, $df=3$, $p = .001$ and ethnicity $L2=10.749$, $df=4$, $p = .030$ were significant while gender and socioeconomic status were not. Over half the students in special education (54%) were not participating in postsecondary employment compared to their general education counterparts (26%). Independent living found no degree of variance between groups. Recreational living found that while all students indicated participation in activities, it was at a lower rate for students in special education (22.9%) than their general education peers (63%). Another significant finding emerged when examining employment and educational outcomes, resulting in an additional focus area for the researchers: productive engagement. The results indicated that students in special education (11%) were less likely than their general education counterparts (26%) to participate in either employment or education.

The results of this study and the literature review provide insight and history into postsecondary outcome reporting for students with disabilities. The study examined postsecondary outcomes in employment, education, independent living, and leisure activities while controlling for gender, ethnicity, socioeconomic status, and school setting. However, there were limitations to the study. First, the study is from 2008 and might have outdated information. The study was from a small sampling of schools in a southern state and might not be generalizable. There was also an attrition rate of participants of 38%, which might have resulted in different findings. While this was

informative, it is an older study that does not necessarily reflect current trends in race/ethnicity, diploma type, and career technical education programs.

Effects of Students with Disabilities Demographics (race/ethnicity, gender, or SES) and Postsecondary Outcomes

Maki et al. (2020) conducted a quantitative, non-experimental study to explore the relationship between students with specific learning disabilities and student-level variables. The purpose of this study was to examine whether assessments and demographic factors predicted students being identified with learning disabilities (SLD). The researchers specifically looked at assessments related to global cognitive ability, academic achievement, and response to intervention (RtI) slope related to SLD identification with RtI. The study also examined the relationship between race/ethnicity, gender, free/reduced-price lunch (FRL), and SLD identification with RTI.

Maki et al. (2020) reviewed literature that undergirded the study. The literature review looked at the classification and procedures for SLD. Benson et al. (2020) noted no standardized SLD identification procedures because IDEA and most state regulations do not mandate specific identification methods. Maki et al. (2020) also reviewed for RTI. Kavale and Spaulding's (2008) study discussed that RTI does not identify SLD because the conceptualization of underachievement did not compare to cognitive ability. Maki et al. (2020) reviewed literature on student demographics to see if there was a relationship with SLD identification. National Center for Education Statistics (2018) and Sullivan and Bal (2018) found a disproportionate representation of students of color with SLD when examining students' race/ethnicity in special education. Shifrer et al.'s (2011) study suggested that socioeconomic status (SES) with students with lower SES were more likely to be identified as SLD than students with higher SES, and once SES was

accounted for, Black, Latino, and Native American students were no longer overrepresented in being identified as SLD than White students.

A sample of 93 of the 160 psychoeducational evaluation reports pulled from the special education database had complete data and was used for the study (Maki et al., 2020). A total of 60 students were identified with SLD: 39 were female, 54 were male, 50 were White, 16 were two or more races/ethnicities, 14 were Black, four were Latino, and two were Native American. Using SPSS, a binary logistic regression was used to determine the probability of students being identified with an SLD after determining that multicollinearity among independent variables did not affect the stability of the regression coefficient.

The study found statistical significance in participants' achievement scores, race/ethnicity, and FRL status, predicting whether a participant was identified with an SLD. Participants who were White and participants who received FRL were statistically significant. The model accurately predicted that MDT identified students as SLD in 55 of the 60 cases (sensitivity = 91.67%). There was no statistical significance with RTI slope (p = .86), global cognitive ability (p = .18), and gender (p = .74) in predicting SLD identification. White students who received FRL and students with lower achievement were more likely to be identified with SLD.

This study provided a focused literature review with convincing evidence to support Maki et al. (2020) quest to find answers to their research. However, the sample size was relatively small, leading to a possible lack of generalizability. Inadequate power could have resulted in statistical results that were not significant. While the results were analyzed, the researcher identified the results defined by the logistic regression model

and recommended alternative analytic methods in the future to explore the relationship between the variables.

Graham and Eadens (2017) conducted a quantitative correlational non-experimental ex post facto study. The study examined the relationship between special education and standardized testing. The purpose of this study was to assess if there was a relationship between Native American secondary students with disabilities from Arizona Local Education Agencies (LEAs) that participated in state compliance reviews for State Performance Plan (SPP) Indicator 13 and SPP Indicator 14 (postsecondary outcomes), Arizona Instrument to Measure Success (AIMS) test scores, and special education service funds (SESF). The researchers wanted to provide results from the transition provision of the Individuals with Disabilities Education Act (IDEA) and the measurement of students' progress in achievement in assessments (Erickson et al., 2013). The study looked at the relationship between the fulfillment of compliance review of SPP Indicator 13 Individualized Education Plan (IEP), Aims achievement, and SESF and the achievement gaps among Native American students, specifically for students with disabilities (Adelman et al., 2013).

The researchers reviewed literature from prior studies as a platform for their research questions. Another study found that even when schools placed special attention on subject areas due to possible reprimand from the government under No Child Left Behind (NCLB), special education students and economically disadvantaged students had lower performance levels (Chakrabarti, 2014). Native American students with disabilities have the lowest levels of math proficiency scores in Arizona public schools. Regarding postsecondary outcomes, Flynn et al. (2012) found that Native Americans comprise less

than 1% of those enrolled in institutions. However, a quantitative linear regression study found a positive relationship between parental expectations and graduating, attending postsecondary education, and obtaining a paid job (Schmidt & Akande, 2011).

A purposive sample of 100 Arizona secondary school districts with Native American students was selected from districts required to participate in SPP Indicator 13 compliance reviews. The districts represented Arizona's rural, urban, and reservation land. The districts selected were local education agencies (LEA) with K-12 Native American students with disabilities that received SESF and participated in assessments in the 2012 and 2014 SPP Indicator 14 surveys. Graham and Eadens (2017) run a Spearman's Rho Correlation to examine the relationship between the predictor variables, AIMS scores, SESF, and the criterion variable, SPP Indicator 14 outcomes. There were no significant relationships between AIMS scores and SPP 14, r_s = .695, n = 100, p < .05, and SESF and SPP 14, r_s = .456, n = 100, p < .05. An ordinal logistic regression was run to determine correlations between variables of SPP 14, AIMS and SESF. The findings indicated there were no statistically significant correlations between AIMS and SPP 14 = 1, R_N^2 = .274, p < .05, SPP 14 = 2, R_N^2 = .902, AIMS, R_N^2 = .648, p < .05, SESF R_N^2 = .347, p < .05. The results indicate there was no significant relationship between AIMS, SESF, and SPP Indicator 14 outcomes. Therefore, SESF and AIMS scores did not predict the outcomes of SPP Indicator 14. The findings indicated a proportional representation of Native American students with disabilities in postsecondary settings. Positive factors such as family and cultural support may be responsible for these outcomes.

While this article provided information on Native American students, it was conducted in Arizona and might not represent other regions and states throughout the

United States. The researchers had representation from rural, urban, and reservation land; they did not discuss suburban areas. The data did not examine other race/ethnicity groups to discuss postsecondary outcomes. A further recommendation is to have a qualitative study to research the positive factors of family and cultural support to assist educators in improving outcomes for all students with disabilities.

Sanguiliano et al. (2019) conducted a qualitative case study to explore the connection between strengthening families and the academic success of children. The purpose of the study was to examine the perceptions of parents who face economic disadvantages, perceptions of internal and external factors that strengthen families, and how these strengths relate to academic outcomes for children. The researchers aimed to build on the prior research of family academic encouragement and participation through community and educational programs and to explore the limited research area of family strengthening activities and academic achievement for students.

The researchers reviewed the literature on academic success and the role of the family. The research found that simple family activities like reading together, discussing school days, and educating at home increase students' motivation to learn (Fantuzzo et al., 2004). Building on prior research, when factoring race/ethnicity, students of color who self-reported increased school connectedness indicated more family-level interventions that might lead to academic success (Woolley & Grogan, 2006).

The sample size of economically disadvantaged parents (N = 33) participated in this case study. The participants were part of Family Builders, a program run by City Project that serves and provides programs to a community with 79% African American, 10% unemployed, and 39% of the population falling below the poverty level (U.S.

Census Bureau, 2011). The researchers ensured participants' confidentiality while coding, summarizing, and quoting data. Parents reported activities that strengthen families, including respectful communication, quality time together, and engagement in school and community. There were four internal traits: communication, respect, unity, and structure, and three external factors: engaging in new opportunities, attending events in the community, and working together/spending outside the home time together, educational themes of access to educational resources and agency's students' accountability. While the results found that families did not directly connect the activity that strengthened families and their children's educational outcomes, their descriptions paralleled the literature with social capital, parental interest, family time, and parent-school engagement.

Sanguiliano et al. (2019) provided their study's purpose, and the literature review aligned well with their research questions. Some limitations of the study were not geared toward educational outcomes but toward the program evaluation process. Researcher consistency was a possible consideration since there was variation in conversations, leading to limited corroboration. The researchers could not follow up with participants as the data was collected anonymously from participants. Last, Sanguiliano et al. (2019) used finite methods of data sources to test this study's validity and reliability.

Effects of Vocational or Career Technical Education Programs and Postsecondary Outcomes

The National Technical Assistance Center on Transition (NTACT) (2023) indicates career technical education (CTE) and employment as the only evidence-based predictor for postsecondary outcomes and CTE and education as one of the research-based predictors of postsecondary outcomes. These predictors are based on prior research in the

field of CTE. This section looks at some research on career technical education and the postsecondary outcomes for students with disabilities.

Theobald et al. (2018) conducted a quantitative, non-experimental study to explore postsecondary outcomes for students with disabilities who attend career technical education (CTE) and inclusion programs. The purpose of this study was to investigate the relationship between students with disabilities who are enrolled in CTE programs, students enrolled in inclusion in general education, postsecondary outcomes, and successes. The researchers examined whether students enrolled in CTE, and inclusion programs predicted unexcused absences and on-time graduation. They expanded on this by examining whether students with disabilities enrolled in CTE and inclusion predicted college enrollment and employment.

Theobald et al. (2018) discussed the lack of research on postsecondary outcomes for students with learning disabilities, even after the 2004 reauthorization of the Individuals with Disabilities Education Act placed greater importance on postsecondary outcomes. The researchers also discussed in the study the evidence from prior descriptive research that students with disabilities continue to have lower college attendance and employment success compared to their peers. A study found disparities between students with learning disabilities who graduated from high school and those who dropped out (Karpinski et al., 1992). There were small studies that found postsecondary outcomes for former special education students were predicted by CTE enrollment (Baer et al., 2003), and students enrolled in inclusion had improved test scores, attendance, and behavior while in high school (Rea et al., 2002).

The study examined longitudinal data on 5,122 10th-grade students with specific learning disabilities in Washington State in the 2009-2010 or 2010-2011 school year. Linear regression was run separately for predictive variables such as unexcused absences, student graduation, college attendance, and employment. The researchers also looked at demographics, baseline test scores, enrollment in CTE, and the extent of inclusion. The researchers' findings suggest CTE concentration and inclusion are strongly associated with outcomes for students with learning disabilities, resulting in a 3 to 4 percent increase in on-time graduation, a 2.8 to 4.2 percent increase in employment, and a 5.7 percent increase in college enrollment. Researchers looked to build on prior research on the gaps between students with disabilities and students without disabilities outcomes in Washington state. In conclusion, the researchers allude to using caution with the findings. This study focused on one school and might not be indicative of all state schools or even broader to schools across the country. The researchers also discuss the lack of causal conclusion because of potential ethical issues relating to experimental research within special education research (Mertens & McLaughlin, 2004).

This article provided thorough descriptive data but stated that there might be bias and that an experimental study would be needed to show a causal effect. However, the study did identify gaps in the research in Washington state on outcomes for students with disabilities and students without disabilities. While this study was large, the results might not indicate the rest of the United States.

Similarly, Daviso et al. (2016) conducted a quantitative correlational study using data from the National Secondary Transition Technical Assistance Center (NSTTAC, 2013) to examine whether predictors of post-school employment outcomes were

significant for students with disabilities. The purpose of the study was to examine if there was a correlation between vocational education, work-study, and school-supervised community work while in high school with five subcategories of students with disabilities: learning, intellectual, multiple, emotional, and other health impairments.

The researchers reviewed prior data to guide their study. The Division of Career Development and Transition (DCDT) identified a need for research on students with disabilities, gender, and ethnicity to examine how secondary transition predictors work (Mazzotti et al., 2013). A finding by Simonson and Neubert (2013) noted that predictors for students with disabilities were modified by gender and ethnicity. The NSTTAC (2013) analysis concluded that three secondary programs predicted employment. They included occupational and vocational education (Baer et al., 2003), work-study (Baer et al., 2003), and school-supervised community work experiences (Benz et al., 2000).

There were 4,952 participants in the study who completed a survey before exiting high school. Logistic regression was conducted for disability subgroups after controlling for covariates of ethnicity and gender. The results of the analysis showed a high correlation between career technical education and employment for students with learning disabilities (r=1.39) and other health impairments. Work-study was correlated with employment with significance only with individuals with learning disabilities (r=1.34) and other health impairments (r=2.06). The last predictor of school-supervised work in the community was strongly correlated with employment for students with multiple disabilities (r=3.10) but was not as effective in predicting outcomes for students in the other four subgroups. The subgroup of emotional and multiple disabilities often failed to reach significance in the study. The study found that African-American students

(51%) and females (60%) in career and technical programs were employed less one year out compared to their non-African-American and male counterparts.

This study provided relevant and informative information on predictors of postsecondary outcomes for students with disabilities. However, the study was correlational and be difficult to replicate. Students in the study who showed significance in the various programs that led to employment might have had characteristics that would have led to better employment even if they were not in the programs. While this study looked at predictors, race/ethnicity, and postsecondary employment, it did not look at diploma type or postsecondary education outcomes.

Diploma Types

The National Technical Assistance Center on Transition (NTACT) (2021) indicated exit exam requirements/high school diploma status as promising toward a postsecondary outcome predictor for employment. According to NTACT, this demonstrates some success in predicting outcomes, but additional research is necessary. NTACT provides no data on exit exam requirements/high school diploma status and education. This section will examine research on diploma types and postsecondary outcomes.

Whittenburg et al. (2020) conducted a quantitative exploratory study to compare postsecondary employment with postsecondary educational experiences for youth with learning disabilities. The purpose of this study was to compare cost-efficient and effective Vocational Rehabilitation (VR) services for youth with learning disabilities across education levels and differences in postsecondary employment outcomes. The study aimed to look at several variables for students with disabilities: no high school

diploma, special education certificate of completion, high school diploma, or some postsecondary education, demographics, employment outcomes, and cost-effectiveness of VR services.

Whittenburg et al.'s (2020) review of the literature focused on educational experiences and postsecondary outcomes for students connected to VR services. While studies have shown that higher levels of education lead to improved outcomes for non-disabled adults (Ma et al., 2016), research also finds that individuals with intellectual disabilities (ID) and Autism Spectrum Disorder (ASD) who receive VR services have increased employment outcomes than VR participants with less education (Whittenburg et al., 2019). While students with learning disabilities (SLD) constitute one of the largest populations of students receiving special education and transition services (McFarland et al., 2017), they earn lower wages than their peers without disabilities (Stanford et al., 2011). Poppen et al. (2017) found that SLDs who received four VR services were four times more likely than their peers who received only one VR service to have a closed case. While there is research that supports VR services for individuals with disabilities, these agencies are publicly funded, and the researchers emphasize the importance of identifying factors that result in the best outcomes for taxpayers' investments.

There were 24,486 youth with SLD in 2015, with closed cases grouped into one of the four education levels. The researchers used descriptive statistical analysis to compare demographics, employment rates, and employment outcomes with the various education levels. The results indicated that results differed among race/ethnicity. For example, when education levels increased, there were more Whites, Asians, and Latinos. However, African American participants decreased. White participants with no high

school diploma (58.1%) and postsecondary education (81.1%) compared to African Americans who had an inverse relationship with education level, with no high school diploma (39.1%) and postsecondary education (16.3%). Youth with SLD who received VR services showed increased postsecondary employment with increased education levels. High school credentialing showed slightly better employment outcomes, with youth in postsecondary education showing the highest employment rate (72.9%). Wages increased with higher education, and the types of occupations with food service were high for those without a high school diploma (17.5%) compared with postsecondary education in healthcare support (7.9%). The cost-effectiveness of VR services showed that costs were lowest for SLDs with no diploma. However, when cost-per-dollar earned was calculated, the postsecondary education group was the most effective VR services group. The postsecondary education group was also the most cost-efficient VR service, but reaching this outcome would take a little over ten years of employment. A high school diploma proved to be cost-efficient, a special education diploma was not shown to be cost-efficient, and there was no analysis on not having a high school diploma.

The researchers discussed additional implications for practice by introducing the Workforce Innovation and Opportunity Act of 2014 (WIOA) that mandates part of VR funds to go to Pre-employment training services (pre-ETS). Pre-ETS programs focus on college and career, self-advocacy, career pathways, and postsecondary education opportunities. While legislation provides leeway for state agencies to implement the services, it shows the importance of bridging partnerships between local districts, VR agencies, postsecondary education, and community providers to meet the needs of students with disabilities. The researchers also provided the study's limitations. They

discuss possible inaccuracies of data collection, participants that connect with VR agencies might not be representative of all youth with SLD, and disproportionate racial and ethnic groups. The researchers also implied future research to look at postsecondary education types (i.e., two-year or four-year college compared to trade schools or apprenticeship programs. While this was a thorough study that looked at transition services for youth with SLD and diploma types, it did not generalize to all disability groups, provide demographic subgroups within levels, or discuss career technical education programs.

Miller-Warren (2016) conducted a non-experimental quantitative study to examine parental insights on the effects secondary transition planning has on postsecondary outcomes for students with disabilities who graduated from a rural high school. The purpose of this study is to explore the impact of the individual education plan (IEP) secondary transition process on postsecondary outcomes from the insight of the parents of students with disabilities. The researchers aimed to understand the perceptions of these parents at the time the children were graduating from high school.

Miller-Warren (2016) provided a thorough review of the literature for this study. The article cited previous studies that showed the family's important role in transition planning and postsecondary outcomes for students with disabilities. According to Lindstrom et al. (2007), parents and families are essential to the transition process and provide career exploration opportunities for students with disabilities. Studies also found that parents had insight into their children that can be useful during the transition planning process and following through with postsecondary services (Ankeny et al., 2009). However, parents reported feeling isolated and alone during the transition

planning process (Ankeny et al., 2009). Students, families, teachers, and agencies collaborating while students are in school and post-graduation while aligning the students' postsecondary goals with quality transition planning helped students reach success (Oertle & Track, 2007).

The study consisted of 24 parents of individuals with disabilities who graduated in 2011 from a rural high school. The study looked at students who had an IEP during their senior year and received a standard high school diploma, occupational high school diploma, or a certificate of completion upon high school completion. The researchers also provided descriptive data on gender, race/ethnicity, socioeconomic backgrounds, intelligence quotients (IQ), and disability types. The researchers used a closed-ended survey consisting of 10 questions. The longitudinal survey instrument from the National Post-School Outcomes Center was valid and reliable (Alverson et al., 2011). The results were itemized using aggregated percentages and descriptive analysis.

The survey results found (N = 12) that participants were competitively employed (50%) despite 91.7% of their children participating in secondary education career preparation courses during high school. Only (n = 9) were in a postsecondary training program or school (37.5%), despite 95.5% of respondents reporting their children had detailed secondary transition plans when they left high school. The study also showed that only 62.5% of children were connected to a postsecondary community agency representative despite 87.5% being referred to a community agency before graduation.

The results of this study indicate that secondary transition planning for students with disabilities did not lead to successful postsecondary outcomes. However, there were limitations to the study. The respondents were parents, so there was no information from

the graduates on their insights. A range of IQ scores could have skewed the postsecondary outcomes for students. The researcher conducted the survey in a rural school, which might have limited opportunities, and results might not be generalizable. While this study discusses race/ethnicity and diploma type, it does not provide data on the correlation to the study results.

Predictors of Postsecondary Outcomes

Knowledge of predictors of postsecondary outcomes can guide leaders in education to make informed decisions in programming for students with disabilities. This category looks at qualitative and quantitative research articles on predictors of postsecondary outcomes for students with disabilities. Each study offers specific research and nuances into predictors for students with disabilities based on specific variables and factors.

Benz et al. (2000) reported findings on two different studies, one quantitative and one qualitative, that examined transition and secondary practices in youth transition programs (YTP) in the Oregon Department of Education. The purpose of the first study was to investigate the relationship between transition and educational outcomes for students with disabilities. The second study explored former YTP participants' perceptions of program factors and staff characteristics they felt were most helpful in achieving their transition and educational goals.

The researchers reviewed previous studies that documented that students with disabilities had lower graduation rates, employment rates, and postsecondary attendance rates than their non-disabled peers (Blackorby & Wagner, 1996). Guterman (1995) concluded that, while students wanted a relevant curriculum that prepared them for

postsecondary life, they did not want to be in classes with support from special education staff in a general education setting due to the attention they would have on their academic difficulties. Benz et al. (1997) identified several factors to improve postsecondary education and employment outcomes for students with disabilities, including participating in vocational education classes and paid work experiences in students' last two years of high school, competence in functional academics, transition planning, graduation from high school, and absence after leaving high school in continuing instructional needs in functional academics.

A quantitative non-experimental examined the relationship between transition and educational outcomes for students with disabilities in the YTP while looking at receiving a standard high school diploma and placement in employment or continuing education. The study had 709 out of 917 participants with all predictors and outcome variables. The researchers used logistic regression and concluded that the final model correctly identified the graduation status of students with disabilities in the study 72% of the time (log-likelihood = 799.11: $X2$ (df=5) = 128.61, p = .000). There was a strong relationship in graduation and students in the YTP for 12 or more months, who held two or more jobs while in the YTP, and who completed four or more transition goals.

The second was a qualitative phenomenological study to examine former YTP participants' perceived program factors and staff characteristics in achieving their transition and educational goals. There were six focus groups with 45 adults (n=45) with disabilities. Data was collected and coded with three emerging themes for participants' reasons for participation, differences in YTP and "regular" high school, and benefits of participating in the program. Students identified the critical role staff played, personal

goal setting, self-awareness and confidence, and accomplishing personal meaningful activities as benefits to the program.

This article provided a quantitative and qualitative analysis of individuals with disabilities regarding transition practices and predicting graduation and employment outcomes. However, the researchers conducted the study in one state in the midwestern United States with a small sample size of participants. There is little information on the generalizability of the study. While the study provides much positive information, it was conducted in 2000 with older data that might yield different results if conducted more recently.

Baer et al. (2011) conducted a quantitative non-experimental correlation study to examine the predictors of transition outcomes for students with intellectual disabilities (ID). The purpose of the study was to explore whether inclusion, career technical education, and work-study programs predicted postsecondary outcomes in full-time employment and college enrollment after graduation. The study investigated if postsecondary outcomes differed when controlling for gender and race/ethnicity, specifically African American status.

The researchers did an extensive literature review in preparation for their study. The research shows that students with disabilities are not only experiencing less than half the success in postsecondary outcomes in employment and education enrollment, but individuals with ID were twice as likely to be laid off and not see an increase in earnings (Newman et al., 2009). The U.S. Department of Education (2009) found that students with ID were educated outside a regular classroom for more than 60% and were less likely to be in inclusion settings (Wagner et al., 2003). There were higher proportions of

female and African American students with ID than other disability groups (Wagner, Newman, Cameto, & Levine, 2005). African American students with mental retardation increased by 2.3% while White students decreased by 5%, with African American males two-thirds less likely to be employed than their White counterparts between 1987 and 2005 (Wagner, Newman, Cameto, & Levine, 2005). Lastly, research has shown there is a disproportionate lack of participation in secondary and transition among students of different disabilities, genders, and ethnicities, possibly from tracking based on student characteristics rather than their postsecondary goals (Baer et al., 2011).

There were 1,650 participants, with 409 students with ID (n = 409) and 1,065 students with disabilities from 177 school districts that participated in this study. The researchers used student record reviews, exit interviews, and one-year phone interview follow-up interviews to collect data for this study. The dependent variables consisted of enrollment in two- or four-year postsecondary education or full-time competitive employment after one year of high school. The independent variables were inclusion, career technical education (CTE), and work-study participation. The researchers used descriptive statistics, bivariate correlations, and logistic regression to evaluate the data. Students with ID had lower enrollment in postsecondary education (17%) compared to their peers with other disabilities (40%), lower employment rates (29%) compared to other disabilities (39%), less likely to be included in regular classes (21%) compared to other disabilities (74%), more likely to be in a work-study program (52%) compared to others (33%), and to receive adult services (25%) compared with others (4%). Inclusion for students with ID was significant (1.94). African American students were less likely to be in inclusion ($p<.05$) and CTE ($p<.01$), increasing the risk-odds ratio for postsecondary

education by 3.4. Gender showed more significance with a prediction for CTE and employment than did students with disabilities. Last, females and employment (0.57) and African American status and employment (0.64) were half of the students with ID but had better postsecondary education outcomes than other disabilities.

This study thoroughly examined three evidenced-based practices of inclusion and postsecondary education: CTE with full-time employment and work-study with full-time employment after controlling for gender and African American status. The research concludes that only inclusion is a predictor for postsecondary outcomes (education) (p = .036) for students with ID, with females with ID (p = .041) and African Americans with ID (p = .000) also showing significance. While this study provided a wealth of information for students with ID in the three evidenced-based areas, it did not look at all disability classifications and diploma types. This study contradicts previous studies and NTACT: C findings that career technical education (CTE) programs lead to improved postsecondary outcomes in employment and evidence-based research with education for students with disabilities.

Southward and Kyzar (2017) examined 13 studies to conduct a literature review. The purpose of the review was to explore the predictors of postsecondary outcomes in employment for students with intellectual and/or developmental disabilities (I/DD). The aim was to examine the association between youth with intellectual disabilities (I/DD) securing employment after graduating from high school and transition-related activities.

Employment, postsecondary education, living community, and personal relationships are considered roles students take while transitioning into the adult world (Schwartz et al., 2006). However, research has shown that students with I/DD do not

achieve the same level of success as students without disabilities (Wehman et al., 2014). Studies have also shown that individuals with I/DD earned less, worked fewer hours, and worked in settings that were not considered competitive employment (Simonsen & Neuber, 2013). While Every Student Succeeds Act (ESSA) focuses on academics, it does not provide time to focus on job skills to secure postsecondary competitive employment (Bouck, 2010; Kim & Dymond, 2010).

Southward and Kyzar (2017) obtained peer-reviewed articles in medical and social sciences databases by searching for keywords such as employment, competitive, community-based transition, transition, and vocational instruction paired with intellectual disability between 2005 and 2015. Southward and Kyzar (2017) reviewed four other criteria during the next level review, examining the number of participants, type of disability, predictor variables, and key findings. They presented all 13 articles' results with a discussion, results of the study, and limitations.

Seven postsecondary predictors to competitive employment included paid employment while in high school, vocational skills instruction, family expectations, high school completion, individual education plans (IEPs), competitive employment goal setting, self-determination, and participation in postsecondary education. Of these, paid employment in high school is the predominant predictor for people with I/DD. The research supported a report by the National Secondary Transition Technical Assistance Center (NSTTAC) from 2010 that found students with disabilities who participated in instruction and training in a natural non-school environment while focusing on social and domestic skills, transportation, and on-the-job training have postsecondary outcomes that show they are more likely to be competitively employed. Studies also show that

individuals with I/DD in high school who participate in vocational programs value their jobs (Wehmeyer et al., 2006) and are likely to find competitive employment (Hartman, 2009) and earn a higher salary (Domin & Butterworth, 2013). Results also found that people with I/DD with parental involvement were 58 times more likely to be employed two years post-high school than their peers who do not have parental involvement (Papay & Bambara, 2011). Research has shown that high school completion is significantly associated with employment (LoBlanco & Kleiner, 2013). However, in 2012, the U.S. Department of Education reported that 40.3% of students with ID graduated with a diploma, 18.8% dropped out, and up to 48% reported receiving a certificate of employment instead of a diploma (Anderson et al., 2011). Lastly, IEP transition goals have shown to have higher rates of competitive employment, but 10% do not attend their transition meetings (Shogren & Plotner, 2012).

While this study provided a wealth of information regarding students with I/DD regarding competitive employment, there are limitations. First, the predictor variables were defined differently among the studies; reporting was subjective, and four studies reviewed the National Longitudinal Studies. Therefore, they were overrepresented in this review, and there were limited studies that focused on competitive employment for individuals with I/DD, so the results might limit the generalizability of this review.

This robust review of literature by the researchers indicated predictors for individuals with I/DD. However, since it was a literature review, there is no evidence that the results defined by the researchers were reliable or valid. The researchers provided a wealth of information from previous studies. While there is information on diploma

completion, there is no information on diploma type. This study does not explore race/ethnicity and gender in the discussion.

Connors et al. (2014) conducted a secondary systematic review of the National Longitudinal Transition Study 2 (NLTS2) to explore factors correlated with postsecondary outcomes for youth with visual impairments. The purpose of the study was to look at transition-age youth with visual impairments postsecondary outcomes over time after exiting.

The researchers provided a literature review for the study emphasizing prior research on postsecondary outcomes for youth with disabilities, adding detailed information on youth with visual impairments. For individuals who identify as blind or have difficulty seeing, the employment-population ratio was almost half that of non-disabled counterparts for 16–19-year-olds and 20-24-year-olds Bureau of Labor Statistics [BLS], 2013). However, little information exists on these youths exploring time out of school (McDonnall, 2010).

Connors et al. (2014) retrieved information on 460 participants in waves 1-5 from the 2001 and 2009 data collected by the NLTS2. The researchers used generalized estimating equations (GEEs) to compare longitudinal and correlated data for missing data and binary responses (Hanley et al., 2003). Independent variables were examined for a longitudinal relationship with the dependent variable of paid work or attending a two-year or four-year college or vocational school. The independent variable factors that were associated with successful postsecondary outcomes were students with visual impairments who completed high school were 3.3 times more likely to be successful than their peers ($p<.001$), students with vision impairment with paid employment in high

school 3.6 times more likely than their peers ($p<.01$), and specific exciting school year with students who left in 2000-2002 2.2 times more likely than their peers that exited in 2006-2008, $p<.05$) to be more successful. This study found that time out of high school was not significant for postsecondary success.

As with previous studies that completed a secondary review of the NLTS2 data, limitations include missing data and possible bias with self-reporting. This study also focused on youth with visual impairments and did not discuss all disability types or race/ethnicity, diploma type, and career technical education programs. This study does support previous literature with work experiences and high school completion correlating with postsecondary success.

Mazzotti et al. (2021) conducted a systematic literature review to examine secondary transition practices that predict postsecondary success. The purpose of the study was to investigate correlational literature on the transition to identify existing and new predictors of postsecondary outcomes. The study aimed to explore the in-school practices that correlate to successful postsecondary outcomes.

The researchers' literature review provided information on national information and predictors of postsecondary outcomes for students with disabilities. Since 1987, three national studies have been funded by the U.S. Department of Education, The National Longitudinal Transition Studies (NLTS, NLTS2, and NLTS 2012), that provided information on cohorts of youth with disabilities while in school and post-high school. While research has historically shown disparities for individuals with disabilities in postsecondary employment, education, and independent living (Newman et al., 2011), recent research shows these trends are continuing currently. For example, people with

disabilities with a bachelor's degree are three times less likely than their peers without a disability to be employed (U.S. Bureau of Labor Statistics, 2018). Trainor et al. (2020) found that students with disabilities are not connected to essential transition instruction and services while in school that would lead to successful postsecondary outcomes. There are 16 predictors of postsecondary employment, education, and independent living (Test, Mazzotti et al., 2009). Through a meta-analysis of prior research, Haber et al. (2016) found career technical education to be significant on postsecondary employment outcomes. Mazzotti et al.'s (2016) secondary analyses of the NLTS2 data identified goal setting, parent expectation, travel skills, and youth autonomy as additional predictors for successful postsecondary outcomes. These predictors of postsecondary outcomes are critical in assisting school districts and state educational agencies with transition practices while students are in school (Rowe et al., 2015) that will lead to successful postsecondary outcomes.

The researchers conducted an electronic and hand search of peer-reviewed journals while searching keywords relating to correlation, predictors, and postsecondary outcomes, to name a few. After screening, reviewing, and coding a total of 22 articles were used by the researchers to test prior predictors of successful postsecondary outcomes from standards developed by the National Technical Assistance Center on Transition (NTACT) (NTACT, 2015, 2017) and researchers from Test et al. (2009). While this study found additional evidence of 14 of Test et al. (2009) predictors, it also identified psychological empowerment, self-realization, and technology skills as other predictors of successful postsecondary outcomes. The research found several studies showed negative correlations in areas that include but are not limited to career technical

education, inclusion, disability type, interagency collaboration, and self-determination with postsecondary outcomes.

This was an extensive systematic review of the literature. While the results supported prior research indicating 14 predictors, it also identified three additional predictors of successful postsecondary outcomes for disabled individuals. Some limitations include the quality of methodology standards by NTACT, the lack of causal evidence in predictor variables, and the fact that the researchers might have missed studies that might have added to the findings. While this systematic literature review provided information on predictors, the researcher did not categorize this literature by race/ethnicity or diploma type.

McConnell et al. (2015) conducted a quantitative correlational study to explore postsecondary education and employment indicators for disabled students. The purpose of this study was to examine if there was a relationship between the non-academic behaviors of students with disabilities and postsecondary outcomes measured by the Transition Assessment and Goal Generator (TAGG). The study aimed to explore the extent of the relationship between TAGG's measurement of non-academic behaviors with postsecondary outcomes for secondary students with disabilities on the percentage of instructional time in general education classes and GPA.

The researchers provided a brief but thorough literature review that undergirded the study. The review highlights the disparities of individuals with disabilities in postsecondary employment and education. In postsecondary education, students with disabilities complete their programs at a rate of 38% compared with their non-disabled counterparts who completed at 51% (Sanford et al., 2011). Erickson et al. (2014) found

that individuals with disabilities, aged 21 to 64 and non-institutionalized, were employed at a rate of 36%. High schools in the United States are preparing students for postsecondary outcomes but with no evidence of improving postsecondary outcomes, with Balfanz (2009) finding the academic focus is to prepare for college but resulting in no evidence of outcomes. This increased focus on educational outcomes and college and career preparation has increased for students with disabilities in general education classes (Balfanz, 2009). However, Goodman et al. (2011) found that even with the addition of inclusion classes to 62%, there has not been an increase in graduation rates for students with disabilities. Camara and Echternacht (2000) found that a student's GPA serves as an indication of college and career readiness. Therefore, students with lower GPAs were at a disadvantage in postsecondary education acceptance and employment (Horn et al., 1999), and failure in classes, especially English and math, resulted in higher dropout rates (Neild & Balfanze, 2006). McConnell et al. (2013) found that studies focused on basic academics but did not measure the impact of non-academic skills and behaviors on postsecondary outcomes for individuals with disabilities.

A sample of 1,219 participants, including 650 students with disabilities, 497 family members, and 72 high school special educators from 49 school districts participated in the study. The researchers used the TAGG assessment, which included professional, family, and student versions. Correlational research examined the relationship between TAGG constructs and students' GPA and the percentage of time in general education settings. Pearson's *r* was used with a significance level of .05 for the correlation coefficient.

The study found that there were no meaningful relationships between TAGG scores and students receiving more instruction in general education settings and the construct interacting with others with the educator version, $r(651) = .102$, $p = .009$, family member results, $r(468) = .096$, $p = .038$, and the student version, $r(640) = .150$, $p = .091$, there was no correlation with TAGG scores from educators with GPA $r(646) = .072$, $p = .054$ or student TAGG scores and GPA $r(637) = .045$, $p = .255$ with a weak and negative correlation that did not provide a meaningful coefficient from the family TAGG score, $r(460) = .101$, $p = .031$.

This study provided a convincing literature review in identifying the gap in research on postsecondary outcomes based on research-identified non-academic indicators with GPA and percentage of time in general education environments. However, this is the only study using TAGG to indicate the importance of these constructs on postsecondary outcomes. Therefore, there is caution in the generalizability of this study. This study did not discuss gender, race/ethnicity, diploma type, or disability classification.

Conclusion

The culmination of these articles discusses the postsecondary outcomes for students with disabilities. Domin et al. (2020) qualitative study showed the value employment preparation programs in higher education have on postsecondary outcomes. The researchers studied programs for individuals with intellectual disabilities with the highest employment rates. They found that the employment staff had a consensus of employment goals and expectations for their students and expected students to have similar college and employment experiences as their peers without ID. Domin et al.

looked at postsecondary outcomes specifically with students with ID and could not generalize their findings to all students with disabilities. Barrett et al. (2020) looked at whether RtI, cognitive ability, and demographic variables predicted the identification of students with a learning disability (LD). They found that achievement scores, race/ethnicity, and free and reduced lunch (FRL) were significant. While this study found significance in race/ethnicity and free and reduced lunch, it focused on classification, not postsecondary outcomes. Graham and Eadens (2017) quantitative correlational study examined the relationship between Native American secondary students and postsecondary outcomes. They found a proportional representation of Native American students in postsecondary settings. While they found positive factors of family and cultural support as possible reasons for the successful outcomes, the study focused on one race/ethnicity group. Additionally, the study lacked information on other race/ethnicity students with disabilities. Sanguiliano et al.'s (2019) qualitative study looked at the perceptions of economically disadvantaged parents and their perceptions of the internal and external factors that strengthen families and how these strengths relate to student academic outcomes. This study included 79% of the African American population, and 39% fell below the poverty level. The results found that the participants' perceptions paralleled the literature that social capital, parental interest, family time, and parent-school engagement connect with improved student educational outcomes. While this study provides information on academic outcomes and parent involvement, it does not explicitly discuss students with disabilities or postsecondary outcomes. The quantitative non-experimental study conducted by Theobald et al. (2019) explored the postsecondary outcomes of students with disabilities who participated in CTE and inclusion programs.

The study found that CTE concentration and inclusion had an association with outcomes for students with disabilities with an increase in college and employment. However, this study does not discuss diploma type. With the wealth of information in the review of literature, there continues to be a gap in research on postsecondary outcomes for students with disabilities, demographic factors of race/ethnicity and gender, CTE participation, diploma type, GPA, and disability classification.

The current study aimed to support, extend, and possibly refute previous studies in the reviewed literature. It will build on Domin et al. (2020) study on postsecondary outcomes by looking at the quantitative data of students with disabilities' postsecondary plans from high school. The current researcher's study will also aim to build on the study by Barrett et al. (2020) that found race/ethnicity and FRL statistically significant when identifying students with LD. The current study will examine race/ethnicity and FRL with postsecondary outcomes. It will also look to expand on Graham and Eadens' (2017) study that focused on postsecondary outcomes of Native American students by looking across several race/ethnicity categories and possibly refute studies that claim a proportional representation of students of color are in postsecondary education. While Sanguiliano et al. (2019) conducted a qualitative study exploring parents who are economically disadvantaged perception toward family involvement and academic outcomes, this current research study will look to build on the researchers' work and examine the socioeconomic variable of postsecondary outcomes. The present study will aim to build on Theobald et al. (2019) study on CTE and positive postsecondary outcomes while looking at diploma types.

CHAPTER 3

Introduction

This chapter provides information on the methods and procedures for the collection and analysis of data. This quantitative non-experimental ex post facto design provides educators with an in-depth study of postsecondary outcomes for students with disabilities by analyzing the archive data. This study aimed to help guide educators to implement changes in their districts to improve outcomes for all students with disabilities.

Methods and Procedures

Research Questions

1. To what extent does gender predict postsecondary outcomes for students with disabilities?
2. To what extent does race/ethnicity predict postsecondary outcomes for students with disabilities?
3. To what extent does participation in career technical education (CTE) programs predict the postsecondary outcomes for students with disabilities?
4. To what extent does diploma type predict postsecondary outcomes for students with disabilities?
5. To what extent does GPA predict postsecondary outcomes for students with disabilities?
6. To what extent does disability classification predict postsecondary outcomes for students with disabilities?

7. To what extent does graduation year predict postsecondary outcomes for students with disabilities?

Hypotheses

H_0: There will be no relationship between gender and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between gender and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between participation in CTE programs and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between CTE participation and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between diploma type and postsecondary outcomes for disabled students.

H_1: There will be a relationship between diploma type and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between GPA and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between GPA and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between disability classification and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between disability classification and postsecondary outcomes for students with disabilities.

H_0: There will be no relationship between graduation year and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between graduation year and postsecondary outcomes for students with disabilities.

Research Design and Data Analysis

The researcher used a quantitative non-experimental ex-post facto research design will be used to determine if a student's gender, race/ethnicity, participation in a CTE program, diploma type, GPA, disability classification, and graduating year predict postsecondary outcomes. A non-experimental study has no active independent variable and no random assignment of subjects. The threat to validity is the possibility of low statistical power (Kirk, 1982). Therefore, the researcher attempted to gather a larger sample size. The researcher used recent archive data to mitigate as much as possible the threat of historical internal validity (Kirk, 1982)

The researcher screened the data for missing values, miscoded items, and outliers. For each hypothesis, an analysis of the normal distribution will be run by reviewing the descriptive using SPSS.

Research Questions

RQ1. To what extent does gender predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between gender and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between gender and postsecondary outcomes for students with disabilities.

A binary logistic regression model used one predictor variable, gender, to determine if there is a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) was used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to compare the predictor variables against the model. The level of significance will be (p = 0.05). The model test is x^2 (df, N). The binary test is log $\left(\frac{p}{1-p}\right) = \beta_{0+} \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between gender and postsecondary outcomes. The six assumptions of a binary logistic regression are binary dependent variables, no multicollinearity, no extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) determined if multicollinearity exists between variables. Using the Casewise List to review analysis of Pearson Residuals, Standardized Residuals, and Studentized Residuals to identify extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable are normally distributed for the population. The scatterplot for postsecondary outcomes on gender determined if the two variables are linear in the population. The scatterplot showed if a fitted line is constant for all gender values. Last, the scores of each subject showed if they are independent of each other.

RQ2. To what extent does race/ethnicity predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

A binary logistic regression model was used as it uses one predictor variable, race/ethnicity, to determine if there is a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) was used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to compare the predictor variables against the null model. The level of significance will be (p = 0.05). The model test is $x^2\ (df, N) = p$. The binary test is $\log\left(\frac{p}{1-p}\right) =$

$\beta_{0+}\ \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Looking at descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between race/ethnicity and postsecondary outcomes. The six assumptions of a binary logistic regression are binary dependent variables, no multicollinearity, no extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) determined if multicollinearity exists between variables. Using the Casewise List to review analysis of Pearson Residuals, Standardized Residuals, and Studentized Residuals identified extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable were normally distributed for the population. The scatterplot for postsecondary outcomes on

race/ethnicity determined if the two variables are linear in the population. The scatterplot showed if a fitted line is constant for all values of race/ethnicity. Last, the scores of each subject showed if they are independent of each other.

RQ3. To what extent does participation in career technical education (CTE) programs predict the postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between participation in CTE programs and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between CTE participation and postsecondary outcomes for students with disabilities.

A binary logistic regression model was used for one predictor variable, CTE participation, to determine if there is a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) will be used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to compare the predictor variables against the null model. The level of significance was (p = 0.05). The model test was $x^2\ (df, N) = p$. The binary test was $\log\left(\frac{p}{1-p}\right) =$ $\beta_{0+}\ \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between CTE participation and postsecondary outcomes. The six assumptions of a binary logistic regression are binary dependent variables, no multicollinearity, no extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) was used to determine if multicollinearity exists between variables. Using the Casewise List to review analysis of Pearson Residuals, Standardized

Residuals, and Studentized Residuals identified extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable are normally distributed for the population. The scatterplot for postsecondary outcomes on CTE participation determined if the two variables are linear in the population. The scatterplot showed if a fitted line is constant for all values of CTE participation. Lastly, the scores of each subject showed if they are independent of each other.

RQ4. To what extent does diploma type predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between diploma type and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between diploma type and postsecondary outcomes for students with disabilities.

A binary logistic regression model was used for one predictor variable, diploma type, to determine if there is a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) was used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to compare the predictor variables against the null model. The level of significance was (p = 0.05). The model test is $x^2\ (df, N) = p$. The binary test was log $\left(\frac{p}{1-p}\right) =$

$\beta_{0+}\ \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between diploma type and postsecondary outcomes. The six assumptions of a binary logistic regression are binary dependent variables, no multicollinearity, no

extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) determined if multicollinearity exists between variables. Using the Casewise List to review analysis of Pearson Residuals, Standardized Residuals, and Studentized Residuals identified extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable were normally distributed for the population. The scatterplot for postsecondary outcomes on diploma type determined if the two variables are linear in the population. The scatterplot showed if a fitted line is constant for all values of the diploma. Last, the scores of each subject showed if they are independent of each other.

RQ5. To what extent does GPA predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between GPA and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between GPA and postsecondary outcomes for students with disabilities.

A binary logistic regression model was used as it used one predictor variable, GPA, to determine if there is a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) was used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to compare the predictor variables against the null model. The level of significance was (p = 0.05). The model test was $x^2\ (df, N) = p$. The binary test was $\log\left(\frac{p}{1-p}\right) =$

$\beta_{0+}\ \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between GPA and postsecondary outcomes. The six assumptions of a binary logistic regression were binary dependent variables, no multicollinearity, no extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) determined if multicollinearity exists between variables. The researcher used the Casewise List to review analysis of Pearson Residuals, Standardized Residuals, and Studentized Residuals and identify extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable are normally distributed for the population. The scatterplot for postsecondary outcomes on GPA determined if the two variables are linear in the population. The scatterplot showed if a fitted line is constant for all values of GPA. Last, the scores of each subject will show if they are independent of each other.

RQ6. To what extent does disability classification predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between disability classification and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between disability classification and postsecondary outcomes for students with disabilities.

The researcher used a binary logistic regression model as it used one predictor variable, disability classification, to determine if there is a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) was used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to

compare the predictor variables against the null model. The level of significance was (p = 0.05). The model test was $x^2\ (df, N) = p$. The binary test was $\log\left(\frac{p}{1-p}\right) = \beta_{0+}\ \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between disability classification and postsecondary outcomes. The six assumptions of a binary logistic regression were binary dependent variables, no multicollinearity, no extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) determined if multicollinearity exists between variables. The researcher used the Casewise List to review analysis of Pearson Residuals, Standardized Residuals, and Studentized Residuals and identify extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable are normally distributed for the population. The scatterplot for postsecondary outcomes on disability classification determined if the two variables are linear in the population. The scatterplot showed if a fitted line was constant for all values of disability classification. Last, the scores of each subject showed if they were independent of each other.

RQ7. To what extent does graduation year predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between graduation year and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between graduation year and postsecondary outcomes for students with disabilities.

The researcher used a binary logistic regression model as it used one predictor variable, graduation year, to determine if there was a significant association with the dependent variable, postsecondary outcomes. First, categories were coded into indicator variables using numerical values. A Wald Chi-Square test (Wald x^2 Test) was used to test the null hypothesis. A Model Chi-Square test was used for the likelihood ratio test to compare the predictor variables against the null model. The level of significance was (p = 0.05). The model test was $x^2\ (df, N) = p$. The binary test was $\log\left(\frac{p}{1-p}\right) = \beta_{0+}\ \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$.

Descriptive data, histograms, and scatterplots provided a visual interpretation of the relationship between graduation year and postsecondary outcomes. The six assumptions of a binary logistic regression were binary dependent variables, no multicollinearity, no extreme outliers, sufficient sample size, and independence. The Variance Inflation Factor (VIF) was used to determine if multicollinearity exists between variables. The researcher used the Casewise List to review the analysis of Pearson Residuals, Standardized Residuals, and Studentized Residuals to identify extreme outliers. Histograms, Q-Qs, and the Shapiro-Wilk Test were used to determine if the data for each variable are normally distributed for the population. The scatterplot for postsecondary outcomes on graduation year determined if the two variables are linear in the population. The scatterplot showed if a fitted line was constant for all values of graduation year. Lastly, the scores of each subject showed if they are independent of each other.

Reliability and Validity of the Research Design

There were possible threats to statistical power and internal and external validity threats. The sample size of 267 participants might be considered relatively small. Low statistical power and a potential threat to a statistical conclusion could result in failing to reject a false null hypothesis (Kirk, 1982). Cohen's (1988) a-priori large effect size = .50 with a power = .80 with a sample size of 267 participants was used to minimize this threat.

A possible threat to internal validity might be selected with differences among participants in the independent variables, resulting in mean differences in the dependent variable (Kirk, 1982). While the sample was small, it is the target population. Therefore, the researcher included almost all the subjects in the district that met the criteria for this study to minimize internal validity threats. All 267 students who met the criteria were included in the study. The possible threat to external validity was the interaction of selection and treatment with specific participant factors, restricting the generalizability of results to large populations due to the participants' unique factors in this study (Kirk, 1982). The participants in this study were students with disabilities from a large public school district, and the results may not generalize to other students with disabilities. Almost all students with disabilities in their exiting school year were used for the study to reduce external validity threats. Threats to reliability are human error while entering or computing data. To increase external validity, the researcher had professionals in the field review data collection and analysis. The researcher also addressed concerns about validity and reliability in the discussion for future research.

Sample and Population

Sample:

The sample consisted of students with disabilities from a suburban school district near a metropolitan city in the northeastern United States. The sample included students with disabilities from a high school in their exiting year from the district. The district enrollment reported for the 2017-2018 school year was 18,903 (NYSED, 2018), and for the 2021-2022 school year was 17,608 (NYSED, 2022) students in K-12. There are 17 buildings: 11 elementary schools, four middle schools, a freshman center, and one high school. The student population is diverse and, in 2017-2018, included a race/ethnic demographic of approximately zero percent American Indian or Alaska Native, nine percent Black or African American, 84% Latino or Hispanic, two percent Asian or Native Hawaiian/Other Pacific Islander, three percent White, and zero percent Multiracial (NYSED, 2018). In 2021-2022, they included a race/ethnic demographic of approximately one percent American Indian or Alaska Native, eight percent Black or African American, 87% Latino or Hispanic, two percent Asian or Native Hawaiian/Other Pacific Islander, two percent White, and zero percent Multiracial (NYSED, 2022). In 2017-2018, female students made up 48% of the population, while male students made up 52% (NYSED, 2018) of the population, with females at 49% and the male population at 51% in 2021-2022 (NYSED, 2022). Students considered economically disadvantaged were reported as 89% in 2017-2018 (NYSED, 2018) and 84% in the 2021-2022 school years (NYSED, 2022). Students with disabilities were reported to include 13% of the student population in the district in 2017-2018 (NYSED, 2018) and 15% in 2021-2022 (NYSED, 2022).

Population

The total student population in the 2017-2018 school year for students in their exiting year is approximately 118, and 149 in the 2021-2022 school year for students with an Individual Education Plan (IEP) or 504 plan. The current study aimed to collect data from 267 students with disabilities with an IEP or 504 plan for the sample. The diverse student population in this district provided a representative sample for this study. It included Latino or Hispanic, Black or African American, White, and Other, including American Indian or Alaska Native, Asian or Native Hawaiian/Other Pacific Islander or Multiracial.

Table 1

Frequency Table of Gender

	Frequency	Percent
Female	82	30.7
Male	185	69.3

Note. There were 267 students in the sample, with no missing data.

Table 2

Frequency Table of Race/Ethnicity

	Frequency	Percent
Latino or Hispanic	178	66.7
Black or African American	62	23.2
White	17	6.4
Other	10	3.7

Note. There were 267 students in the sample, with no missing data.

The sampling method chosen for this study was purposive sampling. Purposive sampling is based on a researcher's previous knowledge of the population and uses their judgment to secure a sampling of participants that will provide the data needed (Fraenkel et al., 2012). The benefit of this method is the researcher can select a sampling that will provide the necessary data. The disadvantage is that there might be an error in the researcher's judgment of the sample population. For this study, the researcher used a sampling of students with a special education classification or 504 plan.

Instruments

The data used for this study included archived data. The researcher collected the data through several sources. This data collection included students' demographic information collected through the district's eSchool Management System software. This provided data on students' demographics such as race/ethnicity, gender, free or reduced lunch, and schedule, including attendance at Eastern Suffolk BOCES and enrolled and dropped classes. The school district's web-based software management system, ClearTrack Information Network, tracks and manages data for Individualized Education Plans (IEP) and 504 plans. Data from the New York State Report Card provided data on gender, race/ethnicity, students with disabilities, graduation rate, and diploma type reported in 2018 and 2022 (NYSED, 2018, 2022). Race/ethnicity includes the students' post-graduation plan (PGP) and is self-reported to their guidance counselors, who enter the responses into eSchool.

The researcher used the eSchool Management System and ClearTrack Information Network for this study to collect independent variables. The eSchool system

and ClearTrack collected race/ethnicity in the following categories: American Indian or Alaska Native, Black or African American, Latino or Hispanic, Asian or Native Hawaiian/Other Pacific Islander, and White. Other data included gender (female or male), a student with an IEP or 504 plan, student schedule with information on board of cooperative education services enrollment in CTE programs, and diploma type. The dependent variable information is provided on a Microsoft Excel Sheet and provides students' self-reported data on postsecondary plans.

Procedures for Collecting Data

The sample of this quantitative study was (N = 267) students receiving special education services in a large suburban high school outside a large metropolitan area. This purposive total population sample consists of special education students graduating in a four-year cohort.

The researcher collected the archive data through several sources. For example, the researcher collected the local school district and state graduation information through the New York State Education Department database (NYSED, 2018, 2022). Additionally, she retrieved information on student demographics from school data management systems eSchool and ClearTrack. Students self-reported post-graduation plans to school counselors. The counselors received the information and shared it with clerical staff, who then compiled it onto one Excel sheet. The data was entered into an Excel sheet using the number-assigned system. The researcher removed all personal identifying information to ensure confidentiality and anonymity. All data collected was kept confidential and information was secured in a password-sensitive laptop in a locked drawer in a locked office.

Research Ethics

The ethical treatment and confidentiality of participants are at the forefront of this study and considered throughout the entire duration. First, the researcher obtained St. John's University Institutional Review Board (IRB) approval. Next, the superintendent of school granted permission to conduct the study. The researcher ensured the confidentiality and anonymity of all stakeholders for this study. The researcher used archived data; therefore, there was no need to obtain consent. However, to ensure confidentiality, the researcher removed all names and identifying information, assigned numbers to each participant, and then entered the data into SPSS. There was no identifying information on any of the data to ensure anonymity. The researcher kept any data collected confidential and secured information secure in a password-sensitive laptop while securing all paperwork and artifacts in a locked drawer or office.

Conclusion

The researcher conducted this quantitative non-experimental ex post facto study to explore whether the gender, race/ethnicity, participation in CTE programs, diploma type, GPA, disability classification, and graduation year of students with disabilities predicted postsecondary outcomes. The research setting was a suburban public high school in the northeastern United States outside a metropolitan area. Quantitative data from several sources was analyzed using SPSS. The researcher analyzed the data to explore findings that address the research study questions.

CHAPTER 4

Introduction

The purpose of this study was to identify predictors of postsecondary outcomes for students with disabilities. The study explored whether gender, race/ethnicity, career technical education programs, diploma type, grade point average (GPA), disability classification, and graduation year correlate with postsecondary education outcomes. The researcher used archived data and information from 185 male and 82 female students with disabilities selected for this study.

Results/Findings

The demographics of the participants were an integral part of this study. The participants' gender, race/ethnicity, and individual characteristics provided an overview of the descriptive data in this chapter. This study consisted of (N = 267) participants in the graduating year of 2018 (n = 118) or 2022 (n = 149). Female participants represented 30.7% of the population, while males represented 69.3%. Latino or Hispanic participants represented 66.7% of the population, followed by Black or African American at 23.2%, White at 6.4%, and Other at 3.7%. Students receiving a Regents Diploma represented 80.9%, followed by Local Diploma at 11.6% and Skills and Academic Commencement Certificate at 7.5%. Only 18.4% of students with disabilities in this study participated in CTE, while 81.6% did not.

Table 3

Descriptive Statistics of Self-Reported Postsecondary Outcomes (N = 267)

		PSO Educ		*PSO Other*	
Sample		n	%	*N*	*%*
Male	185	104	56.2	81	43.8
Female	82	45	54.9	37	45.1
Hisp/Lat	178	102	57.3	76	42.7
Black/AA	62	35	56.5	27	43.5
White	17	4	23.5	13	76.5
Other	10	8	80.0	2	20.0
Regents	216	135	62.5	81	37.5
Local	31	14	45.2	17	54.8
Skills Acad	20	-	-	20	100
Reg/Adv	-	-	-	-	-
CTE Part	49	30	61.2	19	38.8
CTE Not	218	119	54.6	99	45.4
Learn Dis	186	112	60.2	74	39.8
OHI	35	20	57.1	15	42.9
Intel Dis	4	-	-	4	100.0
Speech/Lang	12	9	75.00	3	25.0
Autism	4	3	75.0	1	25.0
Emot Dis	5	3	60.0	2	40.0
Hear Impair	2	1	50.0	1	50.0
Vis Impair	1	1	100.0	-	-
Mult Dis	18	-	-	18	100.0
Grad 2018	118	77	65.3	41	34.7
Grad 2022	149	72	48.3	77	51.7

The researcher used archived data on 299 students to examine if students with disabilities, demographic factors of gender, race/ethnicity, CTE participation, diploma type, GPA, disability classification, and graduating year predicted postsecondary

outcomes. The students were all in their senior or exiting year of high school. The researcher collected data for the 2017-2018 and 2021-2022 school years. The descriptive data in Table 4 shows the total number of students in each category who self-reported their postsecondary outcomes of education or other.

The researcher wanted to understand whether students with disabilities' postsecondary outcomes could be predicted by students with disabilities factors of gender, race/ethnicity, participation in a CTE program, diploma type, grade point average (GPA), or disability classification. Therefore, postsecondary outcomes were recorded as the dependent variable, which has two categories: attending postsecondary education, including two-year college, four-year college, four-year out-of-state college, or other postsecondary education or other, including employment, military, adult service, and unknown. The researcher examined data for gender categorized (nominal) as male or female, with no data reported for non-binary. Race/ethnicity data included four categories (nominal) recorded: Latino or Hispanic, Black, or African American, White, or Other, which included Asian or Native Hawaiian/Other Pacific Islander, Multiracial, American Indian or Alaskan Native. Career technical education was also categorized (nominal) as attending a CTE program while in high school. Diploma type was categorical (nominal), including Regents Diploma, Local Diploma, Skills and Academic Commencement Certificate, and others, which included Regents Diploma with Advanced Designation. The grade point average was a continuous numerical variable. Lastly, disability classification consisted of 13 categories (nominal): Learning Disability, Other Health Impairment, Intellectual Disability, Speech or Language Impairment, Autism, Deafness, Deaf-Blindness, Emotional Disability, Hearing Impairment, Orthopedic Impairment,

Traumatic Brain Injury, Visual Impairment including Blindness, Multiple Disabilities. The researcher dummy-coded the categories of the dependent variable as quantitative variables. The researcher also dummy-coded race/ethnicity, gender, CTE participation, diploma type, and disability classification as quantitative independent variables.

As such, the researcher ran a binary logistic regression to predict the postsecondary outcomes of students with disabilities from gender, race/ethnicity, CTE participation, diploma type, GPA, and disability classification. The rationale for choosing a binary logistical regression is when the outcome variable is represented by two categories, and the researcher wishes to use predictor variables to determine the outcome category. In the current study, the target or response outcome categories are postsecondary education, coded as 1, and other, coded as 2, respectively, in the data file. The first predictor variable is gender, with males as the reference variable coded as 1 in the data file and females coded as 2. The second predictor variable is race/ethnicity, with Latino as the reference variable, coded as 1 in the data file. Moreover, Black/African American is coded as 2, White is coded as 3, and Other, which included Asian or Native Hawaiian/Other Pacific Islander, Multiracial, American Indian or Alaskan Native coded as 4. The third predictor variable is CTE participation, with yes coded as 1 and no coded as 2, with CTE participation as the reference variable. The fourth predictor variable is the Regents Diploma, coded as 1 in the data file and the reference variable. In contrast, the Local Diploma is coded as 2, the Skills and Academic Commencement Certificate is coded as 3, and the Regents Diploma with Advanced Designation is coded as 4. The fifth variable of GPA is a continuous variable and not coded. The sixth variable is disability classification with Learning Disability as the reference variable and coded as 1, Other

Health Impairment coded 2, Intellectual Disability coded as 3, Speech or Language Impairment coded as 4, Autism is coded as 5, Deafness is coded as 6, Deaf-Blindness is coded as 7, Emotional Disability is coded as 8, Hearing Impairment is coded as 9, Orthopedic Impairment is coded as 10, Traumatic Brain Injury is coded as 11, Visual Impairment including Blindness is coded as 12, Multiple Disabilities is coded as 13. The alpha level of .05 was chosen to test for significance.

The researcher screened the data for missing or miscoded values and then conducted the assumption tests. The dependent variable was measured on a nominal level. The independent variables included nominal variables. There was the independence of observations of the predictor variables, and the dependent variable categories were mutually exclusive.

Quantitative Research Questions

R1. To what extent does gender predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between gender and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between gender and postsecondary outcomes for students with disabilities.

A binary logistic regression examined whether gender correlates with postsecondary education outcomes. A preliminary analysis suggested that the multicollinearity assumption was met for gender (tolerance = .920). An inspection of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17) kept in the dataset. The model was statistically significant, $x^2(15, N = 267) = 51.37$,

p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified 67.8% of cases. As shown in Table 4, gender did not significantly contribute to the model (p = .818).

Table 4

Binary Logistic Regression Predicting the Likelihood of Gender and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
Female	-.08	.34	.05	1	.818	.93	.48	1.80
Constant	-4.25	2.24	3.59	1	.058	.01		

R2. To what extent does race/ethnicity predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between race/ethnicity and postsecondary outcomes for students with disabilities.

A binary logistic regression examined whether race/ethnicity correlates with postsecondary education outcomes. A preliminary analysis suggested that the multicollinearity assumption was met for race/ethnicity (tolerance = .95). An inspection

of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17), which were kept in the dataset. The model was statistically significant, x^2(15, *N* = 267) = 51.37, p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified 67.8% of cases. As shown in Table 5, White students with disabilities significantly contributed to the model, while Black or African American students, or Others did not. The age odds ratio of .25 suggests that students with disabilities who are White are .25 times (25%) less likely to self-report their postsecondary outcomes as education.

Table 5

Binary Logistic Regression Predicting the Likelihood of Race/Ethnicity and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
Latino			6.86	3	.077			.
Black/AA	.27	.36	.56	1	.454	1.30	.65	2.61
White	-1.40	.68	4.27	1	.039	.25	.07	.93
Other	1.44	1.14	1.59	1	.207	4.21	.45	39.21
Constant	-4.25	2.24	3.59	1	.058	.01		

R3. To what extent does participation in career technical education (CTE) programs predict the postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between participation in CTE programs and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between CTE participation and postsecondary outcomes for students with disabilities.

A binary logistic regression examined whether CTE participation correlates with postsecondary education outcomes. A preliminary analysis suggested that the multicollinearity assumption was met for CTE participation (tolerance = .88). An inspection of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17), which were kept in the dataset. The model was statistically significant, $x^2(15, N = 267) = 51.37$, p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified 67.8% of cases. As shown in Table 6, CTE participation did not significantly contribute to the model.

Table 6

Binary Logistic Regression Predicting the Likelihood of CTE Participation and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
No CTE	.32	.40	.62	1	.432	1.37	.62	3.03
Constant	-4.25	2.24	3.59	1	.058	.01		

R4. To what extent does diploma type predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between diploma type and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between diploma type and postsecondary outcomes for students with disabilities.

The researcher used a binary logistic regression to examine whether diploma type correlates with postsecondary education outcomes. A preliminary analysis suggested that the assumption of multicollinearity was met for the diploma type (tolerance = .88). An inspection of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17), which were kept in the dataset. The model was statistically significant, $x^2(15, N = 267) = 51.37$, p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified 67.8% of cases. As shown in Table 7, students with disabilities who received a Local Diploma significantly contributed to the model. The age odds ratio of 3.18 suggests that students with disabilities who received a Local Diploma are 3.18 times (318%) less likely to self-report their postsecondary outcomes as education. Not enough data was collected on students with disabilities receiving a Skills and Academic Commencement Certificate or Regents Diploma with Advanced Designation to report.

Table 7

Binary Logistic Regression Predicting the Likelihood of Diploma Type and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
Local	-1.15	.48	5.66	1	.017	.32	.12	.82
Constant	-4.25	2.24	3.59	1	.058	.014		

R5. To what extent does GPA predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between GPA and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between GPA and postsecondary outcomes for students with disabilities.

A binary logistic regression examined whether GPA correlates with postsecondary education outcomes. A preliminary analysis suggested that the multicollinearity assumption was met for GPA (tolerance = .91). An inspection of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17), which were kept in the dataset. The model was statistically significant, x^2(15, *N* = 267) = 51.37, p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified

67.8% of cases. As shown in Table 8, GPA significantly contributed to the model. The age odds ratio of 1.075 suggests that for every increase in GPA in points, students with disabilities were 1.075 times (17.5%) more likely to self-report their postsecondary outcome as education.

Table 8

Binary Logistic Regression Predicting the Likelihood of GPA and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
GPA	.07	.03	6.22	1	.013	1.08	1.02	1.14
Constant	-4.25	2.24	3.59	1	.058	.01		

R6. To what extent does disability classification predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between disability classification and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between disability classification and postsecondary outcomes for students with disabilities.

A binary logistic regression examined whether disability classification correlates with postsecondary education outcomes. A preliminary analysis suggested that the multicollinearity assumption was met for disability classification (tolerance = .96). An inspection of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17), which were kept in the dataset. The model was statistically

significant, x^2(15, *N* = 267) = 51.37, p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified 67.8% of cases. As shown in Table 9, it did not significantly contribute to the model.

Table 9

Binary Logistic Regression Predicting the Likelihood of Disability Classification and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
Learn Dis			.81	7	.997			.
OHI	.02	.43	.00	1	.960	1.02	.44	2.36
Intel Dis	.25	.73	.12	1	.728	1.29	.31	5.41
Spch/Lang	20.02	22740.97	.00	1	.999	496133052.86	.00	.
Autism	-.50	1.05	.22	1	.638	.61	.08	4.80
Emot Dis	-1.05	1.58	.44	1	.508	.35	.02	7.80
Hearing	20.25	40192.97	.00	1	1.000	624182766.63	.00	.
Mult Dis	-21.65	15448.71	.00	1	.999	.00	.00	.
Constant	-4.25	2.24	3.59	1	.058	.01		

R7. To what extent does graduation year predict postsecondary outcomes for students with disabilities?

H_0: There will be no relationship between graduation year and postsecondary outcomes for students with disabilities.

H_1: There will be a relationship between graduation year and postsecondary outcomes for students with disabilities.

The researcher used a binary logistic regression to examine whether graduation year correlated with postsecondary education outcomes. A preliminary analysis suggested that the assumption of multicollinearity was met for the graduation year (tolerance = .86). An inspection of standardized residual values revealed four outliers (std. residual = 2.45, 2.34, -2.31, and -2.17), which were kept in the dataset. The model was statistically significant, $x^2(15, N = 267) = 51.37$, p = <.001, suggesting that it could distinguish between those with and without self-reported postsecondary outcomes of education.

The model explained between 18.9% (Cox & Snell R Square) and 25.6% (Nagelkerke R Square) of the variance in the dependent variable and correctly classified 67.8% of cases. As shown in Table 10, students with disabilities who graduated in 2022 significantly ($p < .001$) contributed to the model. The age odds ratio of .25 suggests that students with disabilities who graduated in 2022 are .25 times (25%) less likely to self-report their postsecondary outcomes as education.

Table 10

Binary Logistic Regression Predicting the Likelihood of Graduating Year and Postsecondary Outcome of Education

							95% CI OR	
	B	*SE-B*	*Wald*	*df*	*P*	*OR*	*LL*	*UL*
2022	-1.40	.34	16.53	1	<.001	.25	.13	.49
Constant	-4.25	2.24	3.59	1	.058	.01		

Conclusion

This chapter discussed the findings of this quantitative ex-post factor study. The researcher conducted a binary logistic regression to predict the probability of students with disabilities self-reporting postsecondary outcomes of education or other. White, Local Diploma, GPA, and graduating year (2022) were significantly correlated with students with disabilities self-reporting postsecondary education outcomes. Gender (p = .818), Black or African American (p = .454), Other (p = .207), CTE participation (p = .432), Learning Disability (p = .997), Other Health Impairment (p = .960), Intellectual Disability (p = .728), Speech or Language (p = .999), Autism (p = .638), Emotional Disability (p = .508), Hearing Impairment (p = 1.000), or Multiple Disability (p = .999) did not have significance correlation with the dependent variable. Other race/ethnicity, Skills and Academic Commencement Certificates, Regents Diploma with Advanced Designation, Deafness, Deaf-Blindness, Orthopedic Impairment, and Traumatic Brain Injury lacked sufficient participants to include in the data set.

In Chapter 5, the researcher thoroughly analyzes the research findings, discussing the study's results and implications. However, the findings have limitations that will be explored and discussed. Next, the researcher ventures into discussions on future

recommendations. The results from this study guide recommendations for future practices, providing opportunities for meaningful and positive change. While this study examined several variables, the scope of the study was limited, and the researcher provides recommendations for future research to foster ideas and growth in this specific research area.

CHAPTER 5

Discussion

Introduction

In this chapter, the researcher discusses the findings and the connection to the theoretical and conceptual framework guiding this study. The researcher examines the linkage of findings with the extensive literature review and reviews the critical discussion of the limitations of the study. Lastly, the researcher discusses recommendations for future practices and future research to inform practitioners and policymakers in the field.

Implications of Findings

The current quantitative non-experimental ex post facto study examined whether students with disabilities factors of gender, race/ethnicity, participation in career technical education (CTE) programs, diploma type, grade point average (GPA), disability classification, and graduation year predicted postsecondary outcomes. The underpinnings of this study were the theoretical framework of learning organization (Senge, 2012) and taxonomy for transition programming 2.0 (Kohler, 2016). Learning organizations focus on the instrumental element that leads to successful outcomes, such as personal mastery, shared visions, mental models, team learning, and systems thinking (Senge, 2012). Taxonomy for transition programming 2.0 is a framework that uses an individual-centered paradigm, including student-focused planning, student development, interagency and interdisciplinary collaboration, family engagement, and program structure and attributes (Kohler et al., 2016). The study also used research from the National Technical Assistance Center of Transition (NTACT) as a foundation to identify and examine predictor variables of CTE and diploma type. NTACT findings indicate a research-based

relationship between CTE participation in high school and postsecondary outcomes of education for students with disabilities, with an evidence-based relationship between CTE and employment for students with disabilities (NTACT, 2021). NTACT found a promising relationship between exit exam requirements/high school diploma status and postsecondary outcomes of employment for students with disabilities (NTACT, 2021). The major findings in the study found four variables to have significance in predicting the dependent variable of students with disabilities self-reporting post-graduation education plans. Students with disabilities who reported as White, students with disabilities who graduated with a local diploma, grade point average (GPA), and graduation year all yielded significant results in the study. However, some variables did not yield significance. Gender, career technical education (CTE), and disability classification did not yield significant results in the current study.

The first research question examined the relationship between gender and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. Prior research has indicated gender barriers, with men of color encountering barriers to reaching their college and career aspirations (Gardenhire et al., 2016). A binary logistic regression was used to examine whether there was a relationship between gender and postsecondary education outcomes. The results of this study found no significance (p = .818) in the model. Thus, there was no significance for male or female students with disabilities who self-reported their post-graduation postsecondary education plan. While some studies have found gender to be an indicator of postsecondary outcomes, this study found no significance.

The second research question examined the relationship between race/ethnicity and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. Research has shown that Latino and Black males had poorer high school completion outcomes compared with their White counterparts (Aud et al., 2011). The study found significance (p = .039) of students with disabilities who identified as White, reporting they were 24% less likely to self-report their post-graduation plans to attend postsecondary education compared with the reference group of Latino or Hispanic. There was no significance found for students with disabilities who identified as Black or African American (p = .454) or other that included Asian, Multiracial, American Indian/Alaskan Native (p = .207). While studies have indicated that students with disabilities of color have less representation in postsecondary outcomes, this study refuted these findings, with White students with disabilities reporting they were less likely to self-report their postsecondary plan of education when compared to the reference group of Latino or Hispanic.

The next research question examined the relationship between career technical education (CTE) and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. A meta-analysis by Haber et al. (2016) found CTE to be a factor in postsecondary outcomes in employment. A binary logistic regression was used to examine whether there was a relationship between CTE and postsecondary education outcomes. The results of this study found no significance (p = .432) in the model. Thus, there was no significance for students with disabilities who participated in CTE programs or did not participate in them while in high school and who self-reported their post-graduation plan of postsecondary education. This study refutes

the NTACT (2021) findings that research-based evidence exists of a relationship between CTE participation for students with disabilities and postsecondary education outcomes.

The fourth research question examined the relationship between diploma type and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. Research has shown that high school diplomas proved cost-effective for vocational rehabilitation programs for postsecondary outcomes, while special education diplomas did not (Whittenburg et al., 2020). A binary logistic regression was used to examine whether there was a relationship between diploma type and postsecondary education outcomes. The results of this study were significant ($p = .017$) and found that students with disabilities who received a local diploma were 318% less likely to self-report their postsecondary outcomes as education than the reference group of Regents Diploma. Not enough data was collected on students with disabilities receiving a Skills and Academic Commencement Certificate or Regents Diploma with Advanced Designation to report. The study findings support previous research findings that there is a relationship between diploma type and postsecondary outcomes. These findings extend to previous research with students who receive a local diploma self-reporting they are less likely to postsecondary education.

The following research question examined the relationship between grade point average (GPA) and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. Research has shown that a significant part of the admission process into postsecondary education and the employment process is GPA (Camera & Echternacht, 2000). A binary logistic regression was used to examine whether there was a relationship between GPA and postsecondary education outcomes. The

results of this study were significant (p = .013) and found that students with disabilities were 107.5% more likely to self-report their postsecondary outcomes as education for each point increased in their GPA. The study findings extend to previous research, proving that GPA is a part of the admission process. They found that GPA had a significant relationship with increases in GPA, resulting in increases in self-reported postsecondary outcomes in education.

The sixth research question examined the relationship between disability classification and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. Sanford et al. (2011) found that students who enroll in postsecondary education, only 38% of individuals with disabilities complete their programs compared to 51% of their counterparts with students, with a study by Shattuck et al. (2012) finding only 34.7% of students with Autism Spectrum Disorder (ASD) attended a two-year or four-year college. A binary logistic regression was used to examine whether there was a relationship between disability classification and self-reported postsecondary outcomes. The results found there was no significance in any of the classification disability classifications with learning disability (p = .997), other health impairment (p =.960), intellectual disability (p =.728), speech and language (p =.999), Autism (p =.638), emotional disability (p =.508), hearing (p = 1.000), and multiple disabilities (p =.999). The results from this study support the findings from other studies and question the results of other studies that focus on specific disability classifications.

The final research question examined the relationship between graduation years of 2018 and 2022 and self-reported postsecondary plans of postsecondary outcomes of education for students with disabilities. In 2019, a worldwide pandemic shut down public

education in the United States. A binary logistic regression was used to examine whether there was a relationship between the graduation year 2018, before the pandemic, and 2022. The study found significance ($p < .001$) with 24.7% of students with disabilities who graduated in 2022 were less likely to self-report their postsecondary outcomes as education. At this time, research is still examining the relationship the pandemic had on postsecondary outcomes for students with disabilities.

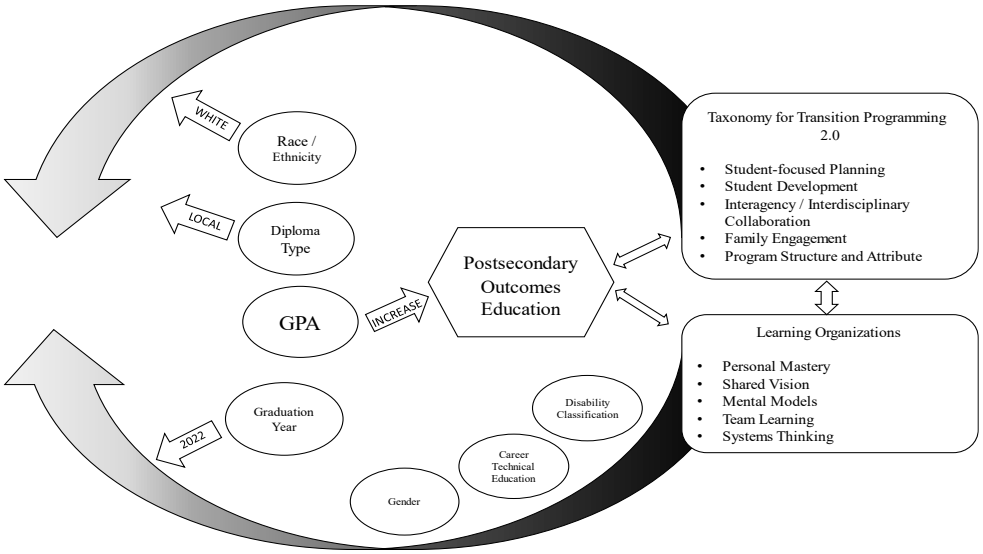
The theoretical framework and conceptual framework were the foundation of this study. Research has shown a disproportionate lack of participation in secondary and transition among students of different disabilities, genders, and ethnicities, resulting from tracking based on student characteristics rather than their postsecondary goals (Baer et al., 2011). Learning organizations and taxonomy for transition programming 2.0 combined provide a complementing systematic framework for schools to provide best practices for transition services. Learning organizations look at an entire organization or entity focusing on stakeholders' thought processes, continuous learning for improvement, individuals working together on a vision, and working together as an entire group for the most desired outcomes. Taxonomy for transition for transition programming 2.0 focuses on transition best practices with a focus on the individual goals of students with disabilities and their learning experiences, partnership with all stakeholders on transition, family participation, and the overall transition services that lead to optimal postsecondary outcomes.

The conceptual framework visually depicts the interconnectedness of the independent and dependent variables. Learning organizations and taxonomy for transition programming 2.0 are the guiding theories for this study and are, therefore, included in the

diagram. While all the independent variables were equal in size for the original conceptual framework in Chapter 1, Figure 2, the current conceptual framework provides an updated visual indicating the findings of this study. The independent variables of race/ethnicity, diploma type, graduation year, and GPA were significant in the study and, therefore, more prominent than gender, CTE participation, and disability classification. Arrows show the direction of the relationship with the dependent variable. White students with disabilities were less likely to report attending postsecondary education. Therefore, the arrow representing White students with disabilities points away from the hexagram with the postsecondary outcomes of education. Students with disabilities graduating with a local diploma and in the graduating year of 2022 were also less likely to report attending postsecondary education, with arrows indicating this as well. However, there was a positive correlation between GPA and postsecondary education, with the arrow moving toward the hexagon representing the dependent variable.

Figure 3

Conceptual Framework Revised



Relationship to Prior Research

Bouck (2014) explored whether there were differences between students with and without disabilities based on gender, ethnicity, and socioeconomic status and their postsecondary outcomes. The results examined educational setting, gender, ethnicity, and socioeconomic status with postsecondary employment, education, independent living, and recreation and leisure. Employment was significant with a school setting and socioeconomic status; however, it found no significance with gender and ethnicity. Similarly, Graham and Eadens (2017) study examined Native American students with disabilities, standardized testing, and postsecondary outcomes. The study found a proportional representation of Native American students with disabilities in postsecondary settings but discussed possible extraneous factors of family support might contribute to these factors, and negative outcomes could result from truancy and low socioeconomic status (Graham & Eadens, 2017).

Conversely, Daviso et al. (2016) examined if there was a correlation between vocational education, work-study, and school-supervised community work while in high school with five subcategories of students with disabilities: learning, intellectual, multiple, emotional, and other health impairments while controlling for gender and race/ethnicity of African American. Their analysis found that African American and female students were less likely to be employed less than one year out. Similarly, Lopez et al. (2000) found similar results with race/ethnicity, with Hispanics having the lowest level of income across ethnic groups with the principal factor as low education attainment levels. Whittenburg et al. (2020) examined several variables for students with disabilities: no high school diploma, special education certificate of completion, high school diploma, or some postsecondary education, demographics, employment outcomes, and cost-

effectiveness of VR services. The results indicated that results differed among race/ethnicity, with education level increases for Whites, Asians, and Latinos but decreased in African American participants.

This study did not find gender to be significant and only found White students in the category of race/ethnicity to be significant for students with disabilities self-reported postsecondary outcomes of employment. Therefore, the study supports the findings from Bouck (2014), with gender having no significance for postsecondary outcomes. While Daviso et al. (2016) found that African American and female students were less likely to be employed, it did not discuss findings related to postsecondary education. Therefore, a question remains of whether gender and race/ethnicity would yield significance in similar studies that expanded their research to include postsecondary education or if the results remain significant only in postsecondary employment outcomes. While Graham and Eadens (2017) found no significance with Native American students with disabilities and postsecondary outcomes, they did not examine White students with disabilities. Lopez et al. (2000) found similar results with race/ethnicity, with Hispanics having the lowest income level across ethnic groups with the central factor as low education attainment levels, but did not discuss postsecondary education. This study refutes the findings from Whittenburg et al. (2020) that found Whites to have higher levels of education. While the findings of this study do not support the findings of studies on race/ethnicity, it should be noted that the sample used did not equally represent race/ethnicity compared with the national average. The study included over 67% Latino or Hispanic students and only 6.36% White. A larger subgroup sample size might yield different results.

Theobald et al. (2018) explored the relationship between students with disabilities enrolled in CTE programs and inclusion in general education and unexcused absence and on-time graduation and if these variables predicted college enrollment and employment. The findings suggested that students with a concentration in CTE and integration increased on-time graduation, employment, and college enrollment. Similarly, According to NTACT (2023), research indicated that CTE programs improved postsecondary outcomes for students with disabilities with evidence-based outcomes for employment and research-based outcomes for education. Similarly, Haber et al. (2016) conducted a meta-analysis of prior research and found career technical education to be a significant factor in postsecondary outcomes in employment. However, this research study did not find significance for students with disabilities in self-reported postsecondary outcomes in education and, therefore, does not support the findings by NTACT (2023) and Theobald et al. (2018)

Whittenburg et al. (2020) examined diploma types, demographics, and postsecondary outcomes to determine the cost-efficiency and effectiveness of Vocational Rehabilitation (VR) services. The study found that a high school diploma to be cost-efficient. However, the findings did not show a special education diploma to be cost-efficient, and there was no analysis on not receiving high school diploma. High school credentialing showed slightly better postsecondary outcomes, with postsecondary education showing the highest employment rate. This study found high school diplomas to be significant, with students who received a local diploma self-reporting as less likely to attend postsecondary education outcomes. While this study focused on postsecondary education outcomes, it supports the findings from this study.

Bouck and Park (2018) conducted a quantitative, non-experimental study to explore postsecondary outcomes for students with autism spectrum disorder (ASD) across time out of school. They found that one-fourth to one-third attended postsecondary education.

Joshi et al. (2012) explored transition activities and employment preparation for students with mild intellectual disabilities and postsecondary outcomes. They found there was a relationship between students who participated in the transition programs and postsecondary employment. This study did not find significance with disability classification for students with disabilities self-reporting postsecondary outcomes of education. It did not support the findings of Bouch and Park's (2018) study. This study did not focus on postsecondary outcomes in employment. However, the study by Joshi et al. (2012) raises the question of whether this study would yield similar findings if it expanded the dependent variable to include postsecondary employment outcomes.

McConnell et al. (2015) examined the non-academic behaviors of students with disabilities and postsecondary outcomes measured by the Transition Assessment and Goal Generator (TAGG). They did not find a relationship between TAGG scores and GPA. However, during their literature review, studies found that a student's GPA serves as the basis for their college and career readiness (Camara & Echternacht, 2000), and failure in math and English resulted in higher dropout rates (Neild & Balfanze, 2006). The results of this study found significance for students with disabilities, who self-reported higher postsecondary outcomes of education for every point increase in GPA. While the results of this study do not support the findings from McConnell et al. (2015), their study was specific to TAGG measurements and might not represent this study

accurately. It does support studies from their literature review from Camara and Echternacht (2000) and Neild and Balfanze (2006).

This study found significance in graduation year, with students who graduated in 2022 being less likely to self-report postsecondary outcomes of education than their peers who graduated in 2018. As discussed, a worldwide pandemic occurred in 2019, and the results of this pandemic impact on postsecondary outcomes for students with disabilities are unknown. Interestingly, other research has indicated differences in graduating cohorts. Interestingly, Connors et al. (2014) reviewed the National Longitudinal Transition Study 2 (NLTS2) to explore factors correlated with postsecondary outcomes for youth with visual impairments. Students with visual impairments who completed high school engaged in paid employment during high school, and students who graduated between 2000 and 2002, compared to their peers who graduated between 2006 and 2008, were more successful. This study supports Connors et al. (2014) findings that graduation year is significant with postsecondary outcomes.

Limitations of the Study

There were some limitations to this quantitative analysis of this study. One limitation worth noting is the modest sample size for this study. There were 267 students used as participants in this study. While the study had a large enough power to run the statistical analysis, according to Jacob Cohen (1988), the sample size was still small. It might have yielded different results with a larger population. While the researcher conducted the study in a large suburban area outside of an urban area, the study only used one district. Using a larger sample size and several districts, including urban and

suburban areas, might have yielded different results and might not be generalizable throughout other districts.

A possible limitation of this study was the nature of the data collection. While the researcher used archived data for the study, data collection methods and biases could have skewed the results. First, the data collection method process might have yielded missing or incomplete data, human error, or misidentified postsecondary plans. The researcher collected data from students reporting their post-graduation plans to staff. Staff error could have been attributed to inaccurate recording, missing data, or incorrect reporting. For example, the researcher found a higher-than-average number of students reporting their post-graduation plan to connect with adult services. Staff and student knowledge of proper reporting categories might have led to different postsecondary outcomes. There might be bias and inaccuracies in students self-reporting their post-graduation plan. There could be a non-response bias, meaning there might be an overrepresentation of students who did not respond due to failing, not graduating, or working full-time and not in school during reporting times.

Another limitation to acknowledge might have been the limited variables examined and extraneous factors of students' family involvement, absenteeism, and class placement. Students with higher levels of parental involvement, encouragement, and family support may have improved postsecondary outcomes. Family influences such as prior family members attending college could also have influenced the postsecondary decision of students in this study. Student absenteeism is a possible factor that could also influence the diploma type and post-graduation plans of students in this study. Students with higher absenteeism might not have graduated on time or might have had their

diploma type affected, leading to different pathways. While students were in middle school, class placement by guidance counselors could have set students on a trajectory that affected their high school experiences and led to alternative postsecondary outcomes.

The time frame of the research could also skew this study's results. External and historical factors might have contributed to the outcomes of this study. The archive data looked at two graduating years, 2018 and 2022. COVID-19, a worldwide pandemic, closed in-person learning in public schools during this time. Furthermore, many states enacted safety nets for students' graduation. Graduation requirements changed for some time, allowing students to receive higher academic diplomas than possible before the pandemic possibly.

Recommendations for Future Practice

Educators, postsecondary education institutions, agencies, students, and all stakeholders involved can benefit from the findings of this study and future studies on this topic. Some of the findings supported prior research and extended future research, while others refuted and questioned it. This study found that White students with disabilities, students receiving a local diploma, and students who graduated after the start of a global pandemic are less likely to self-report their post-graduation plan of education. However, students with disabilities who had higher GPAs significantly reported their post-graduation plan of education. Educators must have the information to make informed decisions to implement best practices so all students have optimal postsecondary outcomes.

The district in this study was a diverse school, with a 95% minority student population. While each district has a unique culture, it is instrumental for educators to

ensure inclusivity and find innovative, culturally responsive solutions for students to succeed. Data-driven research provides the basis for policy and regulations, but it is necessary to explore the nuances of each community's needs as well. Senge (2012) discussed examining the organization as a whole entity, along with the people in it. To be successful, all stakeholders should continuously learn and work together to reach a shared vision and constantly learn to build long-term sustainable programs with optimal postsecondary outcomes.

Educators in K-12 can design programs for students with disabilities that will better prepare them for postsecondary life while they are in high school, even earlier. Transition services are initiated from federal and state initiatives designed to assist students with moving from high school to postsecondary options. Taxonomy for transition programming 2.0 focuses on student-focused planning, student development, collaboration, family engagement, and program structure (Kohler et al., 2016). Educators can use taxonomy for transition programming 2.0 as a roadmap to provide best practices in transition for students with disabilities.

A recommendation for future practices is for K-12 educational leaders to look at the life-long goal of students' success and work with community stakeholders to ensure this. This study can guide public educators and identify the importance of looking beyond graduation to determine what schools need to provide students for postsecondary success. Educational leaders in public schools can partner with higher education institutions to build on existing programs to ensure success for students with disabilities. They can create bridge programs while students are in high school so they have access to postsecondary education programs once they graduate. They can work with agencies to

partner earlier and to serve younger students. These combined efforts of stakeholders can lead to educating students on their options.

The recommendation for future practices emanates from the theoretical framework of this study. Senge (2012) outlined the practices of systems thinking and working together on an end goal, students' postsecondary outcomes. Taxonomy for transition programming 2.0 (Kohler et al., 2016) provides guidance on best practices for transition services for students with disabilities. Thus, these recommendations aim for students to ultimately benefit by knowing their postsecondary options and obtaining the support needed for success.

Recommendation for Future Research

Future research is essential for continued growth and optimum postsecondary outcomes for students with disabilities. The implications of the study reveal that additional research is needed. A longitudinal study examining several factors over time could provide more descriptive data. Further research could include examining extraneous factors such as family influences, absenteeism, and class placement for students to see if there are relationships with postsecondary outcomes for students with disabilities. A comparative study of economic analysis would provide valuable information. Lastly, a qualitative study examining students' lived experiences during high school that lead to postsecondary outcomes could provide a wealth of knowledge that could guide future research.

A longitudinal study looks at changes over time by taking data from several time sets (Fraenkel et al., 2012). Trend, cohort, and panel studies are three types of longitudinal studies (Fraenkel et al., 2012). The trend study surveys the population of

members each year. While these members might change, they are representative of the population, and if randomly selected, their responses can be generalized (Fraenkel et al., 2012). A cohort study follows the same group over time. Lastly, a panel study follows the same group of participants over time (Fraenkel et al., 2012). While longitudinal studies can be costly, are subject to attrition, and might have extraneous variables missed, they provide a depth of information.

A comparative study and economic impact evaluation would be beneficial for stakeholders. A comparative study would look beyond results from one district and compare them to other districts. Yielding similar results would provide generalizability. Economic impacts on school districts are also essential to examine. School districts should be accountable to all community stakeholders. Providing the highest quality best practices is at the forefront of every educational leader. Providing exemplary programs should be evaluated for cost-effectiveness as well. Whittenburg et al. (2020) found some variables and programs to be more cost-effective than others. This gives stakeholders the knowledge to make the most informed decisions with the most impactful results.

Qualitative research examines lived experiences and could provide a view into postsecondary outcomes for students with disabilities by adding meaning to the quantitative data. Creswell and Plano Clark (2007) referred to qualitative researchers as *inquirers*, compared with their quantitative counterparts as *investigators*. Qualitative information is gathered in an open-ended manner (Creswell & Plano Clark, 2007) through several avenues while allowing participants to express themselves in their own words or in a natural environment. Qualitative studies tend to have smaller sample sizes and consist of descriptive information to develop understanding and meaning from

participants (Bogdan & Knopp Biklen, 2007). Several qualitative methods would provide richness to future research. The first method, ethnography, identifies cultural environments (Bodgan & Kopp Biklen, 2007) through observations and collecting data. The narrative method collects data through interviews with individuals describing participants' own words (Bodgan & Kopp Biklen, 2007). Third, phenomenological methods describe the participants' experiences in specific events or situations (Bodgan & Kopp Biklen, 2007). Case studies are observations with participants that describe their experiences (Bodgan & Kopp Biklen, 2007). Grounded theory in qualitative research is when a theory emerges through testing collected data (Saldana, 2016). Information from parents, students, and other educational professionals would bring a perspective on their personal experiences and challenges and enlarge the lens to view outcomes. While qualitative research can be timely, it provides an in-depth understanding of the participants' experiences that quantitative research does not. Thus, providing stakeholders with the lived experiences of why students with disabilities self-reporting specific postsecondary outcomes becomes invaluable for making informed decisions on implementing programs, policies, and regulations.

Conclusion

This quantitative ex post facto study used archived data to examine whether there was a relationship between gender, race/ethnicity, CTE participation, diploma type, GPA, disability classification, and students with disabilities self-reported postsecondary outcomes of education. This study focused on a large suburban public high school located in the Northeastern region of the United States. The district demographics are diverse,

with approximately 87% Latino or Hispanic population, eight percent Black or African American, three percent other, and two percent White.

The study found four significant variables when examining postsecondary education outcomes for students with disabilities. Students with disabilities who identified as White, exited with a local diploma, and graduated in 2022 self-reported less likely to have a postsecondary outcome of education. In contrast, students with disabilities self-reported an increase in postsecondary education outcomes for each increase in GPA. Gender, Black or African American, American Indian or Alaska Native, Asian or Native Hawaiian/Other Pacific Islander or Multiracial, and disability classification had no significance. There was not adequate representation for Skills and Academic Commencement Certificate or Regents Diploma with Advanced Designation to include in this study.

While some prior research supported these findings, others did not. As discussed, the researcher conducted this study in one district, and the results should be interpreted accordingly. The study does bring to the forefront the need for continued support and transition services for students with disabilities. Students with disabilities who identified as White, received a local diploma, and graduated during a worldwide pandemic were significantly reported to be not attending postsecondary education. This study indicated that increases in GPA improved the likelihood of students with disabilities reporting postsecondary education outcomes. This study did not examine other postsecondary outcomes, such as employment, military, adult services, and others, which might provide additional information.

The results of this study indicate that students with disabilities can benefit from additional support to improve postsecondary outcomes. While this study provided valuable information on postsecondary outcomes for students with disabilities, it does not explain the individual experiences and reasons for their self-reported postsecondary outcomes. Again, the study also provided a narrow focus on solely postsecondary outcomes of education. Additional information might yield different results and provide opportunities for schools to improve postsecondary outcomes for all students with disabilities.

Epilogue

In reflection, this research journey has been a process of profound insight and discovery into the critical role of utilizing data to explore predictors of postsecondary outcomes within a suburban school district. The findings drive programming decisions and underscore the significance of qualitative research in understanding the underlying reasons for the research results. These complementary methodologies illuminate the many nuances of the study while addressing possible extraneous variables unique to each district.

The research process also provided professional growth with emerging findings revealing the significance of race/ethnicity, diploma type, grade point average, and graduation year in predicting postsecondary outcomes for students with disabilities. These variables offer a wealth of information, providing deeper insights into the myriad of factors influencing student trajectories.

A compelling reflection is the integral role of the theoretical framework in guiding the research, a cornerstone of this dissertation. This framework shaped the study

and served as a lens into best practices for transition programming, ultimately influencing policies and regulations. As educators, our commitment is to ameliorate our practices continually, ensuring an ongoing journey of improvement to ensure progress. The greatest lesson learned through this process is the unending pursuit of providing exemplary programming in schools that look beyond graduation, fostering lifelong success for every student.

APPENDIX A IRB APPROVAL MEMO

ST. JOHN'S UNIVERSITY

Federal Wide Assurance: FWA00009066

Jun 13, 2023 1:57:18 PM EDT

PI: Karen Gross
CO-PI: Anthony Annunziato
The School of Education, Ed Admin & Instruc Leadership

Re: Expedited Review - Initial - **IRB-FY2023-364** *Transition Practices: Predictors for Postsecondary Outcomes for Students with Disabilities*

Dear Karen Gross:

The St John's University Institutional Review Board has rendered the decision below for *Transition Practices: Predictors for Postsecondary Outcomes for Students with Disabilities*. The approval is effective from June 13, 2023 through --.

Decision: Exempt

PLEASE NOTE: If you have collected any data prior to this approval date, the data must be discarded.

Selected Category: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Sincerely,

Raymond DiGiuseppe, PhD, ABPP
Chair, Institutional Review Board
Professor of Psychology

APPENDIX B DISTRICT DATA USAGE APPROVAL LETTER

To: XXXXXXXX
Superintendent of Schools
X XXXXX XXXXXX, XX XXXXX

From: XXXXX XXXXX
X XXXXX XXXXX
XXXXXXXX, XX XXXXX

To: XX XXXXXXXX
Superintendent of Schools
X XXXXX XXXXXX, XX XXXXX

From: XXXXX XXXXX
XXX XXXXX XXXXX
XXXXXXXX, XX XXXXX

Subject: St. John's University Doctoral Study in Instructional Leadership

Dear Mr. XXXXXXXXX,

As you know, I am a doctoral candidate in the Department of Administrative and Instructional Leadership at the Graduate School of Education, St. John's University, Queens, NY. I am conducting a quantitative study for my dissertation titled: Transition Practices: Predictors for Postsecondary Outcomes for Students with Disabilities. My mentor is Dr. Anthony Annunziato, Department of Administrative and Instructional Leadership, St. John's University.

I am writing to request the use of archived data collected by XXXXXXXXX High School between the 2018 – 2022 school years. The purpose of my non-experimental study will be to determine if gender, race/ethnicity, career and technical education (CTE) participation, diploma type, grade point average, and disability type significantly affect whether students participate in postsecondary employment or education. The archived data I wish to use for my study would include the students' demographic information from eSchool, ClearTrack Information Network, and self-reported postgraduation plans.

Little research has been done on the postsecondary outcomes of students with disabilities post-COVID. The research from this study can be used to inform current transition programs on best practices for improving existing systems and establishing new programming.

The data collected from the archives will be kept secure on a password-protected laptop in a locked cabinet for security. The data will remain confidential and no one other than myself will have access to it. The names of the students will be coded by only using their school ID numbers so that I can match their demographic information to their self-reported postgraduation plans. There will be no risk of harm as no mention will be made of the school's name or location or the names of the students in my doctoral dissertation. The school's and the student's privacy will be maintained.

If you have any questions or concerns about my study, or if you wish a report a research-related problem, you may contact me, Karen Gross, at 631-948-0906 or at Karen.gross21@my.stjohns.edu or my mentor, Dr. Anthony Annuziato, at annunzia@stjohns.edu. You may also contact the Institutional Review Board at St. John's University, Dr. Raymond DiGiuseppe, at 718-990-1955, or digiuser@stjohns.edu.

On behalf of the XXXXXXXXX High School, X XXXXX XXXXXX, XXXXXXXXX, XX XXXXX, I give Karen Gross permission to access archived data from students between 2018 – 2022.

_____ _____

(Printed Name) (Date)

_____

(Signature)

_____ _____

(Printed Name) (Date)

_____

(Signature of Doctoral Candidate)

Thank you in advance for your cooperation in allowing me to access the archived data for this study.

Sincerely,

Karen Gross

Doctoral Candidate,
Department of Administrative and Instructional Leadership
St. John's University
Queens, NY 11439

(Date)

_____
(Signature of Doctoral Candidate)

Thank you in advance for your cooperation in allowing me to access the archived data for this study.

Sincerely,

Karen Gross
Doctoral Candidate,
Department of Administrative and Instructional Leadership
St. John's University
Queens, NY 11439

REFERENCES

Adelman, H. S., Taylor, L., & Nelson, P. (2013). Native American students going to and staying in postsecondary education: An intervention perspective. *American Indian Culture and Research Journal, 37*(3), 29-56. Retrieved from http://smhp.psych.ucla.edu/pdfdocs/native/pdf.

Adkison-Bradley, C., Johnson, P. D., Rawls, G., & Plunkett, D. (2006). Overrepresentation of African American males in special education programs: Implications and advocacy strategies for school counselors. *Journal of School Counseling, 4*(16), 1-29. http://files.eric.ed.gov/fulltext/EJ901152

Alverson, C. Y., Unruh, D., Rowe, D. A., & Kellems, R. (2011). *Post-school data collection question bank.* http://pages.uoregon.edu/sset/links.html

American Psychological Association (2023). *Disability and socioeconomic status*. https://www.apa.org/pi/ses/resources/publications/disability

Anderson, I. I., Larson, S. A., & Wuorio, A. (2011*). 2010 FINDS National Survey Technical Report Part 1: Family Caregiver Survey—the* University of Minnesota, Research and Training Center on Community Living.

Anderson, K. A., Shattuck, P. T., Cooper, B. P., Roux, A. M., & Wagner, M. (2014). Prevalence and correlates of postsecondary residential status among young adults with an autism spectrum disorder. *Autism, 18,* 562-570. https://doi-org.jerome.stjohns.edu/10.1177/1362361313481860

Ankeny, E., Wilkins, J., & Spain, J. (2009). Mother's experiences of transition planning for their children with disabilities. *Exceptional Children, 41*(6), 28-36.

http://www.cec.sped.org/Content/NavigationMenu/Publications2/TEACHINGExceptionalChildren/default.htm

Archibald, M. M. (2016). Investigator triangulation: A collaborative strategy with the potential for mixed methods research. *Journal of Mixed Methods Research, 10*(3), 228–250. https://doi.org/10.1177/1558689815570092

Aud, S., Hussar, W., Kena, G., Bianco, K., Frohlich, L., Kemp, J., & Tahan, K. (2011). *The condition of education (NCES 2011-033).* Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Baer, R. M., Daviso III, A. W., Flexer, R. W., McMahan Queen, R., & Meindl, R. S. (2011). Students with intellectual disabilities: Predictors of transition outcomes. *Career Development for Exceptional Individuals, 34*(3) 132-141. DOI:10.1177/0885728811399090

Baer, R., Daviso, A., McMahan Queen, R., & Flexer, R. W. (2011). Disproportionality in transition services: A descriptive study. *Education and Training in Autism and Developmental Disabilities*, *46*(2) 172-185. https://www.jstor.org/stable/23879689

Baer, R. M., Flexer, R. W., Beck, S., Amstutz, N., Hoffman, L., Brothers, J., Zechman, C. (2003). A collaborative follow-up study on transition service utilization and post-school outcomes. *Career Development for Exceptional Individuals, 26*(1), 7–25.

Balfanz, R. (2009). Can the American high school become an avenue of advancement for all? *The Future of Children, 19,* 17–36. DOI: https://doi.org/10.1353/foc.0.0025

Barnard, W. M. (2004). Parent involvement in elementary school and educational attainment. *Children and Youth Services Review, 26*(1), 39-62. doi:10.1016/j.child youth.2003.11.002

Benitez, D., & Morningstar, M. E. (2009). *A multistate study of special education teachers' perceptions of their transition competencies.* Paper presented at the International Conference of the Division of Career Development and Transition, Albuquerque, N.M.

Benson, N. F., Maki, K. E., Floyd, R. G., Eckert, T. L., Kranzler, J. H., & Fefer, S. A. (2020). A national survey of school psychologists' practices in identifying specific learning disabilities. *School Psychology, 35,* 146–157. http://dx.doi.org/10.1037/spq0000344.

Benz, M. R., Lindstrom, L. & Yovanoff, P. (2000). Improving graduation and employment outcomes of students with disabilities: Predictive factors and student perceptions. *Exceptional Children, 66*(4), 509-529. https://jerome.stjohns.edu/login?url=https://www.proquest.com/scholarly-journals/improving-graduation-employment-outcomes-students/docview/201091313/se-2

Benz, M. R., Yovanoff, P., & Doren, B. (1997). School-to-work components that predict postschool success for students with and without disabilities. *Exceptional Children, 63,* 151-165.

Björkman Wade, D.K. (2014). *Development and validation of the transition coordinators survey* [Doctoral thesis, The University of Kansas]. https://kuscholarworks.ku.edu/bitstream/handle/1808/15144/BjorkmanWade_ku_0099D_13327_DATA_1.pdf;se

Blackorby, J., & Wagner, M. (1996). Longitudinal postschool outcomes of youth with disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children, 62,* 399-413. https://jerome.stjohns.edu/login?url=https://www.proquest.com/scholarly-journals/longitudinal-postschool-outcomes-youth-with/docview/201195511/se-2

Blakemore, E. (2019). Race and ethnicity: How are they different? *National Geographic.* https://www.nationalgeographic.com/culture/article/race-ethnicity

Bogdan, R. C., & Knopp Biklen, S. (2007). *Qualitative research for education: An introduction to theories and methods.* Pearson Education, Inc.

Bouck, E. C. (2004). Exploring secondary special education for mild mental impairment: A program in search of its place. *Remedial and Special Education, 25,* 367-382. https://doi.org/10.1177/07419325040250060401

Bouck, E. C. (2010). Reports of life skills training for students with intellectual disabilities in and out of school. *Journal of Intellectual Disability Research, 54,* 1098-1103. doi:10.1111/j1365-2788.2010.01399.x

Bouck, E. C., & Park, J. (2018). Exploring post-school outcomes across time out of school for students with autism spectrum disorder. *Educational and Training in Autism and Developmental Disabilities, 53*(3), 253-263.

https://jerome.stjohns.edu/login?url=https://www.proquest.com/scholarly-journals/exploring-post-school-outcomes-across-time-out/docview/2175248832/se-2

Bucholz, J. L., Brady, M. P., Duffy, M. L., Scott, J., & Kontosh, L. G. (2008). Using literacy-based behavioral interventions and social stories to improve work behavior in employees with developmental disabilities. *Education and Training in Developmental Disabilities, 43,* 486-501. http://www.dddcec.org/etmrddv/TOC/tblecontents.htm

Butterworth, J., Smith, F. A., Winsor, J., Timmons, J. C., Migliore, A., & Domin, (2015). *StateData: The national report on employment services and outcomes.* https://www.statedata.info/sites/statedata.info/files/files/statedatabook_2015percent20_Final.pdf

Camara, W. J., & Echternacht, G. (2000). *The SAT® I and high school grades: Utility in predicting success in college (Report No. CB-RN-10).* New York, NY: College Entrance Examination Board.

Capella, M. E., Roessler, R. T., & Hemmerla, K. M. (2002). Work-related skills awareness in high-school students with disabilities. *Journal of Applied Rehabilitation Counseling, 33,* 17-23. https://connect.springerpub.com/content/sgrjarc/33/2/17

Chakrabarti, R. (2014). Incentives and responses under no Child Left Behind: Credible threats and the role of competition. *Journal of Public Economics, 110*(C), 124-146. doi:10.1016/j.jpubeco.2013.08.005

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.

Connor, D. J. (2012). Actively navigating the transition into college: Narratives of students with learning disabilities, *International Journal of Qualitative Studies in Education*, *25*(8) 1005-1036. DOI: 10.1080/09518398.2011.590158.

Connors, E. Curtis, A., Wall Emerson, R., Benedict, D. (2014). Longitudinal analysis of factors associated with successful outcomes for transition-age youths with visual impairments. *Journal of Visual Impairment & Blindness*, *108*(2), 95-100. https://jerome.stjohns.edu/login?url=https://www.proquest.com/scholarly-journals/longitudinal-analysis-factors-associated-with/docview/1515253871/se-2

Cottrell, J. M., & Barrett, C. A. (2016). Defining the undefinable: Operationalization of methods to identify specific learning disabilities among practicing school psychologists. *Psychology in the Schools*, *53*, 143– 157. http://dx.doi.org/10.1002/pits.21892

Crane, E. W., Huang, M., Barrat, V. X., & Regional Educational Laboratory West. (2011). Comparing achievement trends in reading and math across Arizona public school student subgroups. *Regional Educational Laboratory West Technical Brief. 65.* REL 2012-No. 019. Retrieved from http://www.sciencedirect.com.proxy1.ncu.edu/science/article/pii/S0022440514 00084 3

Cresswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research.* Sage.

Daviso, A. W., Baer, R. M., Flexer, R. W., Meindl, R. (2016). Career and technical education, work study, & school supervised work: How do they impact employment for students with disabilities? *Journal of Applied Rehabilitation Counseling, 47*(2) 10-19. https://www.researchgate.net/publication/333762759_Career_and_Technical_Education_Work_Study_School_Supervised_Work_How_Do_They_Impact_Employmentor_Students_with_Disabilities

Devlieger, P. & Trach, J. (1999). Meditation as a transition process: The impact on postschool employment outcomes. *Exceptional children, 65,* 507-523. https://www.proquest.com/scholarly-journals/mediation-as-transition-process-impact-on/docview/201144560/se-2

Dewey, J. (1938). *Experience and education*. Macmillan.

Domin, D., & Butterworth, J. (2013). The role of community rehabilitation providers in employment for persons with intellectual and developmental disabilities: Results of the 2010-2011 national survey. *Intellectual and Developmental Disabilities, 51,* 215-225. doi:10.1352/1934-9556-51.4.215

Domin, D., Taylor, A. B., Papay, C. K., & Grigal, M. (2020). “It’s not just about a paycheck”: Perspectives on employment preparation of students with intellectual disability in federally funded higher education programs. *Intellectual and Developmental Disabilities, 58*(4), 328-347. https://doi-org.jerome.stjohns.edu/10.1352/1934-9556-58.4.328

Erickson, A. S. G., Noonan, P. M., Brussow, J. A., & Giplin, B. J. (2013). The impact of idea indicator 13 compliance on postsecondary outcomes. *Career Development and Transition for Exceptional Individuals.* doi:10.1177/2165143413481497.

Erickson, W., Lee, C., & von Schrader, S. (2014). 2012 disability status report, United States. *Ithaca, NY: Cornell University Employment and Disability Institute.*

Erickson, W., Lee, C., & Von Schrader, S. (2017). *Disability status report: United States.* Cornell University Yang-Tan Institute on Employment and Disability (YTI).

Erickson, W. A., Vanlooy, S., Von Schrader, S., & Bruyère, S. M. (2018). Disability, income, and rural poverty. In: Harley, D., Ysasi, N., Bishop, M., Fleming, A. (eds) *Disability and Vocational Rehabilitation in Rural Settings.* Springer, Cham. https://doi.org/10.1007/978-3-319-64786-9_

Fantuzzo, J., McWayne, C., Perry, M. A., & Childs, S. (2004). Multiple dimensions of family involvement and their relations to behavioral and learning competencies for urban, low-income children. *School Psychology Review, 33*(4), 467-480. https://www.proquest.com/scholarly-journals/multiple-dimensions-family-involvement-their/docview/219645403/se-2

Fletcher, J. M. (2012). Classification and identification of learning disabilities. In B. Wong & D. L. Butler (Eds.), *Learning about learning disabilities* (4th ed., pp. 1–25). Academic Press. http:// dx.doi.org/10.1016/B978-0-12-388409-1.00001-1

Flinders, D., & Thornton, S. (2013). *The curriculum studies reader*. (4th Ed.). Routledge.

Flynn, S., Duncan, K., & Jorgensen, M. (2012). An emergent phenomenon of American Indian postsecondary transition and retention. *Journal of Counseling & Development, 90*(4), 437-449. doi:10.1002/j.1556-6676.2012.00055.x

Fraenkel, J. R., Norman, E. W., & Hyun, H. H. (2012). *How to design and evaluate research in education.* McGraw Hill.

Gardenhire, A., Cerna, O., & Ivery, A. M. (2016). Boosting college success among men of color: Promising approaches and next steps, p 12. (ERIC Document Reproduction Service No. ED571136).

Goodman, J. I., Hazelkorn, M., Bucholz, J. L., Duffy, M. L., & Kitta, Y. (2011). Inclusion and graduation rates: What are the outcomes? *Journal of Disability Policy Studies, 21*(4), 241–252. DOI: https://doi-org.jerome.stjohns.edu/10.1177/1044207310394449

Graham, D. J., & Eadens, D. W. (2017). Native Americans with disabilities: Postsecondary education outcomes. *NCPEA Education Leadership Review of Doctoral Research, 4*, 50-68.

Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your "house". *Administrative Issues Journal: Connecting Educator, Practice, and Research, 4*(2) 12-26. DOI: 10.5929/2014.4.2.9

Greathouse, D. & Shaughnessy, F. (2010). Talking transition: An interview with an expert. *The Exceptional Parent. 40* (2) 37-39.

https://www.proquest.com/magazines/talking-transition-interview-with-expert/docview/504035809/se-2

Green, J. C., Cleary, D. S., & Cannella-Malone, H. I. (2017). A model for enhancing employment outcomes through postsecondary education. *Journal of Vocational Rehabilitation, 46*, 287– 291. https://doi.org/10.3233/JVR-170863

Guterman, B. R. (1995). The validity of categorical learning disabilities services: The consumer's view. *Exceptional Children, 62*,111-124. https://www.proquest.com/scholarly-journals/validity-categorical-learning-disabilities/docview/201222253/se-2

Haber, M. G., Mazzotti, V. L., Mustian, A. L., Rowe, D. A., Bartholomew, A. L., Test, D. W., & Fowler, C. H. (2016). What works, when, for whom, & with whom. A meta-analytic review of predictors of postsecondary success for students with disabilities. *Review of Educational Research,* 86(1), 123-162. https://doi.org/10.3102/0034654315583135

Hanley, J. A., Negassa, A., Edwardes, M. D. d., & Forrester, J. E. (2003). Statistical analysis of correlated data using generalized estimating equations: An orientation. *American Journal of Epidemiology*, *157*(4), 364-375. https://doi.org/10.1093/aje/kwf215

Hartman, M. A. (2009). Step by step: Creating a community-based transition program for students with intellectual disabilities. *TEACHING Exceptional Children, 41*(6), 6-11. http://www.cec.sped.org/Content/NavigationMenu/Publications2/TEACHINGExceptionalChildren/default.htm

Hayward, G. C., & Benson, C. S. (1993). The changing role of vocational-technical education in the United States, *CenterWork, 4*(2), 1-3. (ERIC Document Reproduction Service No. ED361527).

Hendricks, D. (2010). Employment and adults with autism spectrum disorders: Challenges and strategies for success. *Journal of Vocational Rehabilitation, 32*, 125-134. http://dx.doi.org/10.3233/JVR-2010-0502

Heron, L. M., Agarwal, R., Gonzalex, I., Li, T., Garcia, S., Maddux, M., Attong, N., & Burke, S. L. (2020). Understanding local barriers to inclusion for individuals with intellectual and developmental disabilities through an employment conference. *International Journal of Disability Management, 15*(1-6). Doi:10.1017/idm.2020.1

Hofferth, S. L., & Sandberg, J. F. (2001). How American children spend their time. *Journal of Marriage and Family, 63*(2), 295—308. https://www.ncfr.org/jmf

Horn, L., Berktold, J., & Bobbitt, L. (1999). *Students with disabilities in postsecondary education: A profile of preparation, participation, and outcomes (NCES 1999-187).* Washington, DC: U.S. Department of Education, National Center for Educational Statistics.

Houtenville, A. J., & Conway, K. S. (2008). Parental effort, school resources, and student achievement. *Journal of Human Resources, 43*(2), 437-453. doi:10.1353/ jhr.2008.0027

Individuals with Disabilities Education Act (2018) Sec. 300.8 Child with a disability. https://sites.ed.gove/idea/regs/b/a/300.8.

Individuals with Disabilities Education Improvement Act (2004). U.S.C. § 1401 *et seq*.

Ingels, S. J., Pratt, D. J., Herget, D. R., Burns, L. J., Dever, J. A., Ottem, R., Rogers, J., Jin, Y., LoGerfo, L. Leinwand, S. (2011). High school longitudinal study of 2009 (HSLS:09). Base-year Data File Documentation (NCES 2011-328). http://nces.ed.gov/pubsearch

Iwanaga, K., Rumrill, P., Roessler, R., Gala, B. R., Tansey, T. N., & Chan, F. (2020). Assessing readiness for employment in vocational rehabilitation: An abbreviated measure. *The Journal of Rehabilitation*, *86*(1), 12+. https://link.gale.com/apps/doc/A621689299/ITOF?u=nysl_li_scls&sid=bookmarkITOF&xid=7ac07135

Joshi, G. S., Bouck, E., & Maeda, Y. (2012). Exploring employment preparation and postschool outcomes for students with mild intellectual disability. *Career Development and Transition for Exceptional Individuals, 35*(2), 97-107. Doi:10.1177/0885728811433822

Karpinski, M. J., Neubert, D. A., & Graham, S. A. (1992). Follow along study of postsecondary outcomes for graduates and dropouts with mild disabilities in a rural setting. *Journal of Learning Disabilities, 25*(6), 376–385. https://doi.org/10.1177/002221949202500606

Katz, E., & DeRose, R. (2010). The ADA 20 years later: The 2010 survey of Americans with disabilities. *The Journal of Spinal Cord Medicine, 33*(4), 345. https://doi.org/10.1080/10790268.2010.11689711

Kaufman, P., Klein, S., & Frase, M. (1999). *Dropout rates in the United States: 1997.* Washington, DC: National Center for Educational Statistics. ED 431051

Kavale, K. A., & Spaulding, L. S. (2008). Is response to intervention good policy for specific learning disability? *Learning Disabilities Research & Practice, 23*, 169 –179. http://dx.doi.org/10.1111/j.1540-5826.2008 .00274.x

Kieffer, M. J., & Parker, C. E. (2017). Graduation outcomes of students who entered New York City public schools in grade 5 or 6 as English learner students (REL 2017–237). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from http://ies.ed.gov/ ncee/edlabs.

Kim, R., & Dymond, S. K. (2010). Special education teachers' perceptions of benefits, barriers, and components of community-based vocational instruction. *Intellectual and Developmental Disabilities, 48,* 313-329. Doi:10.1352/1934-9556-48.5.313.

Kingsbury, I. (2020). Perverse incentives, high cost and poor outcomes: Understanding and improving special education in New York. https://www.empirecenter.org/publications/perverse-incentives-high-costs-and-poor-outcomes/

Kirk, R. (1982). *Experimental design*, 2nd Edition. Brooks/Cole Publishing Company.

Kohler, P. D. (1996). *Taxonomy for transition programming: Linking research and practice.* University of Illinois at Urbana-Champaign, Transition Research Institute.

Kohler, P. D. (1998). Implementing a transition perspective in education: A comprehensive approach to planning and delivering secondary education and transition services. In F.R. Rusch & J.G. Chadsey (Eds.) *Beyond high school: Transition from school to work*, (pp. 179–205). Belmont, CA: Wadsworth Publishing.

Kohler, P. D., Gothberg, J. E., Fowler, C., & Coyle, J. (2016). *Taxonomy for transition programming 2.0: A model for planning, organizing, and evaluating transition education, services, and programs.* Western Michigan University. Available at www.transitionta.org.

Kohler, P. D., & Field, S. (2003). Transition-focused education: Foundation for the future. *The Journal of Special Education, 37*(3), 174-183. https://doi.org/10.1177/00224669030370030701

Kraus, L. (2017). 2016 *Disability Statistics Annual Report* (p. 48). Institute on Disability/UCED. https://disabilitycompendium.org/sites/default/files/user-uploads/2016_AnnualReport.pdf

Law Insider (2023). *Pupil postsecondary outcomes definition.* https://www.lawinsider.com/dictionary/pupil-postsecondary-outcomes

Lee, I. H., Rojewski, J. W., & Gregg, N. (2016) Causal effects of career-technical education on postsecondary work outcomes of individuals with high-incidence disabilities,

Exceptionality, 24(2), 79-92, DOI: 10.1080/09362835.2014.986608

Lindstrom, L., Kahn, L. G., & Lindsey, H. (2013). Navigating the early career years: Barriers and strategies for young adults with disabilities. *Journal of Vocational Rehabilitation, 39*(1), 1-12. https://doi.org/10.3233/JVR-130637

Lindstrom, L., Paskey, J., Dickinson, J., Doren, B., Zane, C., & Johson, P. (2007). Voices from the field: Recommended transition strategies for students and staff. *Journal for Vocational Special Needs Education, 29*(2), 4-15. https://r.search.yahoo.com/_ylt=AwrFEmdmMqNlquooTLBXNyoA;_ylu=Y29sbwNiZjEEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1705222886/RO=10/RU=https%3a%2f%2ffiles.eric.ed.gov%2ffulltext%2fEJ841375.pdf/RK=2/RS=0wAGIhAS7FlIot4gRusTGyLWBBA-

Lipscomb, S., Haimson, J., Liu, A. Y., Burghardt, J., Johnson, D. R., & Thurlow, M. L. (2017). Preparing for life after high school: The characteristics and experiences of youth in special education. Findings from the National Longitudinal Transition Study 2012. *2* Comparisons across disability groups: Full report (NCEE 2017–4018). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance

Lopez, E., Puddefoot, G., & Gandara, P. (2000). A coordinated approach to raising the socio-economic status of Latinos in California. *California Research Bureau.* (ERIC Document Reproduction Service No. ED448219).

Ma, J., Pender, M., & Welch, M. (2016). *Education pays 2016: The benefits of higher education for individuals and society.* College Board.

Maki, K. E., Barrett, C. A., Hajovsky, D. B., & Burns, M.K. (2020). An examination of the relationships between specific learning disabilities identification and growth rate, achievement, cognitive ability, and student demographic, *School Psychology, 35*(5) 343-352. http://dx.doi.org/10.1037/spq0000400

Mazzotti, V. L., Rowe, D.A., Cameto, R., Test, D.W., & Morningstar, M. E. (2013). Identifying and promoting transition evidence-based practices and predictors of success: A position paper of the Division on Career Development and Transition. *Career Development and Transition for Exceptional Individuals (3),* 140-149.

Mazzotti, V. L., Rowe, D. A., Kwiatek, S., Voggt, A., Chang, W-H., Fowler, C. H., Poppen, M., Sinclair, J., & Test, D. W. (2021). Secondary transition predictors of postschool success: An update to the research base. *Career Development and Transition for Exceptional Individuals*, *44*(1), 47-64. http://doi.org/10.1177/2165143420959793

Mazzotti, V. L., Rowe, D. A., Sinclair, J., Poppen, M., Woods, W. E., & Shearer, M. L. (2016). Predictors of post-school success: A systematic review of NLTS2 secondary analyses *Career Development and Transition for*

Exceptional Individuals, *39*(4), 196-215. https://doi.org/10.1177/2165143415588047

McConnell, A., Martin, J. E., Juan, C. Y., Hennessey, M. N., Terry, R., El-Kazimi, N., Pannells, C., & Willis, D. (2013). Identifying nonacademic behaviors associated with post-school employment and education. *Career Development and Transition for Exceptional Individuals, 36*(3), 174–187. https://doi-org.jerome.stjohns.edu/10.1177/2165143412468147

McConnell, A. E., Martin, J. E., Hennessey, M. N. (2015). Indicators of postsecondary employment and education for youth with disabilities in relation to GPA and general education. *Remedial and Special Education, 36*(6), 327-336. DOI:10.1177/0741932515583497

McDonnall, M. C. (2010). The employment and postsecondary educational status of transition-age youths with visual impairments. *Journal of Visual Impairment & Blindness, 104*, 298-303. https://www.proquest.com/scholarly-journals/employment-postsecondary-educational-status/docview/222024241/se-2

McDonnall, M. C., & Crudden, A. (2009). Factors Affecting the Successful Employment of Transition-Age Youths with Visual Impairments. *Journal of Visual Impairment & Blindness*, *103*(6), 329–341. https://doi-org.jerome.stjohns.edu/10.1177/0145482X0910300603

McFarland, J., Hussar, B., de Brey, C., Snyder, T., Wang, X., Wilkinson-Ficker, S., Gebrekristos, S., Zhang, J., Rathbun, A., Barmer, A., Bullock Mann, F., &

Hinz, S. (2017). *The condition of education 2017.* NCES 2017-144. National. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2023144rev

Mertens, D. M., & McLaughlin, J.A. (2004). *Research and evaluation methods in special education.* Corwin Press.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook.* Sage.

Miller-Warren, V. (2016). Parental insights on the effects of the secondary transition planning process on the postsecondary outcomes of graduates with disabilities. *Rural Special Education Quarterly, 35*(1), 31-36. https://www.proquest.com/scholarly-journals/parental-insights-on-effects-secondary-transition/docview/1776684248/se-2

Morningstar, M. E., Kim, K., & Clarke, G. M. (2008). Evaluating a transition personnel preparation program: Identifying transition of practitioners. *Teacher Education and Special Education, 31*(1), 47-58. https://doi-org.jerome.stjohns.edu/10.1177/088840640803100105

Murray, C., Kosty, D., Doren, B., Gau, J. M., Seeley, J. R. (2021). Patterns of early adult work and postsecondary participation among individuals with high-incidence disabilities: A longitudinal person-centered analysis. *Developmental Psychology 57(*4), 584-596. https://doi:10.1037/dev0001163

National Center for Education Statistics. (2018). *Children competencies and youth with disabilities*. http://nces.ed.gov/programs/coe/ indicator_cgg.asp

National Center for Education Statistics. (2018). Digest of educational statistics. https://nces.ed.gov/programs/digest/d18/

National Center for Education Statistics. (2022). *Public school expenditures. Condition of education.* U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/fastfacts/display.asp?id=66

National Center for Education Statistics. (2022). *Public high school graduation rates. Condition of education*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/programs/coe/indicator/coi.

National Center for Education Statistics. (2022). *Students with disabilities. Condition of education*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/programs/coe/indicator/cgg.

National Post-School Outcomes Center (2006). http://www.psocenter.org/index.html

National Secondary Transition Technical Assistance Center. (2010). *Evidence-based practices and predictors in secondary transition: What we know and what we still need to know*, NSTTAC.

National Secondary Transition Technical Assistance Center. (2019). *In-school predictors to post school outcomes.* file:///C:/Users/karen/Downloads/NTACT-In-School-Predictors-Post-School-Outcomes-Definitions.pdf

National Secondary Transition Technical Assistance Center (NSTTAC) (2013). *Predictor resources*. http://www.nsttac.org/content/predictor-resources.

National Technical Assistance Center on Transition. (2015). *NTACT criteria for levels of evidence*. https://bit.1y3gyA2Pq

National Technical Assistance Center on Transition. (2017). *Quality indicator checklist: Correlational studies*. http://bit.ly/3b8gAbd

National Technical Assistance Center on Transition. (2023). *Effective practices*. https://transitionta.org/topics/effective-practices/

National Transition Technical Assistance Center. (2021). *Predictors by Outcomes.* https://transitionta.org/wp-content/uploads/docs/Predictors-by-Outcome-Area_New2021_08-02.pdf

National Transition Network. (1997). *Transition requirements of IDEA.* (Policy update). U.S. Department of Education, Office of Special Education and Rehabilitative Services.

Naugle, K., & Campbell, T. A. (2010). Post-secondary transition model for students with disabilities. *Journal of School Counseling. 8*(4), 1-31. https://eric-ed-gov.jerome.stjohns.edu/?id=EJ914269

Neild, R. C., & Balfanz, R. (2006). *Unfulfilled promise: The dimensions and characteristics of Philadelphia's dropout crisis, 2000-2005*. Center for Social Organization of Schools, Johns Hopkins University.

New York City Department of Education. (2022). *Guide to transition planning for students with disabilities.* https://infohub.nyced.org/docs/default-source/default-document-library/guide-to-transition-planning.pdf

New York State Education Department (2014). *Skills and achievement commencement credentials for students with severe disabilities.* https://www.p12.nysed.gov/specialed/publications/SACCmemo.htm

New York State Education Department. (2016). *Students with Disabilities Regulations of the Commissioner of Education Part 200 and Part 201 Special Education.* http://www.p12nyesed.gov/specialed/lawregs/part200.htm.

New York State Education Department (2018). *Information and reporting.* https://data.nysed.gov/enrollment.php?year=2018&instid=800000037066

New York State Education Department. (2019). *Fiscal Accountability.* https://data.nysed.gov/fiscal.php?year=2019&instid=800000048663

New York State Education Department. (2020). *Diploma types*. http://www.nysed.gov/curriculum-instruction/diploma-types

New York State Education Department. (2022). *Information and reporting.* https://data.nysed.gov/enrollment.php?year=2022&instid=800000037066

New York State Education Department. (2023). *Career and technical education.* http://www.nysed.gov/career-technical-education

New York State Education Department. (2023). *Diploma Types.* http://www.nysed.gov/curriculum-instruction/diplomatypes#:~:text=All%20New%20York%20State%20students,Regents%20diploma%20with%20advanced%20designation.

Newman, L., Wagner, M., Cameto, R. & Knokey, A. M. (2009). *The post-high school outcomes of youth with disabilities up to 4 years after high school. A report of findings from the National Longitudinal Transition Study-2 (NLTS@) (NCSER 2009-3017).* SRI International. www.nlts2.org/reports/2009_04/nlts2_report_2009_04_completepdf

Newman, L., Wagner, M., Knokey, A. M., Marder, C., Nagler, K., Shaver, D., Wei, X., Cameto, R., Contreras, E., Ferguson, K., Greene, S., & Schwarting, M (2011). *The post-high school outcomes of young adults with disabilities up to eight years after high school: A report from the National Longitudinal*

Transition Study-2 (NLTS2) (NCSER 2011-3005). U.S. Department of Education. https://files.eric.ed.gov/fulltext/ED524044.pdf

Oettle, K, & Trach, J. (2007). Interagency collaboration: The importance of rehabilitation professionals' involvement in transition. *Journal of Rehabilitation, 73*(3), 36-44. https://www.researchgate.net/publication/290075614_Interagency_collaboration_The_importance_of_rehabilitation_professionals%27_involvement_in_transition

Ofoegbu, N. E., & Azarmsa, R. (2010). Impact of the special education vocational education program (VEP) on student career success. *International Journal of Special Education. 25*(2) 34-*46.* https://eric-ed gov.jerome.stjohns.edu/?id=EJ890583

Papay, C., Trivedi, K., Smith, F., & Grigal, M. (2017). *One year after exit: A first look at outcomes of students who completed TPSIDs.* Think College Fast Facts (Issue No. 17). University of Massachusetts Boston, Institute for Community Inclusion. https://thinkcollege. net/sites/default/files/files/resources/FF17_R. pdf

Park, J. H. (2008). Validation of Senge's learning organization model with teachers of vocational high schools at the Seoul megalopolis. *Asia Pacific Education Review, 9*(3), 270-284. https://files.eric.ed.gov/fulltext/EJ835200.pdf

Poppen, M., Lindstrom, L., Unruh, D., Khurana, A., & Bullis, M. (2017). Preparing youth with disabilities for employment: An analysis of vocational

rehabilitation case services data. *Journal of Vocational Rehabilitation, 46,* 209-224. https://doi.org/10.3233/JVR-160857

Powers, L. E., Turner, A., Westwood, D., Matuszewski, J., Wilson, R., & Phillips, A. (2001). Take charge for the future: A controlled field-tested of a model to promote student involvement in transition planning, *Career Development for Exceptional Individuals, 24,* 89-104. https://doi-org.jerome.stjohns.edu/10.1177/088572880102400107

Rabren, K., Dunn, C., & Chambers, D. (2002). Predictors of post-high school employment among young adults with disabilities. *Career Development for Exceptional Individuals, 25,* 25-40. https://doi-org.jerome.stjohns.edu/10.1177/088572880202500103

Rabren, K. Eaves, R. C., Dunn, C., & Darch, C. (2013). Students with Learning Disabilities' Satisfaction, Employment, and postsecondary education outcomes. *Journal of Education and Learning; 2*(2), 14-22. https://eric-ed-gov.jerome.stjohns.edu/?id=EJ1078333

Rea, P. J., McLaughlin, V. L., & Walther-Thomas, C. (2002). Outcomes for students with learning disabilities in inclusive and pullout programs. *Exceptional Children, 68*(2), 203–223. https://www.proquest.com/scholarly-journals/outcomes-students-with-learning-disabilities/docview/201226375/se-2

Rehabilitation Services Administration (2023). *National Technical Assistance on Transition.* https://rsa.ed.gov/about/programs/national-technical-assistance-center-on-transition

Rojewski, J. W., Lee, I. Hi., & Gregg, N. (2014). Intermediate work outcomes for adolescents with high-incidence disabilities. *Career Development and Transition for Exceptional Individuals, 37*(2), 106-118. https://doi.org/10.1177/2165143412473352

Rowe, D. A., Alverson, C. Y., Unruh, D. K., Fowler, C. H., Kellems, R., & Test, D. W. (2015). A Delphi study to operationalize evidence-based predictors in secondary transition. *Career Development and Transition for Exceptional Individuals, 38*(2), 113-126. https://doi.org/10.1177/2165143414526429

Rusch, F.R., & Chadsey, J.G. (1998). Beyond High School: Transition from School to Work. The Wadsworth Special Educator Series. Kohler, P. D. (1998). Implementing a transition perspective of education: A comprehensive approach to planning and delivering secondary education and transition services https://eric.ed.gov/?id=ED419133

Saldana, J. (2016). *The coding manual for qualitative researchers.* Sage.

Sanford, C., Newman, L., Wagner, M., Cameto, R., Knokey, A. M., & Shaver, D. (2011). *The post-high school outcomes of young adults with disabilities up to 6 years after high school: Key findings from the National Longitudinal Transition Study-2* (NLTS2) (NCSER 2011-3004). SRI International

Sanguiliano D. A., Welcome, S. Hissom, P, Hannah, B., & Lovero, N. (2019). Strong families and successful students: A qualitative study of families involved in a strength-based community program. *Journal of At-Risk, 22*(1) 19-27.

Sannicandro, T., Parish, S. L., Fournier, S., Mitra, M., & Paiewonsky, M. (2018). Employment, income, and SSI effects of postsecondary education for people with intellectual disability. *American Journal on Intellectual and Developmental Disabilities*, *123*(5), 412–425. doi.org/10.1352/1944-7558-123.5.412

Schmidt, J. J., & Akande, Y. (2011). Faculty perceptions of the first-generation student experience and programs at tribal colleges. *New Directions for Teaching & Learning*, *2011*(127), 41-54. doi:10.1002/tl.456

Schwartz, K., Mactavish, J., & Luttiyya, Z. M. (2006). Making community connections: Educator perspectives on transition planning for students with intellectual disabilities. *Exceptionality Education Canada*, *16,* 73-100. http://www.uofaweb.ualberta.ca/eec/nav02.cfm?nav02=60310&nav01=44206

Section 504 of the Rehabilitation Act (1973). 29 U.S.C. § 794 *et seq*.

Seidman, I. (1998). *Interviewing as qualitative research* (2nd ed). Teachers College Press.

Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization*. Penguin Random House LLC.

Senge, P. M., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., Kleiner, A. (2012). *Schools that learn: A fifth discipline fieldbook for educators, parents, and everyone who cares about education*. Random House, Inc.

Shattuck, P.T., Narendorf, S.C., Cooper, B. Sterzing, P. R., Wagner, M., & Taylor, J. I. (2012). Postsecondary educational and employment among youth with an autism spectrum disorder. *Pediatrics, 129*, 1042-1049.

Shifrer, D., Muller, C., & Callahan, R. (2011). Disproportionality and learning disabilities: Parsing apart race, socioeconomic status, and language. *Journal of Learning Disabilities, 44,* 246 –257. http://dx.doi.org/10.1177/0022219410374236

Shogren, K. A., & Plotner, A. J. (2012). Transition planning for students with intellectual disability, autism, or other disabilities: Data from the national longitudinal transition study-2. *Intellectual and Developmental Disabilities, 50,* 16-30. Doi:10.1352/19349556-50.1.16

Simonsen, M. L., & Neubert, D. A. (2013). Transitioning youth with intellectual and other developmental disabilities: Predicting community employment outcomes. *Career Development and Transition for Exceptional Individuals, 36,* 188-198. Doi:10.1177/2165143412469399

Smith, F., Grigal, M., & Papay, C. (2018). *Year one employment and career development experiences of college students attending Cohort 2-TPSID model demonstration programs.* University of Massachusetts Boston, Institute for Community Inclusion.

Smith, M. K. (2001). 'Peter Senge and the learning organization', the encyclopedia of informal education. www.infed.org/thinkers/senge.htm. Last update: December 28, 2007]

Southward, J. D., & Kyzar, K. (2017). Predictors of competitive employment for students with intellectual and/or developmental disabilities. *Education and Training in Autism and Developmental Disabilities, 52*(1), 26-37

StateData. (2018). *Population data from the American Community Survey (post 2007), any disability. U.S. total: Percent of working-age people who are employed*. Retrieved from http://www.statedata.info/data/showchart/506645

StateData. 2020. Retrieved from https://data.nysed.gov/profile.php?instid=800000037782

Sulewski, J. S., Hart, D., Domin, D., Grigal, M., Thelin, R., & Blackburn, N. (2021). Case studies of effective partnerships between institutions of higher education enrolling students with intellectual disability and/or autism and vocational rehabilitation agencies. *The Journal of Rehabilitation*, *87*(2), 73-84. https://link.gale.com/apps/doc/A675183457/EAIM?u=nysl_li_scls&sid=bookmark-EAIM&xid=d077769b

Sullivan, A. L., & Bal, A. (2013). Disproportionality in special education: Effects of individual and school variables on disability risk. *Exceptional Children*, *79*(4), 475494. Retrieved from http://www.cec.sped.org

Test, D. W., Aspel, N. P., & Everson, J. M. (2006). *Transition methods for youth with disabilities.* Pearson Education.

Test, D. W., Fowler, C. H., Richter, S. M., White, J., Mazzotti, V., & Walker, A. R. (2009). Evidence-based practices in secondary transition. *Career Development for Exceptional Individuals, 32*, 115-128. Doi:10.1177/0885728809336859

Test, D. W., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career*

Development for Exceptional Individuals, *32*(3), 160–181. https://doi-org.jerome.stjohns.edu/10.1177/0885728809346960

Test, D. W., Smith, L. E., & Carter, E. W. (2014). Equipping youth with autism spectrum disorders for adulthood: Promoting rigor, relevance, and relationships. *Remedial and Special Education*, 35 (2) 80-90. https://eric-ed-gov.jerome.stjohns.edu/?id=ED576197

The National Collaborative on Workforce & Disability for Youth and Workforce Strategy Center. (2009). *Career-focused services for students with disabilities at community colleges.* Washington, DC: Institute for Educational Leadership

Theobald, R. J., Goldhaber, D. D., Gratz, T. M., & Holden, K. L. (2019). Career and technical education, inclusion, and postsecondary outcomes for students with learning disabilities. *Journal of Learning Disabilities, 52* (2), 109-119. https://eric-ed-gov.jerome.stjohns.edu/?id=EJ1203625

U.S. Bureau of Labor Statistics. (2013). *Current population survey*. https://www.bls.gov/opub/mlr/2013/

U.S. Bureau of Labor Statistics. (2018). *A person with a disability: Labor force characteristics summary.* https://www.bls.gov/news.release/disabl.nr0.htm

U.S. Census Bureau. (2011). *American Fact Finder: Community facts.* Retrieved from https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.Xhtml. https://www.census.gov/data.html

U. S. Census Bureau. (2015). *American community survey: Disability characteristics.* https://www.census.gov/

U.S. Department of Education. (2009). *27th annual report to Congress on the implementation of the Individuals with Disabilities Education Act.* http://www.ed.gov/about/reports/annual/osep/2002/index.html

U.S. Department of Education. (2017). *Individual with Disabilities Education Act (IDEA): Sec. 300.320 Definition of individualized education program.* U.S. Department of Education. https://sites.ed.gov/idea/regs/b/d/300.320

U.S. Department of Education, (2018). Office of Special Education and Rehabilitative Services, Office of Special Education Programs, *40th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act,* 2018, Washington, D.C. https://files.eric.ed.gov/fulltext/ED594658.pdf

U.S. Department of Education. (2019). *Digest of education statistics: 2018. National Center for Education Statistics*. https://nces.ed.gov/programs/digest/d18/ https://sites.ed.gov/idea/regs/b/d/300.320

U.S. Department of Education Office of Postsecondary Education. (2014). *Transition and postsecondary programs for students with intellectual disabilities.* https://www2.ed.gov/programs/ tpsid/tpsid-2010-competition-faqs.pdf

U. S. Department of Justice Civil Rights Division. (2020). *Guide to disability rights laws.* https://www.ada.gov/resources/disability-rights-guide/

U. S. Department of Labor (2023). *Disability employment statistics.* https://www.dol.gov/agencies/odep/research-evaluation/statistics

Wagner, M., Kutash, K., Duchnowski, A. J., & Epstein, M. H. (2005). The special education elementary longitudinal study and the national longitudinal transition study: Study designs and implications for children and youth with emotional disturbance. *Journal of Emotional and Behavioral Disorders, 13*(1), 25-41. https://doi.org/10.1177/10634266050130010301

Wagner, M., Newman, L., Cameto, R., & Levine, P. (2005). *Changes over time in the early post-school outcomes of youth with disabilities. A report of findings from the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2).* SRI International. http://www.nlts2.org/reports/2005_06/nlts2_report_2005_06complete.pdf

Wagner, M., Newman, L., Cameto, R., & Marder, C. (2003). *Going to school. Instructional contexts, programs, and participation of secondary school students with disabilities. A report from the National Longitudinal Transition Study-2 (NLTS2).* SRI International. www.nlts2.org/reports/2003_12/nlts2_report_2003_12_complete.pdf

Wehman, P., Chan, F., Ditchman, N., & Kang, H. (2014). Effect of supported employment on vocational rehabilitation outcomes of transition-age youth with intellectual and developmental disabilities: A case control study. *Intellectual and Developmental Disabilities, 52,* 296-310. Doi:10.1352/1934-9556-52.4.296

Wehmeyer, M. L., Garner, N., Yeager, D., & Lawrence, M. (2006). Infusing self-determination into 18-21 services for students with intellectual or developmental disabilities: A multi-stage, multiple component model.

Education and Training in Developmental Disabilities, 41, 3-13. https://www-jstor.org.jerome.stjohns.edu/action/doBasicSearch?scope=eyJwYWdlTmFtZSI6ICJFZHVjYXRpb24gYW5kIFRyYWluaW5nIGluIERldmVsb3BtZW50YWwgRGlzYWJpbGl0aWVzIiwgInBhZ2VVcmwiOiAiL2pvdXJuYWwvZWR1Y3RyYWlkZXZlZGlzYSIsICJ0eXBlIjogImpvdXJuYWwiLCAiamNvZGVzIjogImVkdWN0cmFpYXV0aWRldmU6ZWR1Y3RyYWlkZXZlZGlzYTplZHVjdHJhaW1lbnQxOTk0OmVkdWN0cmFpbWVudDE5ODc6ZWR1Y3RyYWltZW50MTk2NiJ9&Query=Infusing+self-determination+into+18-21+services+for+students+with+intellectual+or+developmental+disabilities%3A+A+multi-stage%2C+multiple+component+model

Whittenburg, H. N., Cimera, R. E., & Thoma, C. A. (2019). Comparing employment outcomes of youth adults with autism: Does postsecondary educational experience matter? *Journal of postsecondary Education and Disability, 32,*159-172. https://eric-ed-gov.jerome.stjohns.edu/?id=EJ1228971

Whittenburg, H. N., Cimera, R. E., Willis, C. B., Taylor, J. P., & Thoma, C. A. (2020). Comparing employment outcomes for youth with learning disabilities and postsecondary educational experiences. *Journal of Vocational Rehabilitation, 52,* 303-315. Doi: 10.3233/JVR-201079

Will, M. (1984). *OSERS programming for the transition of youth with disabilities: Bridges from school to work life*. Office of Special Education and Rehabilitative Services.

Williams-Diehm, K. L., & Benz, M. R. (2008). Where are they now? Lessons from a single district follow-up study. *The Journal for Vocational Special Needs Education 30*(2), 4-15. https://eric-ed-gov.jerome.stjohns.edu/?id=EJ841384

Woolley, M., Gorgoran-Kaylor, A. (2006). Protective family factors in the context of neighborhood: Promoting positive school outcomes. *Family Relations, 55*(1), 93-104. https://www.ncfr.org/index.php/fr

Xu, T., Dempsey, I., & Foreman, P. (2016). Validating Kohler's taxonomy of transition programming for adolescents with intellectual disability in the Chinese context. *Research in Developmental Disabilities, 48,* 242-252. https://doi.org/10.1016/j.ridd.2015.11.013

Zhao, Y. (2016b). From deficiency to strength: Shifting the mindset about education inequality. *Journal of Social Issues*, 72(4), 720–739. https://web-p-ebscohost-com.jerome.stjohns.edu/ehost/detail/detail?vid=35&sid=162dcf6c-16dc-4435-927b-6917270e6b1d%40redis&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#AN=120232099&db=aph

RS115, DOI: 10.1080/00228958.2018.1481645b

Zirkel, P. A. (2021). Transition services under the IDEA: A legal overview and update. *Communique*, *50*(1), 12-13. https://link.gale.com/apps/doc/A672509848/AONE?u=nysl_li_scls&sid=bookmark-AONE&xid=3382093a

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