2022

# Factors Affecting On-Time Graduation for Students with Disabilities in Washington State

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A dissertation submitted in partial fulfillment of the requirements for the

degree of Doctor of Education at Seattle University

2022

## Abstract

High school graduation has long been recognized as an important turning point to young adulthood, opening up the doors for future vocational and economic activities. In Washington State, students with disabilities still drop out at rates that are significantly higher than their peers, hampering their ability to achieve this graduation milestone. The purpose of this study was to use a mixed-methods approach to investigate the personal and environmental barriers faced by these students. This study used data from the Washington State Post-School Outcomes survey, which surveys students with disabilities one year after leaving public education. This study examined three years' worth of data from 2017–2018, 2018–2019, and 2019–2020, and determined there were quantitative relationships between the high school dropout rates and the variables of gender, race/ethnicity, English Language Learner (ELL) status, and category of disability. This study examined the strength of the relationship and provided an analysis of variables. This study also used thematic analysis to explore qualitative data provided by students or parents on why they dropped out during this same three year period. The study results revealed eight themes: (a) personal and family, (b) moving and housing instability, (c) health challenges, (d) work and financial, (e) disengagement, (f) disability and the environment, (g) academic environment and (h) environmental exclusion. The study concluded with recommendations to educational leaders regarding social-emotional and counseling supports, inclusive environmental culture, and programmatic recommendations.


*Keywords:* disability, graduation rates, dropout rates, gender, race/ethnicity, English Language Learner (ELL), push factors, pull factors, inclusive environment, environmental exclusion

# Acknowledgments

My doctoral dissertation journey has been one of the most difficult and rewarding things I have ever done in my life. I dedicate this dissertation to my loving and supportive family. Mike, you are the best husband I could have ever asked for, you have unconditionally supported me personally and professionally over the years, I love you so much, and I truly do not know where I would be without you coming into my life. To my loving family, I thank each of you for the impact you have made on my life and the encouragement you have shown —Mom, Dad, Glen, Nate, Cassie, Nancy, Joe, Kelsey, Tenille, and all my grandparents and extended family. You mean the world to me; thank you for always being there. To my friends who give me support and listen when I need it, Heather, Rachel, Renee, and everyone I missed, thank you for listening and laughing with me; it was exactly what I needed.

Thank you to the Center for Change in Transition Services (CCTS) for allowing me access to this data set and for your valuable contributions and guidance. A special thank you to Elaine Marcinek for your help with the logistics of data access and navigating paperwork. An acknowledgment to Heartful Editors for your APA guidance and editing. Thank you to my amazing dissertation committee, Dr. Johnson and Dr. Taberski. Your insights, guidance, and support have been invaluable, and your critiques have only helped me grow as a scholar. Thank you to Dr. Taylor, my dissertation committee chair, a personal and professional champion over this long and arduous journey. You are an inspiring leader and an amazing mentor. I feel so lucky to know you.

# Dedication

This dissertation is dedicated to every one of my students. Each of you has a brilliant gift to offer the world, and I have been honored to be a small part of your journey. I wish you all the success in your future and cannot wait to see the ways that you will make the world a better place.

## Contents

List of Tables

List of Figures

# Chapter 1 Introduction

Today, in the United States, there is a significantly low employment rate for individuals with disabilities, revealing a lack of inclusion across the workforce and rendering an expanding necessity for education and training to boost societal engagement and opportunities for people with disabilities. In 2021, the Labor Force Characteristics Survey reported that 19.1% of individuals with a disability were employed, as opposed to a 63.7% employment rate for individuals without a disability (U.S. Bureau of Labor Statistics, 2021). This large gap reflects the low participation rate of individuals with disabilities in our workforce, which presents challenges beyond meeting the economic needs of these individuals. Employment provides psychological well-being, community integration, structured time, social contact, and a sense of purpose. A prerequisite to most gainful employment in the United States is a high school diploma. The 2021 U.S. Labor Force Characteristics survey reveals patterns across all educational attainment groups, confirming that unemployment rates for individuals with a disability were more elevated than for individuals without a disability. Individuals that did not have a high school diploma had particularly low rates of employment: 8% of individuals with disabilities versus 51.4% of individuals without disabilities (U.S. Bureau of Labor Statistics, 2021). These statistics show the importance of high school graduation, underscoring the challenges of employment and overall societal participation faced by individuals with disabilities who do not meet this milestone.

There has been extensive research on the economic benefits of high school education and the financial consequences of dropping out of high school. Educational scholars and governmental organizations have established a direct link between completing high school and higher lifetime earnings (Chapman et al., 2011; Crissey, 2009; Day & Newburger, 2002; Ewert, 2012). In addition, studies have shown that high school dropouts have poorer health outcomes, are more likely to be incarcerated, and are more likely to be unemployed or to rely on public assistance

(Belfield & Levin, 2007; Bloom, 2010; Erickson et al., 2007; Maynard et al., 2015; Snyder et al., 2018). Although graduation does not have a causal relationship with these outcomes, addressing dropout rates could reduce some adverse economic and social outcomes (Rumberger, 2015). Completing a high school diploma provides additional opportunities for postsecondary educational and employment endeavors while increasing independence and social mobility.

Early adulthood, the period of an individual's late teens to early 20s, is a transition and challenge as individuals start to navigate decisions regarding education, career, personal relationships, and establishing independence from parents (Settersten et al., 2005). This period is distinct from adolescence and full adulthood, and decisions made during this period have long-lasting effects for an individual's future (Arnett, 2002). Early adulthood is often marked by graduation from high school wherein the lack of a high school diploma will limit future educational and employment opportunities. Moreover, not having a high school diploma may affect social circles and future relationships, affecting the overall quality of life. Individuals with disabilities may face additional challenges in education, employment, independence, and community participation (Osgood et al., 2005). Educational institutions must support individuals with disabilities to earn a high school diploma and transition to early adulthood.

Educational leaders and scholars in the United States have long recognized high school graduation's economic and social benefits. School leaders at the national, state, and local levels have worked to create and prioritize programs that increase graduation rates (Heckman & LaFontaine, 2010). Additionally, schools have implemented both systemwide and targeted interventions to address increasing graduation rates for all students. These programs identify at-risk students by consistently tracking and monitoring these students, tracking course successes and failures, and monitoring attendance, absenteeism, and discipline data. Some programs provide at-risk students with the necessary academic and social support to succeed in high school. Despite

these interventions and programs, the graduation rates and engagement of students with disabilities after leaving public education remain behind those of their peers without disabilities. Educational leaders need to understand the factors that may contribute to dropout rates of students with disabilities in order to design and implement effective interventions to increase graduation rates for all students.

## Background

Federal law shapes the public education policies at the state level and presides over the participation and rights of individuals with disabilities. In Washington State, these laws impact the significant gaps in on-time graduation and high school dropout rates between students with disabilities and without disabilities. After implementing the 2015 Every Student Succeeds Act (ESSA), Washington State set a target of 90% on-time graduation for all students by 2027. Washington State's efforts to implement ESSA address the high dropout rate of students with disabilities, focusing on facilitating efforts of the state's educational leaders to meet ESSA goals. Indeed, Washington State's Office of the Superintendent of Public Instruction (OSPI) tracks graduation rates of all students in K–12 education and provides demographic information (i.e., race, ethnicity, gender) and reporting on the graduation rates of subgroups of students, notably students with disabilities.

Recognizing the unique challenges related to transition for students with disabilities after leaving K–12 education, OSPI's Special Education Department began funding the Center for Change in Transition Services (CCTS) in 2000. The CCTS (n.d.) is part of the State Needs Projects, which provide professional development, consultation, and assistance to educators, parents, and families. As part of these efforts, the CCTS conducts an annual Post-School Outcomes survey, collecting data from students with disabilities one year after leaving public education. This data set is accessible to educational leaders at the state and district level to inform

efforts to improve the education outcomes of students with disabilities. The CCTS Post-School Outcomes survey data set provides a picture of life after high school for survey respondents. Initial analysis of this data set has revealed employment and dependency differences between high school graduates and nongraduates. Thus, there remains a significant gap in student success in Washington State, indicating that students with disabilities remain at a disadvantage for graduation and work–life success post high school. Research presented in this dissertation addressed this gap by defining the roadblocks and events that impact the graduation success of students with disabilities.

**Increasing Graduation Rates**

At the federal level, the U.S. Department of Education has made attempts to ensure that every student across the country receives equal access to public education (Rubin & Silva, 2003). The first federal legislation to address gaps in educational access was the Elementary and Secondary Education Act (ESEA), which was passed by President Johnson in 1965. The ESEA Act provided federal funding for K–12 education, emphasizing equal access to education and decreasing achievement gaps between student subpopulations. It was reissued multiple times before being replaced in 2002 by President Bush's No Child Left Behind Act (NCLB). The NCLB Act highlighted the achievement gap of students related to race, income, home language, disability, and background, and attempted to improve educational access through assessment and increased accountability. NCLB held states accountable under federal law by requiring them to report graduation rates. This new accountability included defining targets for graduation rates for historically disadvantaged underrepresented groups and students qualifying for special education (Swanson, 2004). For students with disabilities, NCLB set requirements for inclusion in general education classroom settings, participation in state-mandated assessments for all students, and penalties for school districts that did not meet

specific Adequate Yearly Progress (AYP) goals. However, NCLB was controversial because it penalized schools that did not show improvement. Thus, it was later replaced by President Obama's 2009 Race to the Top initiative, which incentivized schools to improve outcomes, focusing on increased college readiness for students and developing teacher effectiveness to reach academic achievement goals (Race to the Top Act, 2013). In response, federal government initiatives have since created high standards, rigorous testing to track student growth, and programs to incentivize achievement. Nonetheless, student graduation rates vary significantly based on race/ethnicity, socioeconomic class, disability status, and other demographic factors.

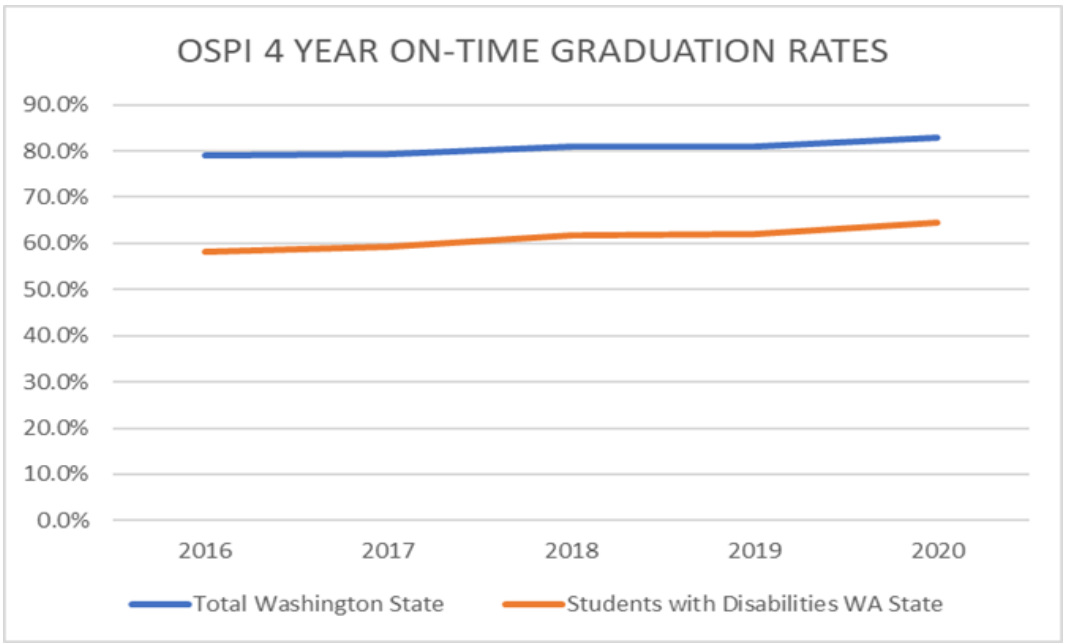
The federal government passed the ESSA in 2015, which was unique because it allowed individual states to create success metrics. The less prescriptive federal approach was also designed to give additional power to local education agencies (LEAs) and district leaders to develop solutions that meet the needs of their specific student populations. Educational policy experts speculate that dropout rates will level off or decline under ESSA as the federal government moves away from some of NCLB's prescriptive and inflexible mandates (Klein, 2016). ESSA highlights the evolving role of educational leadership and tasks school leaders with driving student outcomes. This flexibility allows for creativity in school improvement strategies and emphasizes school principals and administrative staff development to improve outcomes at the state and local levels. Although the impact of ESSA has yet to be thoroughly evaluated and quantified, graduation success rates for students with disabilities remain significantly lower than their peers without disabilities across high schools (Washington Office of Superintendent of Public Instruction, 2020).

## Graduation in Washington State

Washington State has made continuous progress toward increasing its graduation rates, reducing dropout rates, and providing students with expanded postsecondary opportunities. Washington State has made steady progress in improving the on-time 4-year adjusted graduation rates of students since ESSA was implemented, driving a nearly 5% increase in graduating students from 2016 through 2020. However positive this success, the OSPI Diversity Report showed significant discrepancies in graduation rates based on race/ethnicity and student characteristics including qualifying as an English Language Learner (ELL), lacking a fixed residence (foster care/experiencing homelessness), or having a qualifying disability. Over this same 5-year period (2016-2020), the on-time graduation rate for students with disabilities increased by 6% to 64.5%. Figure 1 shows an opportunity to improve the on-time graduation of students with disabilities to align with their peers.

**Figure 1**

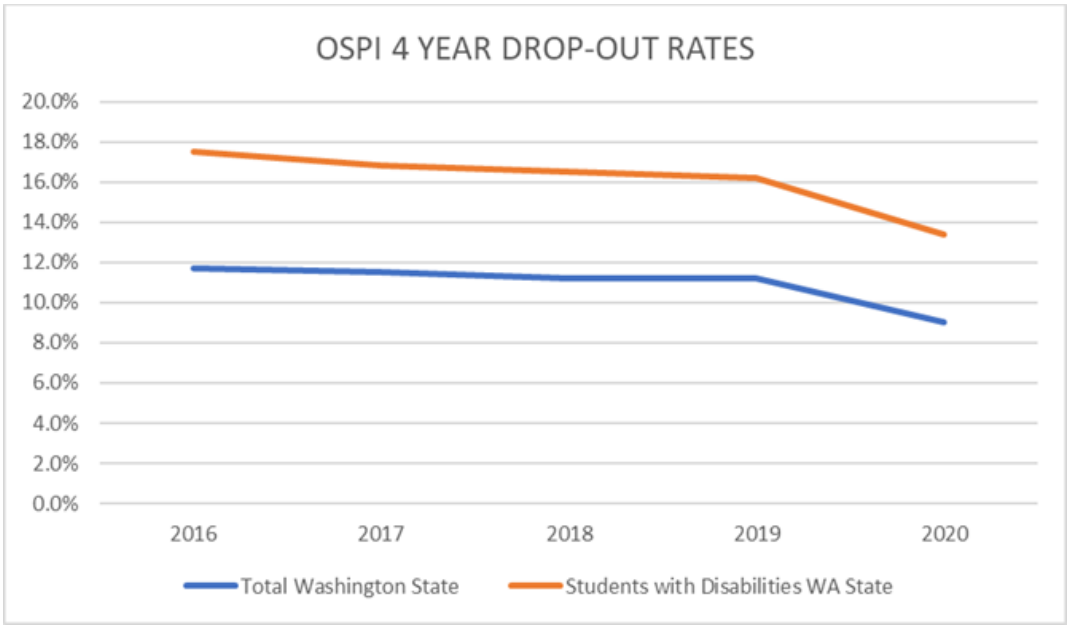
*OSPI 4-Year On-Time Graduation Rates*



In Washington and elsewhere, some students continue their high school education after dropping out or leaving high school, and others earn an alternate general education diploma (GED). Neither of these scenarios are captured in the on-time graduation statistics. A review of dropout rates revealed how many students left K–12 public education in Washington State. Although 4-year adjusted dropout rates have significantly declined between 2016 and 2020 from 11.7% to 9.0%, the dropout rate for students with disabilities remains consistently higher (17% to 13 %, respectively) than their peers without disabilities (see Figure 2).

**Figure 2**

*OSPI 4-Year Drop-Out Rates*




By addressing the barriers to on-time graduation for students with disabilities, educational leaders in Washington State will move closer to meeting their overall goals of increasing graduation rates. The OSPI data show an opportunity to increase the on-time graduation of

students with disabilities to align with their peers. To realize this opportunity, there is a considerable need to identify the root causes of high school dropout among students with disabilities and then implement solutions to increase graduation for all students. This dissertation directly addressed this need.

High school graduation requirements are determined at the state level. Washington State has set the following requirements for the class of 2022: (a) complete a High School and Beyond Plan, (b) complete a Washington State history course, (c) earn 24.0 academic credits, and (d) complete a graduation pathway. Before 2020, the graduation pathway also consisted of a standardized testing component. Washington State uses the Smarter Balanced Assessment Consortium (SBAC) for standardized testing, with alternatives presented for those that qualified for special education services such as the off-level SBAC, locally determined assessment (LDA) or Washington Access to Instruction and Measurement (WA-AIM) assessment.

In 2020, Washington State educational leaders recognized that standardized testing requirements were barriers to equitable access for students with disabilities. Before this point, there were two types of diplomas for students with disabilities who could not meet the traditional cut score on the SBAC assessment—the Certificate of Academic Achievement (CAA) and the Certificate of Individual Achievement (CIA). The CIA diploma qualified for graduation but was not seen as equivalent by some colleges and universities. Washington State passed House Bill 1599 in 2020 to address this inequity, allowing students to take an Alternate Pathway in place of meeting the standardized testing requirement. This legislation changed the standardized testing requirement to a new requirement to complete a graduation pathway. These pathways included options such as Career and Technical Education (CTE) course sequences, which are more equitable to students who struggle with standardized testing and can provide alternate ways to demonstrate their knowledge and skills while earning a traditional high school diploma.

In 2020 there were also changes to the 24.0 credit requirement for graduation. The Washington State graduating class of 2020 was impacted by the closure of schools during the Coronavirus infectious disease 2019 (COVID-19) global pandemic. In response to COVID-19, the Washington State Board of Education (SBE) issued an emergency waiver to the Class of 2020 that provided flexibility in meeting graduation requirements under the Expedited Assessment Appeal (EAA). The EAA allowed LEAs to waive the required credits for graduation. This legislation was continued to the Classes of 2021 and 2022 under the SBE Graduation Requirement Emergency Waiver (GREW) program. The GREW program applies to students who could not complete a graduation pathway or meet credit requirements due to the COVID-19 public health crisis. These credit waivers could only be used after high schools have made a "good faith effort" to help students meet requirements and demonstrate completion of the High School and Beyond Plan. The EAA and GREW legislation allowed students in Washington State to graduate without earning the mandated 24 credits.

**Graduation and Postsecondary Outcomes**

In addition to tracking graduation rates and statistics, Washington State contracts with the CCTS to provide additional support to educators, families, and students in their transition from K–12 public to postsecondary education. The CCTS Post-School Outcomes or "leavers" survey conducts follow-up questionnaires with students with disabilities who exit the K–12 education system one year later, regardless of whether they graduated. In addition to collecting demographic data, this vital survey includes data on work and school activities that occurred during that year after leaving high school. This data set captures five possible engagement outcomes: (a) higher education, (b) competitive employment, (c) other education, (d) other employment, and (e) no engagement. The 2019–2020 survey revealed that 30.1% of students with disabilities had "no engagement" in either educational or employment activities

one year after leaving high school. This data mirrored the national data from the U.S. Bureau of Labor Statistics on the low employment rates for individuals with disabilities. The CCTS data also highlighted the importance of high school graduation; 72.1% of students with disabilities who graduated high school participated in educational or employment activities, compared to 53.7% of students who dropped out of high school (CCTS, 2020). Almost half of all students with disabilities who dropped out were not participating in education or employment. This lack of engagement affects future economic activities, but it also impacts social growth and development and causes difficulties establishing independence in early adulthood.

In addition to descriptive quantitative data tracking outcomes, the CCTS Post-School Outcomes survey includes qualitative data that can be analyzed to identify why students with disabilities dropped out of high school. The survey asks those who dropped out to voluntarily share why they made that choice. A deep analysis of the CCTS data provided specific answers as to why students with disabilities are dropping out of high school. This dissertation focused on analyzing the CCTS data to reveal the reasons that students with disabilities dropout of high school, and recommends interventions to increase the graduation rates for these students.

## Problem Statement

This dissertation addressed the problem of students with disabilities in the United States, specifically those in Washington State, who have significantly increased high school dropout rates, and significantly lower on-time graduation rates than their peers without disabilities. There is a knowledge gap in understanding the causes of high school dropout among students with disabilities. Defining the causes of high school dropout and the overall low graduation rate directly addresses this knowledge gap. Research reported in this dissertation can inform educational leaders about the development of best practices and initiatives to directly improve high school

graduation outcomes among students with disabilities. For example, results of the 2019–2020 school year reported by NCES showed the national graduation rate for all students was 86%, but only 72% for students with disabilities (NCES, 2020). Although Washington State has consistently improved the on-time graduation rates for students, graduation rates are still lower for students with disabilities compared to students without disabilities. Research on the cause of this graduation rate gap can inform Washington State educational leaders on recommended interventions and revising educational practices to develop new initiatives to increase on-time graduation rates and lower dropout rates for students with disabilities. In order for these recommended interventions and initiatives to be implemented, educational leaders can leverage organizational development leadership theory to employ organizational learning and change management strategies to creating more inclusive school environments that support the diverse academic and social needs of all students.

## Purpose of the Study

This research defined the factors that influence students in Washington State with disabilities to drop out of high school through mixed-method analyses of quantitative data on demographic characteristics and qualitative survey data collected after students leave K–12 public education. The intent was to reveal demographic factors, categories of disability, ELL/limited English proficiency (LEP) qualification, and other components of identity associated with dropout rates, and to examine the experiences of these individuals using qualitative data. The mixed-methods approach was able to quantify graduation rates among specific groups and provide qualitative assessment and respondent reporting as to reasons that impacted their graduation outcome. The CCTS data set provided the foundation for this dissertation research.

## Research Questions

The following questions guided this mixed-method study:

**Research Question 1 (Quantitative)**

Among high school students with disabilities in Washington State, what is the relationship between gender and dropout rates?

H10: There is no relationship between gender and dropout rates.

H1A: There is a relationship between gender and dropout rates.

**Research Question 2 (Quantitative)**

Among high school students with disabilities in Washington State, what is the relationship between race/ethnicity and dropout rates?

H20: There is no relationship between race/ethnicity and dropout rates.

H2A: There is a relationship between race/ethnicity and dropout rates.

**Research Question 3 (Quantitative)**

Among high school students with disabilities in Washington State, what is the relationship between Limited English Proficiency (LEP) qualification and dropout rates?

H30: There is no relationship between LEP qualification and dropout rate.

H3A: There is a relationship between the LEP qualification and dropout rates.

**Research Question 4 (Quantitative)**

Among high school students with disabilities in Washington State, what is the relationship between the disability category and dropout rates?

H40: There is no relationship between the disability category and the dropout rate.

H4A: There is a relationship between the disability category and dropout rates.

**Research Question 5 (Qualitative)**

From the student or parent/guardian's perspective, what factors may lead a student with disabilities to drop out of high school?

## Significance of the Study

This dissertation provided additional research and extended the existing literature that has addressed increasing graduation rates and developing effective interventions for high school students with disabilities. Employment and engagement statistics for adults with disabilities illustrate the importance of high school graduation related to increased economic opportunities and social connections. Increasing graduation rates of students with disabilities is essential to facilitate a successful transition to early adulthood and promote independence and opportunities in education, career, and personal relationships (Settersten et al., 2005).

This study used a mixed-methods approach to determine the barriers preventing students with disabilities from graduating from high school. The literature suggested that intersectionality of identity is important to the experience of students with disabilities because the disability label and categorization of students may be an additional disadvantage in some environments (Annamma et al., 2018). This study built upon the existing literature on how race/ethnicity and gender relate to dropout rates of students with disabilities. Although demographic factors have been reported, few large-scale qualitative studies examined other factors that may contribute to a student's decision to drop out of high school. Exploring students' experiences using a mixed-methods approach offered insights to educational leaders, policymakers, and organizations and help inform interventions that can address the graduation gap of students with disabilities. This study also provided insights into future research directions and data collection efforts to help educational leaders address the barriers to students with disabilities from graduating high school.

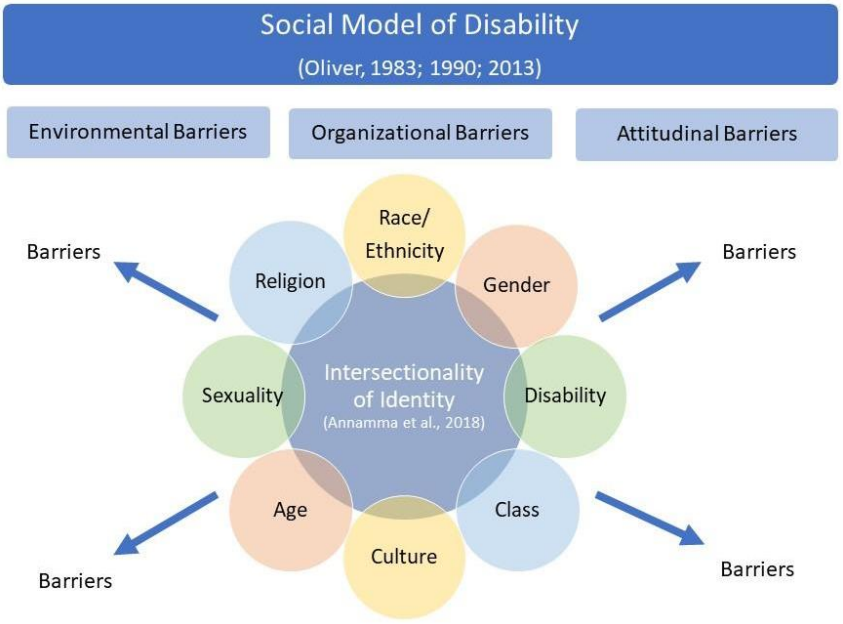
## Conceptual Framework

To examine why students with disabilities drop out of high school, this study used the conceptual frameworks of the social model of disability (Oliver, 1990, 2013; Oliver et al., 1983) and intersectionality of identity (Annamma et al., 2018; Crenshaw, 1991). The social model of

disability frames the environmental, organizational, and attitudinal barriers that prevent full access and inclusion for students with disabilities, examining problems with the structure of the system. This study also recognized that students with disabilities are individuals first and disability is just one component of identity. The mixed methods approach of this study embraced intersectionality. The intersectionality framework describes how identity is interconnected to features of social categorizations such as race, gender, disability, class, and other factors (see Figure 3). Intersectionality examines how these features can create multiple facets of disadvantage and barriers to accessing their education.

**Figure 3**

*Conceptual Frameworks Map*




## Social Model of Disability

The social model of disability states that disability is constructed by society, and results from how society has been organized (Oliver, 1990, 2013; Oliver et al., 1983). This model directly

responds to the medical model of disability that defines disability as an individual's impairments or differences from the societal norm. The medical model defines disability as a physical or mental condition that may impair an individual's quality of life and emphasizes the disadvantages of the disability. Although the medical model has largely been dismissed as outdated by educational scholars, it is still the primary way individuals with disabilities are qualified and categorized in the United States (Bunbury, 2019; Thomas et al., 1997). Currently, the medical model is also the basis for the legal protections afforded to individuals under the Americans with Disabilities Act (ADA) and Individuals with Disabilities Education Act (IDEA).

In contrast to the medical model, the social model of disability states that participation in society has little to do with the individual's abilities, but rather that societal constructs prevent full inclusion. The social model of disability concludes that disability is a social construct, and it is characterized by factors including the diagnosed impairment, the individual's response to that diagnosis, and the social environment. The social model of disability views disability as a social problem, and the solution as full integration of all individuals into society. These changes include attitude changes about disability, increasing social support, and universal design to create products, structures, and environments accessible to individuals with various abilities. Rather than focusing on the individual's specific attributes and disability, the social model questions the barriers to access and inclusion, such that a person is not limited by their condition but their environment. These barriers to access are caused by social organization based on nonexistent "norms." The social model describes specific barriers to accessibility, including organizational barriers, environmental barriers, communication barriers, and social and cultural barriers. This research study used the social model of disability by adding additional knowledge on the barriers that students with disabilities face in public high schools. The qualitative data allowed individuals

to express why they dropped out of high school, illuminating barriers that are not currently being gathered by tracking demographic statistics.

### Disability and Intersectionality

Crenshaw (1991) first defined intersectionality as the interrelated aspects of race and gender with her experience as a Black woman. Intersectionality researchers have since added other components of individual identity beyond race and gender to include social class, sexuality, religion, and other areas that may convey multiple factors of advantage and disadvantage. One of the critical components of intersectionality theory is for individuals to self-identify and choose what they share about themselves. Annamma et al. (2013) focused on the intersectionality of identity in relation to disability, adding to the social model ideology that disability is a social construct that labels and categorizes individuals by a perceived deficit. This may affect identity and self-worth. Annamma et al. (2013) suggested that students of color with disabilities are working against layers of barriers in the educational system. This study used this framework to explore the relationship between race, gender, disability category, and high school dropout rates. Other components of identity like social class were not available in the data set, but qualitative data analysis provided some insight into these different components of identity. A more complex understanding of the multiple types of barriers that students with disabilities experience may help address the problem of understanding why students with disabilities are dropping out at rates higher than their peers.

## Summary of Methodology

This study used data collected from the Washington State CCTS Postsecondary Outcomes Survey, which collects data on all students with an Individualized Education Program (IEP) one year after leaving public education. This study used a mixed-method approach to address the research questions. Quantitative research looked for a relationship between dropout rates and

demographic factors of race/ethnicity and gender. It also determined if there was a relationship between dropout rates and ELL/LEP qualification. Finally, it determined if there was a relationship between the category of disability and dropout rates. The CCTS survey also includes qualitative data asking students who dropped out of high school why they left before graduating. A qualitative thematic analysis looked for themes of why students with disabilities drop out of high school.

## Limitations and Delimitations

This section identifies the limitations and delimitations of the study.

### Limitations of the Study

This study was limited by the existing data set from the CCTS, which follows students with disabilities in Washington State. The researcher selected this data set because it addressed the research question; yet, generalizability was limited due to the data's scope.

The researcher examined three years of data from the graduating classes of 2018, 2019, and 2020. The period was selected as it aligned with when the CCTS started gathering qualitative data on why these students drop out of high school.

The qualitative data included survey responses from both parents and students. Parent responses may not accurately reflect students' voices or accurately capture why these students left high school. This study analyzed these responses separately to address this concern.

### Delimitations of the Study

The quantitative research was conducted as a correlational study to explore whether there was a relationship between dropout rates and demographic factors (i.e., race/ethnicity, gender), ELL/LEP qualification, and category of disability. A limitation of this correlational study was that an association between variables does not indicate a causal relationship. In addition, the data set only included access to specific demographic characteristics such as race/ethnicity and gender.

ELL/LEP qualification was reported in the CCTS database as either LEP or Non-LEP. The category of disability was selected as it relates to the research question on students with disability. However, other components of identity were not explored as they were not available in this data set. In particular, research has indicated a relationship between social class and dropping out of high school. Washington State data also showed a relationship between certain student characteristics such as those experiencing homelessness and higher dropout rates. However, this study was limited because that data was not available and could not be considered.

The qualitative study used thematic analysis to determine if there were common barriers experienced by students with disabilities that prevented them from graduating from high school. A delimitation of this qualitative study was using an existing survey that includes data from only one question. Thematic analysis is flexible, but this may lead to a lack of coherence in developing themes, and researchers cannot make claims on language use (Clarke et al., 2015). This further limited the validity and reliability of this study as it could not be replicated. However, the survey data are collected annually and could be analyzed for trends over time.

## Definitions of Terms

### Categories of Disability

Under IDEA (2004), there are 13 recognized categories of disability: autism, deaf-blindness, deafness, emotional behavioral disabilities, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury and visual impairment (including blindness).

### Four-Year Adjusted Cohort Dropout Rate

The State of Washington uses the 4-year adjusted cohort dropout rate. This rate is calculated by the number of students who dropout of high school without a diploma divided by the number of students who form the adjusted cohort for the graduating class.

### 4-Year Adjusted Cohort Graduation Rate

The State of Washington uses the 4-year adjusted cohort graduation rate. This rate is calculated by the number of students who graduate in 4 years with a regular high school diploma divided by the number of students who form the adjusted cohort for the graduating class.

### Gender

How a person self-identifies their gender, typically using he/him, she/her, or they/them pronouns, which may not align with the gender assigned at birth (Adams et al., 2016). The data used in this study were collected from the State of Washington and includes three variables for gender: male, female, and X (nonbinary or other).

### Intersectionality

Intersectionality was defined as the multiple overlapping identities of individuals and how their experience in systems of power conveys varying levels of advantage and disadvantage. The study population was high school students with disabilities, and intersectionality explored how their disability overlapped with other expressions of identity, including race/ethnicity and gender.

### LEP

The State of Washington tracks outcomes for students that are identified as multilingual English learners. These students have also been referenced as English Language Learner (ELL) in state policy. The CCTS reports on this population of students as LEP or Non-LEP.

### Race/Ethnicity

The biological construct of race and physical features has been challenged and replaced with the concept of a social-political construct (Beutler et al., 1996). Similarly, ethnicity related to nationality, ancestry, language, and culture can be viewed as a social construct. These social constructs may lead to common environmental, social, and behavioral factors in those that self-identify with those groups. The data used in this study were collected from the State of Washington, including seven variables for race/ethnicity: American Indian/Alaska Native, Asian, Black/African American, Hispanic/Latino, Native Hawaiian/Pacific Islander, Two or more races, and White.

### Students With Disabilities

This study defined students with disabilities as those that have an IEP and require SDI as defined by IDEA (2004). This study population is not inclusive of students with disabilities that qualify for protections under Section 504.

## Summary

This chapter focused on the problem of low graduation rates for individuals with disabilities and presented the background of the issue, problem statement, research questions, and significance of the problem. This chapter also introduced the conceptual frameworks guiding this study, including the intersectionality of identity (Annamma et al., 2018; Crenshaw, 1991) and the social model of disability (Oliver, 1990, 2013; Oliver et al., 1983). Chapter 2 contains a literature review of relevant studies on students' experiences with disabilities and factors of identity in the K–12 educational context.

# Chapter 2 Literature Review

Education serves many intellectual, social, civic, and economic purposes, and provides the foundation for an individual's development and transition into early adulthood. Completing a high school diploma is an essential step to postsecondary pursuits. A major goal but also a significant challenge for educational leaders is ensuring that all students graduate from high school. Educational leaders at the federal, state, and district levels have invested considerable resources in addressing this goal, including reporting on demographic factors and student characteristics, examining the potential causes of high school dropout, and investing in possible interventions against dropout while working to identify educational system solutions to facilitate high school graduation. Despite these intentional interventions and considerations, today students with disabilities do not graduate at the same rates as their peers without disabilities, and the reasons for this discrepancy remain poorly understood.

As noted in Chapter 1, extensive research has shown that dropping out of high school limits future educational and employment opportunities and has significant economic and personal consequences for the individual (Belfield & Levin, 2007; Bloom, 2010; Chapman et al., 2011; Crissey, 2009; Day & Newburger, 2002; Ewert, 2012; Erickson et al., 2007; Maynard et al., 2015; Snyder et al., 2018). Inaction or failure to address why students with disabilities drop out of high school will continue to contribute to the social inequalities these students endure. Moreover, educational leaders will not be able to meet overall on-time graduation targets if the status quo is maintained such that students with disabilities do not graduate at increasingly higher rates toward mirroring their peers without disabilities. Federal and state mandates require schools to publish demographic information and report on the graduation rates of student subpopulations. Although this descriptive quantitative data helps identify graduation patterns and population

trends, it does not address why an individual decides to drop out of high school, thus marking a need for research to reveal the cause and effect of high school dropout among students with disabilities.

Researchers have used large data sets to examine the correlation between graduation rates and race/ethnicity, social class, gender, English language learner (ELL)/limited English proficiency (LEP) qualification, and category of disability. However, it should be noted that correlation is not causation. Qualitative data can help address understanding the linkage of graduation rates with the multiple factors stated above by providing students' voices and identifying the barriers that prevent students with disabilities from graduating. To this end, this dissertation presents research based on Washington State's Center for Change in Transition Services Post-School Outcomes survey. The CCTS survey is unique in providing personal reporting of life activity and employment interactions a full year following high school. The scope of this study included data collected over three years from 26,982 respondents. Analysis of the CCTS data sets provided novel insights into defining the complex factors that contribute to students with disabilities leaving high school. Output from these analyses will facilitate policy consideration to modify education practice by State educational leaders. In addition, the CCTS data set was examined in a mixed-methods study design to reveal the factors impacting high school graduation among students with disabilities. The outcome of the mixed methods analyses will inform the design of specific interventions for transition planning and educational support in K–12 public schools.

## Background

This literature review examined the existing research on the barriers to graduation, following the conceptual framework outlined in Chapter 1, incorporating intersectionality of

identity (Annamma et al., 2018; Crenshaw, 1991) and social model of disability (Oliver, 1990, 2013; Oliver et al., 1983). The review was organized thematically to explore both barriers related to elements of individual identity and those associated with the educational environment. The review identified factors that both "push" and "pull" students away from their high schools, presenting these in the context of existing research.

Personal identity is complex and multifaceted. In addition to the demographic factors available to the researcher through the CCTS data set (i.e., race/ethnicity, gender, ELL/LEP qualification, and category of disability), this review searched the literature to reveal contemporary concepts on individual perceptions and experiences that correlate with an increased high school dropout rate. An individual's background, resources, attitudes, and environmental factors can influence a decision to drop out of high school. Researchers have discovered that socioeconomic factors, family, or health challenges may "pull" a student out of the educational environment, while personal protective factors, such as having a supportive family, are known to "push" students back toward school. Importantly, this literature review focuses on revealing the understanding of why students drop out of high school, and also searching for interventions that provide an understanding of why students stay or return to high school. Academic databases were searched to define the relationship between personal barriers and high school graduation.

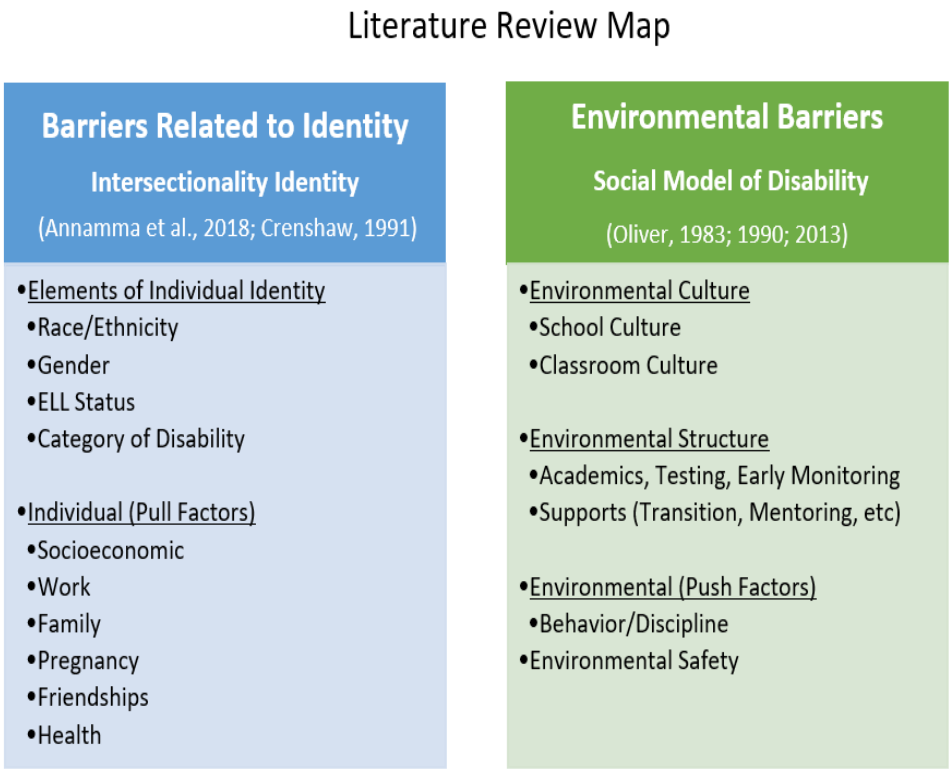
There are also environmental barriers that may prevent a student from graduating from high school on time. Similar to the push/pull description above, the environmental culture can be both a "push" or "pull" factor for students attending high schools (Doll et al., 2013). Environmental structure can also be push or pull, in that academics and school supports can either help a student succeed (i.e., pull) or be inadequate and lead to removal from the

environment (i.e., push). A review and description of environmental push factors (i.e., behavior and discipline, personal safety, and exclusion) known to increase the likelihood a student will drop out are presented below.

Figure 4 presents a literature review map that provides the framework for this chapter. This literature review focuses on informing the selected research methodology and defining the current knowledge of high school dropout rates for students with disabilities. This information will be informative in the design of effective interventions against high school dropout of students with disabilities.

**Figure 4**

*Literature Review Map*



## Student Engagement

For decades researchers have sought to address the costly individual and societal problem of why students drop out of high school. This problem is not limited to students with disabilities. Problematically however, students with disabilities consistently dropout at rates higher than their peers. In addressing this discrepancy Rumberger and Rotermund (2012) provided a conceptual model for high school performance indicators. The purpose of their model was to increase student engagement and the likelihood a student will graduate from high school. The model distinguishes between individual factors (i.e., background, attitudes, behaviors, and performance) and institutional factors (i.e., families, schools, and communities). Importantly, the model acknowledges that the decision of a student to leave high school is multifaceted, and that individual background and identity are related to the directionality outcome through how they are pushed or pulled and eventually dropout of the educational environment. A review of this and other models of high school dropout causality defined a variety of contextual factors that are associated with dropping out. Despite these models, no single attribute or environmental barrier has been identified as the reason students leave high school. In many instances, dropping out of high school is the culmination of a long process, such that indicators show a major need to implement early interventions against high school dropout.

## Considerations for Literature Review

Educational leaders have long recognized high school graduation as an essential indicator of school success and transition to early adulthood. Although more consistent reporting mechanisms were introduced with No Child Left Behind (NCLB) in 2002, challenges remain with aligning how dropout rates and on-time graduation rates are reported. Inconsistency of the definition of graduation or dropout is a challenge for comparing dropout rates across studies.

There are three common ways of reporting: (a) the 4-year dropout rate (ninth-grade cohort), (b) the 5-year dropout rate, or (c) through census and self-reporting mechanisms which include those how dropout of high school but go on to complete a degree equivalent through a General Education Development (GED) examination. Despite these inconsistencies in reporting, the trends outlined in this literature review demonstrated possible areas for future research.

## Barriers Related to Identity

A review of the literature explores the known research on high school graduation, dropout rates, and elements of identity. Individual identity is complex and multifaceted; however, exploring what is known about identity may provide insight into study findings and future research areas. Due to federal reporting requirements, a significant amount of data and research identifies trends related to race/ethnicity and gender. Studies have been conducted on the impact of ELL status on high school graduation. There are also many studies on the lower than average graduation rates of students with disabilities. Some of these studies look at the disability data in aggregate, and others break down the research by category of disability.

Although not specific to individuals with disabilities, researchers have explored the individual and personal factors that lead to dropping out. These include socioeconomic factors and the need to work, family concerns, pregnancy, friendships, and health. Examining the research on elements of identity and graduation rates fits into the intersectionality of identity research (Annamma et al., 2018; Crenshaw, 1991) outlined in the conceptual framework.

### Gender and Dropout Rates

The National Center for Education Statistics (NCES) publishes annual data on the dropout rates of high school students based on gender. Although dropout rates for both men and women have consistently declined since the 1970s, gender differences remain. NCES (2019)

reports from 2010 to 2019 showed male dropout rates decreased from 8.5% to 5.9% and female dropout rates decreased from 4.2% to 3.8%. Nonbinary gender data were not reported. Men continue to drop out at a higher rate, which has held consistently since 1977. Stark and Noel (2015) also tracked dropout rates by sex, showing males at 14.1% in 1972 versus 7.3% dropout in 2012, and females at 15.1% in 1972 versus 5.9% dropout in 2012, revealing that the dropout rate declined for both sexes significantly. However, today males dropout of high school at a higher rate than females.

These trends in graduation rates have been observed in multiple studies over time. Greene and Winters (2006) assessed gender linkage with high school dropout rates and found that men graduate at significantly lower rates than women. In 2003, the overall graduation rate was 70%, with 72% of women graduating in 4 years versus 65% of men graduating within the same time frame. Although gaps in graduation rates between genders remain, these gaps are not as pronounced as other factors linked to high school dropout, such as race and ethnicity. In addition, there are no large-scale quantitative studies on students that do not conform to binary gender identifications, with such data has only recently being reported in many states, including Washington State since 2018.

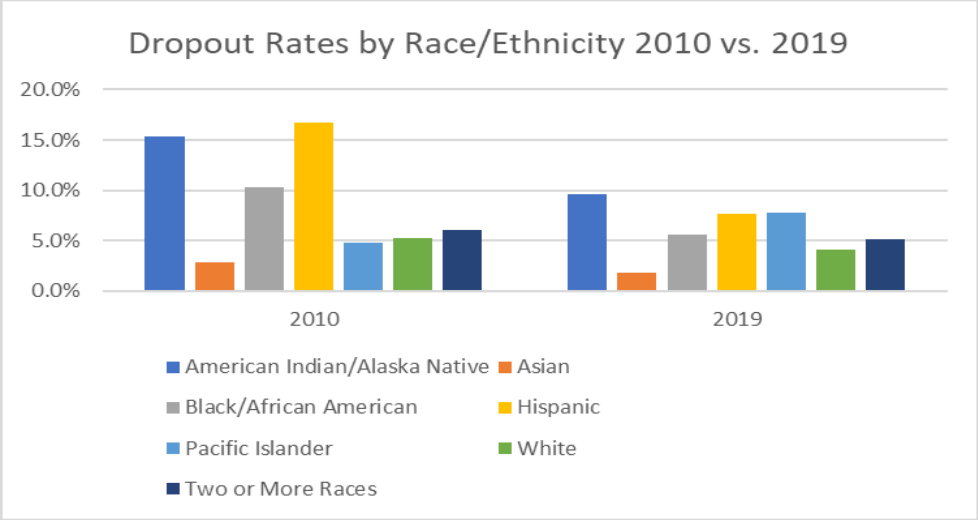
**Race/Ethnicity and Dropout Rates**

Numerous studies demonstrated consistent differences in graduation rates across race/ethnicity. Some studies have measured high school completion, either using the 4-year or 5-year adjusted cohort graduation rates. Others have used U.S. Census self-reporting, while some specifically focus on dropout rates overall. Studies completed before 2002 show some inconsistency in data and patterns, as many states did not report on demographic factors prior to NCLB, and researchers displayed multiple data set types independent of dropout rates, which

make the various studies difficult if not impossible to directly compare. However, it is quite clear that the literature showed significant differences in graduation rates between White students, African American students, Hispanic/Latino students, and American Indian/Alaska Native students (Chapman et al., 2011; Stetser & Stillwell, 2014; Stillwell et al., 2011). The NCES publishes annual data on the dropout rates of high school-aged students (i.e., 16–24) who are not enrolled in high school and have not earned a GED certificate. Although the overall dropout rate has decreased significantly from 2010 (8.3%) to 2019 (5.1%), the data clearly showed significant variation by race/ethnicity (NCES, 2019). NCES reported the following demographic differences from 2010 to 2019: Black/African American (10.3% to 5.6%), Hispanic (16.7 to 7.7%), American Indian/Alaska Native (15.4% to 9.6%), White (5.3% to 4.1%), Asian (2.8% to 1.8%), and two or more Races (6.1% to 5.1%). For Pacific Islanders, the dropout rate increased from 4.8% to 7.8%. Figure 5 shows the trends in the NCES data sets over time, demonstrating the continued progress in lowering dropout rates for most students. However, significant disparities remain based on race and ethnicity.

**Figure 5**

Dropout Rates by Race/Ethnicity



Multiple researchers have noted the trend of overall increased graduation rates and lower dropout rates over the past few decades. However, these studies reported lower than average graduation rates and higher than average dropout rates for students of certain races and ethnicities. Researchers have conducted extensive studies on the gaps between White, Black/African American, and Hispanic students (DePaoli et al., 2015; Greene & Winters, 2002, 2005; McFarland et al., 2016; Orfield et al., 2004; Stark & Noel, 2015). These studies assessed recent demographic data and examined historical trends dating back to 1972. DePaoli et al. (2015) used NCES data to determine gaps based on demographic category; in the 2012–2013 school year, the African American-White gap was 15.9%, and the Hispanic-White gap was 11.4%. Although most researchers have focused on the gap between White students and African American and Hispanic students, some researchers have noted high dropout rates among American Indian and Pacific Islander populations as a necessary target for interventions (Orfield et al., 2004; Swanson, 2004). The consistently higher dropout rates for specific categories of race/ethnicity are an important consideration for educational leaders as they work to build educational systems that are justly and serve the needs of all students.

### *Overrepresentation*

Research studies report graduation rates by demographic factors such as race/ethnicity and gender or by student characteristics such as whether students qualify for special education. In the 2019–2020 school year, the demographic breakdown of students served under the Individuals with Disabilities Education Act (IDEA) was: American Indian/Alaska Native (18%), Black/African American (17%), two or more races (15%), White (15%), Pacific Islander (11%) and Asian (7%) (NCES, 2020). Note though that these percentages are not proportional to the

overall population distribution of these students in U.S. high schools. Researchers have focused on understanding the reasons for the overrepresentation of students of color in special education. Ford (2012) reported the overrepresentation of African Americans (especially males), Hispanic students, and students qualifying as ELL in special education. Artiles et al. (2002) suggested examining structural and systemic barriers, instructional and assessment issues, representation of teaching staff, or socioeconomic challenges as a means to understanding why these groups are overrepresented in special education. Hosp and Reschly (2004) examined the specific economic predictors of academic achievement, found an association between socioeconomic status and dropout status. The study found that early intervention programs may help educational leaders change the school culture that causes the overrepresentation of certain demographic groups in special education.

**ELL Qualification and Graduation Rates**

Several researchers have noted the higher than average dropout rates of students qualifying as ELL at both the federal and state levels (Albers et al., 2009; Kim, 2011; Menken, 2010; Sheng et al., 2011; Subedi & Howard, 2013). In 2020 in Washington State, students qualifying as ELL had an on-time completion rate of 68.4% and a dropout rate of 16.8%, a significantly higher dropout rate than their peers (Washington Office of Superintendent of Public Instruction, 2020). Researchers have attempted to determine the cause of the high dropout rates and lower completion rates within the ELL group. Studies have examined the role of high stakes testing as a barrier to graduation and the extra challenge faced by ELL students (Kim, 2011; Menken, 2010; Sheng et al., 2011). Other research studies seek to determine the intersectional relationship between ELL status and socioeconomic barriers by examining differences between graduation rates of students in high poverty schools (Hernandez, 2011; Jiménez-Castellanos &

García, 2017; Subedi & Howard, 2013). Although these correlational studies cannot claim cause, examining some ELL learners' experiences may help explain the higher than average dropout rates. In addition, there may have been overqualification of students that are also ELL due to similar struggles in meeting literacy targets (Barrio, 2017; Ford, 2012). The collective literature suggested that ELL/LEP qualification may affect a student's ability to succeed in school, and that this outcome should be considered when educational leaders are creating dropout interventions.

**Students with Disabilities and Dropout Rates**

Students with disabilities graduate high school at rates that are significantly below their peers. For the 2019–2020 school year, NCES reported the national graduation rate for all students was 86%, but only 72% for students with disabilities (NCES, 2020). DePaoli et al. (2015) showed that although there are increasing graduation rates at the national level, the graduation gap between students qualifying for special education remains high at 19.5% versus general education students. One goal of the federal legislation NCLB was to improve graduation rates, including students who qualified for special education services. When NCLB was initiated, it was reported that only 57% of youth with disabilities graduated with regular diplomas during the 1998–1999 school year (Wirt & Livingston, 2001). Although this rate has grown considerably during the past 2 decades, there are still significant differences in graduation rates and dropout rates between students who have disabilities and those who do not. Dropping out of high school does not necessarily mean that a student will not return or earn a GED. Therefore, researchers have investigated whether students will return to earn a diploma or earn a GED after dropping out of high school (Schifter, 2011). This study demonstrated that eight years after entering high school only 72.4% of students with disabilities had graduated. Moreover, the

research indicated that students who dropout of high school are unlikely to return, compounding the economic and social consequences.

### *Background on Disability Education*

The United States has a history of students with disabilities being unable to fully access education, which in turn limits further educational and employment activities in adulthood. To ensure more equitable access, legislation at the federal level guides states and local education agencies (LEAs) regarding the rights of students with disabilities. Before the 1970s, students with disabilities were not guaranteed federal rights to an education and were often excluded from educational environments. The Elementary and Secondary Education Act (ESEA) was enacted in 1965 as the first federal education law to commit to equal opportunity for all students. ESEA was amended in 1994 to include national goals for postsecondary employment, reforms to public education, and outcomes-based accountability assessments. This legislation for students with disabilities was adopted in 1975 when Congress passed the Education for All Handicapped Children Act (EHA) to support states and local governments with rights protecting the needs of infants, toddlers, children, and youth with disabilities. EHA (1975) introduced free and appropriate education (FAPE) and outlined the provision of assistance to the LEA and how the LEA would be assessed for effectiveness. Before EHA, only one in five children with disabilities were attending public schools, and unfortunately it was legal to discriminate based on deafness, blindness, intellectual disability, or emotional challenges. This law left it to the States to identify disability, which was primarily done through the discrepancy approach, which outlines a discrepancy in a child's intellectual ability or behavior and success in school.

In 1990, EHA was amended and renamed IDEA (IDEA, 1990). IDEA promised FAPE from birth to 22 years and included preschool, early intervention incentives, and transition programming. IDEA was reauthorized in 2004, including changes to student discipline, evaluation, and procedural due process. IDEA outlines the different qualifications for disability and special education. Students with disabilities such as physical impairments that do not require specially designed instruction (SDI) to access their education are protected under Section 504 (Rehabilitation Act of 1973, Amendment S.3108, 1974). Under Section 504, they are legally entitled to accommodations to access their education and environment. Students that require SDI and require both accommodations and modifications to access their education qualify for special education and are protected under IDEA.

To qualify for special education under IDEA, students must have a documented disability and qualify for SDI. Under IDEA (2004), there are 13 categories of disability: autism, deaf-blindness, deafness, emotional behavioral disabilities (EBD), hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment (including blindness). To increase the accessibility of education, IDEA includes six main elements: (a) FAPE, (b) the Individualized Education Program (IEP), (c) Appropriate Evaluation, (d) Least Restrictive Environment, (e) Parent and Teacher Participation, and (f) Procedural Safeguards (IDEA, 2004). To facilitate successful postsecondary outcomes, IDEA mandates that all students with disabilities receive individualized transition planning services to develop functional skills for further education, employment, and community participation.

### *Disability Category*

Researchers have also evaluated the determination of specific disability categories and diagnoses in relation to graduation or dropout rates. The National Longitudinal Transition Study-2 (NTLS-2) was a longitudinal study to examine the experience and achievements of students receiving special education services as they transition from high school to early adulthood. The NTLS-2 included a nationally representative sample of 13 to 16-year-old individuals who received special education services in December 2000 and followed each until 2010. Data were collected via telephone interviews with students and parents, district assessments, and in-person interviews with students while in school, each supplemented by surveys of teachers and principals. Analyzing this data set, Wagner et al. (2007) noted significant differences in graduation rates based on disability: 95% graduation rate for students with visual impairment, 90% for hearing impairment, 75% for learning disability, 65% for multiple disabilities, and 56% graduation rate for students with emotional/behavioral disabilities.

These findings have also been verified at the state level. Smith et al. (2012) conducted a study in 12 southern states to determine if there were correlations between specific types of disabilities and graduation rates. They found that students with visual impairment, orthopedic, and speech-language challenges were most likely to receive a diploma, followed by those with learning disabilities and multiple disabilities, and students with EBD having the lowest graduation and highest dropout rates. Additional research into categories of disability will help inform educational leaders on targeting specific interventions to facilitate disability students overcoming obstacles to graduating high school.

## EBD

Special education researchers have noted a relationship between EBD diagnoses, high dropout rates, and poor postsecondary outcomes. Students with EBD diagnoses may struggle in the traditional high school environment. Wagner (1995) noted that the highest proportions of students with disabilities to drop out of high school were students with EBDs (50%). Goldstein (2003) also noted high school dropout rates for students with EBD are twice as high as other disabilities. Bakken and Obiakor (2008) discussed the overrepresentation of students with EBD in juvenile detention facilities, which are additional barriers to a student completing high school. Researchers have suggested that students with EBD would benefit from interventions that help them with social skills and transition planning to enable students to stay engaged in school.

## Individual Pull Factors

Researchers have demonstrated that multiple factors can pull a student out of high school, and it may be the culmination of years of disengagement resulting from personal challenges. Student engagement can be negatively influenced by economic needs, lack of support, and family or personal relationships and obligations. Although some researchers noted that personal challenges may be cumulative, there may also be a trigger event such as pregnancy or a health condition that is prioritized over continuing education, thus serving to pull a student out of high school. An examination of the research on these pull factors will inform leaders on what pulls students away from school so that strategies to mitigate can be put into place for retaining students in high school.

### *Socioeconomic Factors and Work*

Researchers have correlated poverty, lack of stable residence, and other socioeconomic concerns with high school dropout rates (Burrus & Roberts, 2012; DePaoli et al., 2015; Dieltiens

& Meny-Gibert, 2008). The federal government provides states with assistance through McKinney-Vento grants that support efforts to retain students at risk of high school dropout but does not track graduation or dropout rates for this student group at the national level. However, in Washington State, students experiencing homelessness dropped out at the rate of 24.7% in 2020 (Washington Office of Superintendent of Public Instruction, 2020). Similar patterns exist with other students that lacked a fixed and stable residence, including students in foster care with a dropout rate of 30.1% and migrant students with a dropout rate of 13.2%. Students experiencing insecurity and a lack of safety in their home environment are more likely to drop out of school. Rumberger (2015) also examined the factor of residential mobility (i.e., moving residences) and school mobility (i.e., changing schools) as common factors in dropping out. This mobility is often involuntary and may be a result of poverty or family stress, often related to absenteeism. In addition to disruptions to academic learning, mobility disrupts friendship networks and affects social capital (Rumberger, 2015). It was shown that when students experience stress at home, the lack of stability also affects social relationships at school, making it more likely the student will drop out.

Elbaum et al. (2014) linked graduation rates of students with disabilities to sociodemographic factors, including poverty rates in a district. The need to work or support a family has also been identified as a risk factor for dropping out of high school (Dalton et al., 2009; Doll et al., 2013; Rumberger & Lim, 2008), suggesting that that socioeconomic factors play a significant role in a student's ability to succeed in school. These economic factors should be considered when making State and local targets for graduation and designing and implementing specific interventions against high school dropout.

### *Family Concerns*

There has been a significant amount of research on the role of family as a reason for a student's decision to drop out of high school. Parental attitudes, behaviors, and support have all been shown to influence high school completion, increasing graduation rates if family support is present or increasing dropout rates if family support is missing (Rumberger & Rotermund, 2012). Attitudinal support is distinct from families that lack financial resources, the latter of which may be a pull factor away from school as students struggle to achieve equity with their peers whose families have greater resources. Many students also leave high school due to marriage, pregnancy, or the necessity of supporting a new child (Bradley & Renzulli, 2011; Doll et al., 2013; McDermott et al., 2019; Rotermund, 2007; Rumberger & Rotermund, 2012). The literature suggested that these students are unable to find success in the educational environment due to both the need for additional resources and an environment that does not account for the need for childcare. Although strong family support networks can serve as an educational push factor toward high school completion, challenges involving family relationships and dynamics can be a strong pull factor away from traditional high school.

### *Peer Relationships*

Studies have also examined the role of peer relationships in the decision to leave high school, examining engagement behaviors and attitudes (Rumberger & Rotermund, 2012). Students who are not engaged in school may not be experiencing the bonding and social engagement that serve as pull factors that retain students in high school. Students who find peers who also do not have a sense of belonging in school may act as pull factors away from school, acting as a form of peer pressure toward high school dropout (Doll et al., 2013). Doll et al.

(2013) also notes that in addition to friendships, students may be engaged in romantic relationships, which may act as a pull factor away from school.

### *Health Concerns*

Health concerns can be a major triggering event for dropping out of high school, although in some cases there may be early indicators for intervention. Health concerns are divided into three main categories: (a) medical conditions, (b) mental health, and (c) substance abuse (Doll et al., 2013; Vaughn et al., 2014). Medical conditions may require hospitalization or removal from the school environment. It is important to note that many individuals with disabilities often have documented health conditions, increasing the likelihood that they would experience a medical challenge in high school. Mental health has been a significant indicator of the likelihood that an individual will drop out of high school (Maynard et al., 2015; Vaughn et al., 2014). In addition to diagnosed psychological conditions such as anxiety and depression, there has been a significant increase in the last ten years in the number of students that report feeling these emotions, even without an official diagnosis. These emotional considerations can negatively affect how an individual handles stress and interacts with individuals in their environment, thus impacting the decision to leave high school. Finally, researchers have determined that substance abuse and addiction are highly important contemporary risk factors for dropping out of high school (Bradley & Renzulli, 2011; Doll et al., 2013; Maynard et al., 2015; Rumberger & Rotermund, 2012). Similar to mental health challenges, addiction can mean that an individual has trouble functioning in the high school environment. In addition, students struggling with addiction are more likely to be removed from the environment, either by self-determination or through suspension or expulsion. Health concerns may represent personal barriers, but they may also cause difficulties in allowing the individual to function effectively in their school environment.

## Barriers Related to Environment

This review of the literature also explored research on environmental barriers to high school graduation, including school and classroom culture, and environmental structures for both academic and social student support. The literature review examines environmental push factors that may lead to exclusion from the high school environment, including behavior, discipline, and concerns about environmental safety. Lagana-Riordan and Aguilar (2009) argued that NCLB has not achieved its stated mission to close the achievement gap for students with disabilities because it largely ignored environmental and social factors that contribute to that gap. Bradley and Renzulli (2011) noted that students who did not complete school should be categorized by whether they were "pushed out" or "pulled out," and the school environment may not be inclusive to all student populations. Focusing considerations on defining the environmental reasons that students drop out of high school will help educational leaders to tailor interventions to address the problem. Research on environmental barriers to graduation can be explored using the social model of disability (Oliver, 1990, 2013; Oliver et al., 1983) outlined in the conceptual framework.

### Environmental Culture

The high school environment goes beyond the physical setting to include both the educational approach and cultural environment. These can include positive school-based support such as culturally responsive teaching practices and fair disciplinary policies and procedures. Christle et al. (2007) argued that school dropout rates are a result of the school environment, wherein social demographics, discipline policies, classroom environment, and teaching staff demographics and characteristics can influence whether a student stays in school or drops out. They also argued that schools can provide protective factors to help mitigate the challenges

students face at home or in the community by building a positive and safe learning environment. Bridgeland et al. (2006) noted the decision to drop out of high school is not abrupt. There are patterns of academic and behavioral challenges that predict the likelihood that an individual may drop out. Some of the reasons given include “boring” classes, peer influence, and academic difficulties related to the school environment. As part of a review of the NTLS-2 survey data, Wagner et al. (2007) reviewed qualitative survey data from 2003 that asked students why they dropped out; most students said they disliked their school experience (36%) and had poor relationships with teachers or other students (17%). Educational leaders should identify areas that may lead to higher dropout rates and address these problems with appropriate interventions by considering academic and social support that a school provides, enabling them to create a more inclusive environmental culture that is designed to serve all students.

## Environmental Structure

Many students experience challenges with the structure of the academic environment in combination with the necessary support provided under their individualized education plan. In addition to academic challenges, students may struggle with standardized testing and/or lack access to the appropriate support of their IEP.

### *Academic Challenges*

Researchers have noted that students drop out of high school due to academic challenges either because of credit deficiency or struggles with standardized testing (Bradley & Renzulli, 2011; Doll et al., 2013; Rumberger & Rotermund, 2012). Students with a disability may be more likely to experience academic challenges in the classroom and with testing. Students may not have access to the appropriate and consistent implementation of the support outlined in their IEP. In addition, they may be less confident in their academic abilities. Researchers have found that

poor academic course performance is correlated with low confidence and increase dropout rates (Allensworth & Easton, 2005, 2007). Fan and Wolters (2014) assessed students' beliefs and attitudes about their academic abilities and whether or not these impacted whether they would drop out of high school. Their study examined data from the 2002 Educational Longitudinal Study, with an overall sample of 16,194 students. The researchers found a correlation between low beliefs in their academic abilities and an increased likelihood of a student dropping out of high school. Although this may seem like an obvious correlation, it allows educational leaders to monitor academic performance for early intervention and examine why students are failing courses. The outcome from these analyses could help inform either targeted interventions with the students or system-wide interventions if there are consistent patterns in a school environment.

### *Standardized Testing Requirements*

High-stakes testing was one of the most controversial pieces of NCLB. After NCLB was implemented, many students continued to be left behind, and high stakes testing was identified as the biggest challenge for students to meet graduation targets (Darling-Hammond, 2007; Guisbond & Neill, 2004). Katsiyannis et al. (2007) raised concern that individuals with disabilities often fare poorly on high stakes standardized testing, encouraging states to introduce alternate assessments. Although NCLB mandated standardized assessments, alternate assessments and off-grade level assessment decisions for graduation were primarily determined by states. Goldstein (2003) sought to determine if there was a relationship between graduation rates for students with disabilities and testing following the implementation of assessment under NCLB. He did not find a relationship but highlighted the issue that some students with disabilities may be able to take alternate testing and then earn alternate graduation credentials; though they are less likely to earn a standard diploma.

In addition, researchers have concluded that NCLB may have had some unintended consequences, and more students were referred for disability. As teachers felt the pressure to meet rigorous assessment targets, this may have resulted in over-referral to special education as compensation for struggling students (Dean, 2016; Waitoller et al., 2017). Since 2015, Every Student Succeeds Act has allowed States further discretion to alter standardized testing requirements or alternate graduation pathways, which could help increase the graduation rates of students with disabilities.

### *Early Monitoring*

Educational leaders at the federal, state, and local levels have implemented both systemwide and targeted interventions to address increasing graduation rates for all students. These programs include consistent monitoring of at-risk students, tracking course failures, tracking attendance and absenteeism, and monitoring discipline data to identify at-risk students (Heckman & LaFontaine, 2010). Attendance has been a major indicator of dropping out of high school (Alexander et al., 1997; Allensworth & Easton, 2005, 2007; Rumberger, 2011). Students that have poor attendance have trouble keeping up with academic coursework and may have to repeat a class or grade, which may decrease motivation. Poor attendance may also indicate challenges at home, making it more likely a student will drop out. Early dropout indicators include poor course performance, academic challenges, behavior problems, and inconsistent attendance. Education leaders can monitor these factors at the local level to determine effective interventions.

## Environmental Supports

Environmental support has shown to mitigate some of the challenges experienced by high school students with disabilities, including strong transitional planning programs and mentoring

initiatives. These programs help students build self-esteem, visualize future successes, and mitigate risk factors for dropping out of high school. Conversely, a lack of such support may make it more likely that a student will leave high school before graduation.

### *Transition Planning*

Under IDEA, transition planning is a legally mandated component of every IEP once the student has reached the age of 16. Transition services and planning helps students with disabilities achieve their personal and professional goals and successfully integrate into their communities (Bakken & Obiakor, 2008). Transition plans include an analysis of their strengths, interests, preferences, and needs, helping them create postsecondary educational, employment, and independent living goals. High school graduation is one of the most critical milestones for successfully meeting postsecondary transition goals.

In 2010, the National Longitudinal Transition Study-2 (NLTS-2) was completed, a 10-year mixed-methods longitudinal study, which examined students' experiences with special education services and postsecondary outcomes. As part of the study, the NLTS-2 investigated students' experiences qualifying for special education services as they transitioned from high school to postsecondary adult endeavors. This large-scale study included a sample size of over 12,000 from 500 districts, included all 12 categories of disability, and provided extensive information for educational scholars to analyze. This longitudinal study shows that transition planning as part of the IEP contributes to successful outcomes, including high school graduation. Successful transition plans include students' voices and help them link their long-term personal goals to the milestones needed to achieve those goals. In addition, robust transition plans including opportunities for building employment skills or engaging in internships can serve as another intervention to help prevent students from dropping out of high school.

### *Mentoring Programs*

Research studies have examined the importance of interventions such as mentoring that increase engagement and motivation in high school students. Hickman and Anderson (2019) conducted a study that used survey sampling of 34 individuals who dropped out of high school (27 female, 7 male) and had been paired with educational mentors. Although these students completed a diploma after dropping out, the insights of this qualitative study highlight some crucial aspects that may be incorporated into high school mentoring programs to decrease the likelihood that students drop out. A thematic analysis determined that communication, encouragement, motivation, understanding, and caring were related to completing high school (Hickman & Anderson, 2019). These themes and outcomes can help inform not just mentors, but educators and administrators on how to improve relationships with students at risk of dropping out. These same themes could be incorporated into positive behavioral supports and social-emotional lessons at the local level. They can be incorporated into teacher professional development programs to help create a more inclusive and supportive school environment with better education outcomes for all students.

## Environmental Push Factors

Students with behavioral challenges are often pushed from the school environment by discipline policies and increased rates of exclusionary discipline such as suspension and expulsion. Response to intervention (RTI) and positive behavioral supports are two tools educational leaders can use to help support students to stay in school. In addition, personal safety at school has been shown as a pull factor, pulling students out of school as they worry about bullying and physical aggression. Addressing push and pull factors in the environment can help more students stay in school and hopefully meet graduation targets.

### *Behavior and Discipline*

Behavioral challenges and high rates of suspension and discipline have been linked with higher dropout rates (Bradley & Renzulli, 2011; Rotermund, 2007; Rumberger, 2011). Ford (2012) argued that special education qualification is overrepresented in some populations, such as students with EBD, as teachers struggle to manage students with these behavioral challenges. Students with behavioral challenges may be "pushed out" of the school system, and discipline such as suspension means students are further removed from the academic environment and the opportunities for success. RTI emerged to address these issues in 2004, with the reauthorization of the IDEA. RTI was promoted in response to the problems of overqualification for special education and focuses on positive behavioral supports. RTI is a multitiered approach to teaching all students and designing interventions in the classroom to determine if students can be served in less restrictive environments (Bradley et al., 2007; Preston et al., 2016). RTI focuses on building behavioral support strategies in the classroom environment like positive behavioral interventions and support (PBIS) to determine social, emotional, and behavioral factors contributing to student challenges (Stephan et al., 2015). Building a successful RTI strategy focusing on PBIS may help mitigate some of the factors that are pushing students from their educational environment.

### *Environmental Safety*

Researchers have also noted that some students are pushed away from the school environment due to concerns for their personal safety (Doll et al., 2013; Maynard et al., 2015; Rumberger & Rotermund, 2012). In addition to physical personal safety, as noted above students have cited bullying and emotional distress from peers as reasons they left school. Although it is

important that schools do not exclude students with behavior challenges, supports also need to be in place to create safe and inclusive learning environments for all students.

## Summary

Examining the literature informed the research questions evaluated in this study. The literature review demonstrated that the research problem of high school students with disabilities who drop out at significantly higher rates than their peers is significant because the economic and social consequences of dropping out limit postsecondary opportunities. Research also showed there is a stark relationship between demographic characteristics of race/ethnicity and gender and dropping out of high school. ELL qualification has also been associated with a higher risk of dropping out. In addition to these demographic characteristics, certain categories of disability, especially students with EBD, have especially high dropout rates and poorer postsecondary outcomes. The literature also revealed many personal and environmental "push" and "pull" factors that may influence whether students drop out of high school or complete high school to graduation. This research identified early indicators for educational leaders to track to inform both localized and systemwide solutions in our public schools to facilitate high school graduation of students with disabilities.

The existing body of research justified the mixed-methods approach outlined in Chapter 3. A quantitative analysis is built upon the current knowledge related to the intersectionality of identity (Annamma et al., 2018; Crenshaw, 1991) on variables of race/ethnicity, gender, ELL/LEP qualification and category of disability in Washington State. A qualitative analysis of the survey data from these students provided insights for educational leaders into understanding why students with disabilities drop out of high school. As a result, leaders can now work to build stronger, more inclusive school environments corroborating the idea that barriers to high school

graduation may be addressed through the social model of disability (Oliver, 1990, 2013; Oliver et al., 1983). Synthesizing these items into a framework of outcomes allowed this study to reveal specific features of the social disability model that can be considered for understanding why students with disabilities in Washington State are not graduating at the same rates as their peers. Further, a study that examined both the personal and environmental barriers to high school graduation among students with disabilities identified a range of personal and environmental/cultural factors to consider as interventions to increase the likelihood that a student with disabilities will graduate high school.

# Chapter 3 Methodology

This study is focused on understanding why students with disabilities drop out of high school. The study used data from the Post-School Outcomes survey collected by the Center for Change in Transition Services (CCTS) for the graduation classes of 2018, 2019, and 2020. The data represent students with disabilities one year after leaving public education services. The data from the survey were analyzed based on attributes of race/ethnicity, gender, English language learner (ELL)/limited English proficiency (LEP) qualification, and category of disability. Additional analyses include use of descriptive statistics and correlational statistics to examine the specific correlations and significance of factors identified in the survey data to determine their linkage with high school dropout among students with disabilities.

## Quantitative Overview

This research study sought to determine if there was a relationship between dropout rates of students with disabilities in Washington State and the variables of race/ethnicity, gender, ELL/LEP qualification, and category of disability. The outcome of this research is expected to inform educational leaders sufficiently to implement mitigation strategies aimed at facilitating high school completion through graduation for students with disabilities in K–12 public schools. The CCTS Post-Outcomes Survey key variables are shown in Table 1.

**Table 1**

*CCTS Post-School Outcomes Survey of Students With Disabilities: Key Variables*

| Key variable | Key variable | Key variable | Key variable |
|---|---|---|---|
| American Indian/Alaska Native | Male | LEP | Autism |
| Asian | Female | Non-LEP | Communication |
| Black/African American | Gender X | | Deaf-Blindness |

| Key variable | Key variable | Key variable | Key variable |
|---|---|---|---|
| Caucasian/White | | | Deafness |
| Hispanic/Latino | | | Emotional/behavioral |
| Native Hawaiian/Pacific Islander | | | Hearing impairments |
| Two or more races | | | Intellectual disability |
| | | | Multiple disabilities |
| | | | Orthopedic impairment |
| | | | Other health impairments |
| | | | Specific learning disability |
| | | | Traumatic brain injury |
| | | | Visual impairments |

*Note*. Adapted from Center for Change in Transition Services, 2018, 2019 and 2020. https://www.seattleu.edu/ccts/

## Quantitative Research Questions and Hypotheses

The main hypotheses of this research are that race/ethnicity, gender, English language learner (ELL) status with LEP, and category of disability, each link alone or in combination with students with disabilities dropping out of high school. To investigate this hypotheses, the following research questions were addressed:

### *Research Question 1*

Among high school students with disabilities in Washington State, what is the relationship between gender and dropout rates?

H10: There is no relationship between gender and dropout rates.

H1A: There is a relationship between gender and dropout rates.

***Research Question 2***

Among high school students with disabilities in Washington State, what is the relationship between race/ethnicity and dropout rates?

H20: There is no relationship between race/ethnicity and dropout rates.

H2A: There is a relationship between race/ethnicity and dropout rates.

***Research Question 3***

Among high school students with disabilities in Washington State, what is the relationship between Limited English Proficiency (LEP) qualification and dropout rates?

H30: There is no relationship between LEP qualification and dropout rate.

H3A: There is a relationship between the LEP qualification and dropout rates.

***Research Question 4***

Among high school students with disabilities in Washington State, what is the relationship between the disability category and dropout rates?

H40: There is no relationship between the disability category and the dropout rate.

H4A: There is a relationship between the disability category and dropout rates.

**Quantitative Methods**

This study investigated the survey data generated from three cohorts of students with disabilities in Washington State who left public school education during the 2017–2018, 2018–2019, and 2019–2020 school years. The survey population size of all students with disabilities for the three years was 26,982 students (CCTS, n.d.). The survey data included demographic information and data on postsecondary activities in education, employment, or no engagement across either activity. First, descriptive statistics were included for each variable over the three years to identify whether there was a relationship between specific variables and dropout rates.

Second, a chi-square ($X^2$) test was conducted to determine whether there was a significant relationship between dropout rates and each nominal variable of gender, race/ethnicity, ELL/LEP qualification, and category of disability.

***Variables***

This section describes the outcome measures, and the independent variables used to predict outcomes.

The independent variables in the study were as follows:

- Gender: Male, Female, and Gender X;
- Race/Ethnicity: Native Hawaiian/Other Pacific Islander, American Indian/Alaskan Native, Black/African American, Asian, Hispanic/Latino, White, and Two or More Races;
- ELL/LEP Qualification: LEP or Non- LEP;
- Category of Disability (IDEA, 2004): autism, communication (speech or language), deaf-blindness, deafness, emotional behavioral disabilities, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, traumatic brain injury and visual impairment (including blindness).

The dependent variables in the study was:

- Dropout Status categorized as follows:

The CCTS data were structured by graduation year (i.e., 2018, 2019, and 2020) and included all the listed variables to analyze the research questions. The dependent variable was categorized as on-time graduation, dropout, or other, including students continuing education or enrolled in alternate programs.

### *Post-School Outcomes Survey Design*

The CCTS is an organization funded through the Office of the Superintendent of Public Instruction (OSPI) through the Individuals with Disabilities Education Act (IDEA) state-level discretionary funds. This survey aimed to increase positive engagement outcomes in education and employment and decrease nonengagement among individuals with disabilities. School districts and state agencies used this data for continuous programmatic improvement.

### *Participants*

The annual Post-School Outcomes survey included former Washington State students one year after they have permanently exited high school and received special education services (CCTS, n.d.). In addition to reporting demographic information such as race/ethnicity, gender, ELL/LEP qualification, and disability category, the survey included questions on work and school activities and engagement one year after exiting K–12 public education.

## Sampling Procedures and Data Collection

Through this partnership, the CCTS managed and coordinated the annual Post-School Outcomes survey, collaborating with local education agencies, collecting survey data on all individuals with disabilities that leave K–12 public education. The demographic data prepopulated from the Comprehensive Education Data and Research System (CEDARS) were from a longitudinal data warehouse of educational data maintained by the Washington State Office of the Superintendent of Public Instruction.

School district personnel conducted an annual phone survey to all Washington State former students or parents of students with disabilities one year after exiting to gather data for the survey. For the 2019–2020 school year, 9,173 surveys were attempted and 7,170 completed for a response rate of 78.2%. For the 2018–2019 school year, 8,908 surveys were attempted and

6,867 completed for a response rate of 77.1%. For the 2017–2018 school year, 8,901 surveys were attempted and 6,825 completed for a response rate of 76.7%. Descriptive statistics were published annually in a report to OSPI, with each report made publicly available. The data were reported in aggregate with access to unique student identifiers only for Institutional Review Board (IRB) exemption status. The study was approved through an existing IRB exemption, and OSPI Data- Share Agreement #2019ID-012 for Seattle University contract #20200091 (see Appendix A). IRB permission was also obtained to use this existing exemption, allowing the researcher to analyze and publish this data for dissertation research.

### *Survey Measures*

CCTS created the survey tool in partnership with OSPI. The researcher and the CCTS have an agreement to use the measurement survey tool for permission to publish this dissertation.

To determine whether there was a relationship between race/ethnicity, gender, ELL/LEP qualification, and category of disability, the researcher accessed the results of a questionnaire. The study's instrument was surveys completed by either students (i.e., the participants) or parents, guardians, or family members. The content validity was appropriate to the instrument as it measured the demographic factors, ELL/LEP qualification, and category of disability being studied. The external validity was limited to the population of students with disabilities. The reliability was confirmed by test-retest reliability, which demonstrated that the variables were consistently measured and evaluated over time.

## Data Analysis Plan

The research questions were evaluated via correlational testing against the null hypotheses on the relationships between the independent variables of gender, race/ethnicity,

ELL/LEP qualification, and category of disability with the dependent variable of dropout rates. This research used a chi-square test to determine if there was a statistical difference between the independent variables and dropout rates and the known overall mean of all of the students with disabilities that completed the survey. Chi-square was appropriate when all variables were nominal. To determine the strength of the relationship of the large sample size ($N$ = 26,982), the researcher conducted two additional inferential analyses, Cramer's V and contingency coefficient tests. Due to the large sample size ($N$ = 26,982), two analyses were used to measure the strength of this relationship of categorical variables. Cramer's V and the contingency coefficient testing were used to measure the effect size for the chi-square test of independence. The degrees of the relationship were categorized as very strong ( > 0.25), strong ( > 0.15), moderate ( > 0.10), small ( > 0.05), or minor ( < 0.05; Cramér, 1946). The researcher used accepted software and statistical tools to analyze and visualize the quantitative data, including SPSS and Excel. The results of the data analysis were compared against the research question before being incorporated into Chapter 4.

**Quantitative Summary**

The CCTS Post-School Outcomes survey analysis for the graduation years 2018, 2019, and 2020 used a quantitative approach to explore whether there was a relationship between high school dropout rates and race/ethnicity, gender, ELL/LEP qualification, and category of disability. The relationship between the independent variables and dropout was explored using descriptive statistics, as well as inferential analyses including chi-square, Cramer's V, and contingency coefficient testing. Results of this study are presented in Chapter 4, and discussion, conclusions, and recommendations are presented in Chapter 5.

## Qualitative Overview

This section presents the research design for a thematic analysis, which explored themes that may lead to an increased rate of dropping out of high school among students with disabilities. This section includes (a) approach, (b) research questions, (c) research design, (d) methods, (e) data collection, (f) data analysis, (g) ethical considerations, and (h) positionality of the researcher. The following question guided this part of the study:

### Research Question 5

From the student or parent/guardian's perspective, what factors may lead a student with disabilities to drop out of high school?

### Qualitative Approach

This study examined qualitative data from the Post-School Outcomes survey over 3 years (i.e., 2018, 2019, and 2020) to determine why students leave K–12 public education. To better understand the research question, a qualitative thematic research design was used to assess factor relationships that influence whether a student with disabilities will drop out before graduation. As a research design, thematic analysis involves identifying, analyzing, and interpreting themes in qualitative data. Thematic analysis is a qualitative data analysis method that involves examining the data set and identifying patterns in meaning across the data to derive themes linked to the experience of the researcher as a central role in meaning making from data. In this case the researcher is an experienced high school special education professional. This approach was appropriate as the data already existed, and no data collection instrument or survey was designed for this study. Thematic analysis explored the lived experience of participants and factors that shape particular phenomena. Thematic

analysis informed researcher interpretation through both explicit and implicit approaches and considerations.

## Context of the Study

As noted above, this study used existing data from the CCTS Post-School Outcomes survey, with the data set was pulled from three years of existing survey data (i.e., 2018, 2019, and 2020). All students with disabilities in the State of Washington were contacted to participate in this study. This survey was either completed by the student or by the student's parent, guardian, or family member. Data analysis included this distinction to distinguish student voice. The qualitative data being analyzed were only gathered from individuals that dropped out of school. All questions were optional to answer. All participants received informed consent and were advised of their rights not to participate. Existing IRB exemptions stated all information must be aggregated to protect participant confidentiality. The qualitative thematic analysis was done using coding so all individuals retained their anonymity. Quotations from individuals were anonymized to comply with IRB regulations.

## Study Participants and Data Sources

This study included existing survey data to determine if qualitative themes emerged from students with disabilities who drop out of high school. The researcher had no relationship with the participants or with data collection. Demographic information, ELL/LEP qualification, and category of disability of the survey population were included in the quantitative research section. However, this study did not claim any relationship between these variables and this research question.

### *Population and Sample*

The CCTS Post-School Outcomes survey was administered to all students with disabilities one year after leaving K–12 public education. The survey population size of all students with disabilities for the 3 years was 26,982 students (CCTS, n.d.). Of the students that completed the survey, 2,882 students were categorized as dropouts (CCTS, n.d.). These students were asked a qualitative follow-up question on why they did not finish high school, and a total of 2,344 survey respondents voluntarily answered the qualitative follow-up question.

### *Recruitment and Voluntary Response Sampling*

This study used voluntary response sampling. Participants were not recruited, and no incentives were offered. All students with disabilities who graduate were contacted to participate in the survey after one year of leaving high school. This survey was completed by either the student or the student's parent, guardian, or family member. Voluntary response samples were somewhat biased but the response rate was high, >76% overall, range 76.7-78.2 2018-2020. Among all those who complete the survey, students who dropped out may also have voluntarily responded to a qualitative question on reasons for leaving high school. The response rate for this questionnaire was 81.3% (2,344 of 2,882 respondents).

## Data Collection

The study was approved through the existing IRB exemption, and OSPI Data-Share Agreement #2019ID-012/Contract #20200091 (see Appendix A). The data set included one survey question which provided qualitative data on students who dropped out:

### *Survey Question 17+*

"Next, I'm going to ask you about your education experience since leaving high school. But before I do, I see you left high school before graduating. Are you willing to tell me why?"

The researcher was granted access to the data set by OSPI, and permission to use this data set for dissertation publication was approved by the IRB (see Appendix A).

## Data Analysis Plan

Data analyzed were descriptions of the high school experiences of individuals with disabilities for those that did not graduate. All responses were coded to remove identifying information to protect participants' confidentiality. The CCTS existing data set provided qualitative data on why students dropped out of high school. This study used thematic analysis to identify, analyze, and interpret patterns of meaning in the qualitative data set (Saldaña & Omasta, 2016). This study used inductive analysis to let the data determine the themes of coding, and data analysis was cyclical to go beyond the surface meanings of the data. This analysis used the six-step thematic analysis approach: (a) familiarization, (b) coding, (c) generating themes, (d) reviewing themes, (e) defining and naming themes, and (f) writing up the data (Clarke et al., 2015). After the data were coded, the codes were grouped by similarity to determine themes based on each grouping.

## Measures of Quality

The researcher's positionality, credibility, controls for bias, and delimitations were considered in conducting a qualitative thematic study that analyzed the lived experiences of individuals with disabilities.

### *Positionality*

The researcher is a White, cisgender, female who grew up in a lower socioeconomic status but was in a place of economic privilege when the research was conducted. This privilege allowed her to switch careers and follow her passion for K–12 education in Washington State. She taught students with disabilities and had a strong interest in increasing graduation rates of

individuals with disabilities and providing transition programming to increase opportunities for better postsecondary outcomes. Her positionality was considered as she conducted this research to create awareness of specific biases or opinions that may have affected the work of increasing graduation rates for students with disabilities.

### *Credibility*

The researcher acknowledged their positionality may have influenced data analysis (Maxwell, 2013). The data were existing, and population and sampling methods were established before this research study. In this qualitative analysis, coding allowed the researcher to consider bias and positionality. To increase the credibility of the research design, codes were reviewed by members of the committee and the CCTS. Triangulation was also used to analyze the results of this study by supplementing the quantitative approaches presented as part of this research process. This provided a more in-depth analysis of the research problem and the data analysis.

### *Controls for Bias*

The researcher was provided access to ethically gather the necessary qualitative data to answer the research question. Managing individual bias required balancing the researcher's beliefs, values, experiences, and perspectives (Patton, 2015). The researcher recognized the responsibility of remaining objective by removing personal experience and positionality. To increase the dependability of the coding process, frequent journaling was used and an audit trail was established. All data coding documentation was electronic and available for review by members of the dissertation committee and CCTS leadership to crosscheck themes.

### *Delimitations*

This study was limited to individuals with disabilities that did not graduate from high school in Washington State. The results of this qualitative analysis could have applied to

other contexts, or they could have been impacted by external environmental factors such as the COVID-19 global pandemic, which occurred during this period. Although this qualitative data could have provided themes for why these individuals drop out, it is not necessarily related to their disability status.

A further delimitation was that this survey could have been completed by students or parents, which may or may not have accurately reflected why a student dropped out of high school. To mitigate this limitation, survey results were analyzed separately based on whether the respondent was a student or parent.

**Qualitative Summary**

Chapter 3 includes the thematic qualitative research methodology used for this study. This chapter provides a comprehensive description of the purpose of the study, research questions, research design, research methods, data collection protocols, data analysis procedures, and ethical considerations. The methodology included thematic analysis of existing data sets with established sampling and data collection mechanisms. The transferability of the study was explored, and the role of the researcher was examined to determine bias concerns and mitigating strategies. In Chapter 4, findings from the thematic analysis of the CCTS Post-School Outcomes survey are presented.

# Chapter 4 Findings

## Quantitative Overview

This chapter presents the study results and provides answers to the quantitative research questions on the relationship between identity variables and dropout rates for high school students in Washington State, including: (a) gender, (b) race/ethnicity, (c) category of disability, and (d) English language learner (ELL)/limited English proficiency (LEP) status. The chapter provides an analysis of the participants of the Washington State Post-School Outcomes survey, which was conducted annually by school districts across Washington State. This chapter presents the results of the four research questions, includes descriptive statistics to summarize the data sets, and inferential statistics to test the hypotheses, and concludes with a chapter summary.

### Demographics of the Participants

There was a total of 26,982 students that completed the Center for Change in Transition Services (CCTS) Post-School Outcomes survey for the graduation cohorts from 2017–2018, 2018–2019, and 2019–2020. The survey data included representation of the four variables of gender, race/ethnicity, category of disability, and ELL/LEP status. The data populated from the Comprehensive Education Data and Research System (CEDARS) was a longitudinal warehouse of educational data maintained by the Washington State Office of the Superintendent of Public Instruction (OSPI).

The gender distribution for the three survey years is displayed in Table 2. Prior to the 2018–2019 school year, students were only identified by binary gender indicators. During the 2018–2019 school year "Gender X" was added. Washington State Law required that schools use a student's requested name and pronouns, however, official records in the OSPI CEDARS may still require a legal change or authorization from parents (Washington Office of Superintendent

of Public Instruction, n.d.). The percentages of students identified as Gender X may not have been representative of a student's chosen pronouns.

The data showed that across the three-year period, men were disproportionately represented in the special education survey population. During the 2019–2020 school year, OSPI reported the gender breakdown for the entire student population: male (50.96%), female, (48.85%), and gender X (0.19%). In contrast, the data showed the special education population was disproportionately male. The overrepresentation of males receiving special education services was noted in the literature review but was not further analyzed in this study beyond the research question.

**Table 2**

*Post-School Outcomes Survey Respondents by Gender*

| Gender | 2017–2018 | 2018–2019 | 2019–2020 | Period | % |
|---|---|---|---|---|---|
| Male | 5,740 | 5,735 | 5,916 | 17,391 | 64.5 |
| Female | 3,161 | 3,156 | 3,235 | 9,552 | 35.4 |
| Gender X | - | 17 | 22 | 39 | 0.1 |
| Total | 8,901 | 8,908 | 9,173 | 26,982 | 100 |

A breakdown of the participants according to race/ethnicity is presented in Table 3. The data showed the sample distribution across the 3 survey years: American Indian/Alaska Native (2.6%), Asian (3.1%), Black/African American (7.1%), Caucasian/White (54.5%), Hispanic/Latino (24.0%), Native Hawaiian/Pacific Islander (0.9%), and Two or More Races (7.5%).

**Table 3**

*Post-School Outcomes Survey Respondents by Race/Ethnicity*

| Race/ethnicity | 2017–2018 | 2018–2019 | 2019–2020 | Period | % |
|---|---|---|---|---|---|
| American Indian/Alaska Native | 229 | 207 | 265 | 701 | 2.6 |
| Asian | 269 | 257 | 312 | 838 | 3.1 |
| Black/African American | 625 | 624 | 664 | 1,913 | 7.1 |
| Caucasian/White | 4,993 | 4,875 | 4,844 | 14,712 | 54.5 |
| Hispanic/Latino | 2,021 | 2,163 | 2,296 | 6,480 | 24 |
| Native Hawaiian/Pacific Islander | 77 | 79 | 82 | 238 | 0.9 |
| Two or more races | 655 | 688 | 687 | 2,030 | 7.5 |
| Not provided | 32 | 15 | 23 | 70 | 0.3 |
| Total | 8,901 | 8,908 | 9,173 | 26,982 | 100 |

Table 4 provides a breakdown of the participants according to ELL/LEP status. The data showed that 12.4% of the sample qualify for ELL/LEP services.

**Table 4**

*Post-School Outcomes Survey Respondents by ELL/LEP Status*

| ELL/LEP status | 2017–2018 | 2018–2019 | 2019–2020 | Period | % |
|---|---|---|---|---|---|
| LEP | 1,064 | 1,052 | 1,232 | 3,348 | 12.4 |
| Non-LEP | 7,764 | 7,775 | 7,919 | 23,458 | 86.9 |
| Don’t know | 73 | 81 | 22 | 176 | 0.7 |
| Total | 8,901 | 8,908 | 9,173 | 26,982 | 100 |

A breakdown of the participants according to category of disability is presented in Table 5. The data showed the sample distribution across the three survey years in relation to the 13 qualifying categories of disability under IDEA (2004) including: autism, communication (speech or language), deaf-blindness, deafness, emotional behavioral disabilities (EBD), hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment (OHI), specific learning disability (SDL), traumatic brain injury and visual impairment (including blindness). The sample distribution of the data demonstrated that the majority of students were served in six categories: SDL (46.7%), OHI (27.2%), autism (9.2%), EBD (5.6%), intellectual disability (5.1%), and multiple disabilities (2.9%). Other categories of disability represented 1% or less of the total sample.

**Table 5**

*Post-School Outcomes Survey Respondents by Category of Disability*

| Category of disability | 2017–2018 | 2018–2019 | 2019–2020 | Period | % |
|---|---|---|---|---|---|
| Autism | 732 | 841 | 920 | 2,493 | 9.2 |
| Communication | 74 | 125 | 65 | 264 | 1 |
| Deaf-Blindness | 2 | 2 | 1 | 5 | 0 |
| Deafness | 23 | 2 | 7 | 32 | 0.1 |
| EBD | 517 | 479 | 525 | 1,521 | 5.6 |
| Hearing impairments | 57 | 61 | 72 | 190 | 0.7 |
| Intellectual disability | 435 | 491 | 454 | 1,380 | 5.1 |
| Multiple disabilities | 240 | 272 | 280 | 792 | 2.9 |
| Orthopedic impairment | 15 | 15 | 12 | 42 | 0.2 |
| OHI | 2,399 | 2,447 | 2,498 | 7,344 | 27.2 |
| SDL | 4,214 | 4,112 | 4,277 | 12,603 | 46.7 |

| Category of disability | 2017–2018 | 2018–2019 | 2019–2020 | Period | % |
|---|---|---|---|---|---|
| Traumatic brain injury | 49 | 45 | 32 | 126 | 0.5 |
| Visual impairments | 28 | 16 | 30 | 74 | 0.3 |
| Not reported | 116 | - | - | 116 | 0.5 |
| Total | 8,901 | 8,908 | 9,173 | 26,982 | 100 |

This study used the aggregated data from the four variables of gender, race/ethnicity, category of disability, and ELL/LEP status to explore the four research questions and their associated hypotheses.

**Research Question 1**

Among high school students with disabilities in Washington State, what is the relationship between gender and dropout rates?

The first research question sought to determine if a student's gender had a relationship with dropout rates. The aggregate data from the three years showed a total of 5,070 of 26,982 students with disabilities dropped out of high school (18.8%). Among students that dropped out 12.9% were male, 5.9% were female, and less than 0.1% identified as gender X. Although the total percentage of males that dropped out was significantly higher, males were also overrepresented in the population.

To assess the validity of the null hypothesis, that there was no relationship between gender and dropout rates, a chi-square analysis was conducted on the nominal variables.

$H1_0$: There is no relationship between gender and dropout rates.

$H1_A$: There is a relationship between gender and dropout rates.

The chi-square analysis revealed there was a relationship between gender and dropout rates at an alpha less than 0.0001. The null hypothesis can be rejected because there was a

relationship between gender and dropout rates. Due to the large sample size ($N$ = 26,982), two analyses were used to determine the strength of this relationship. Cramer's V and the contingency coefficient were used to measure the effect size for the chi-square test of independence. These measured the degree to which the two categorical variables were associated. The degrees of the relationship were categorized as very strong ( > 0.25), strong ( > 0.15), moderate ( > 0.10), small ( > 0.05), or minor ( < 0.05; Cramér, 1946). The analysis determined that with only two degrees of freedom, the relationship between gender and dropout rates existed but was minor. A summary of the statistical analyses is presented in Table 6.

**Table 6**

*Chi-Square Distribution by Gender of Sample Population*

| Gender | Dropout (%) | Graduated (%) | $X^2$ (df) | Cramer's V | Contingency coefficient |
|---|---|---|---|---|---|
| Male | 3,460 (12.9) | 13,931 (51.6) | | | |
| Female | 1,605 (5.9) | 7,947 (29.5) | 39.555* (2) | 0.038 *(minor)* | 0.038 *(minor)* |
| Gender X | 5 (0) | 34 (0.1) | | | |
| Total | 5,070 (18.8) | 21,912 (81.2) | | | |

*Note*. * $\alpha < 0.0001$.

As the chi-square statistic was determined to be statistically significant, a further analysis of the variables was conducted to determine the differences between the observed values of dropout rates and the expected values of dropout rates for the sample population (see Figure 6).

**Figure 6**

*One Sample Chi-Square Observed Versus Expected Dropout Percentages by Gender*

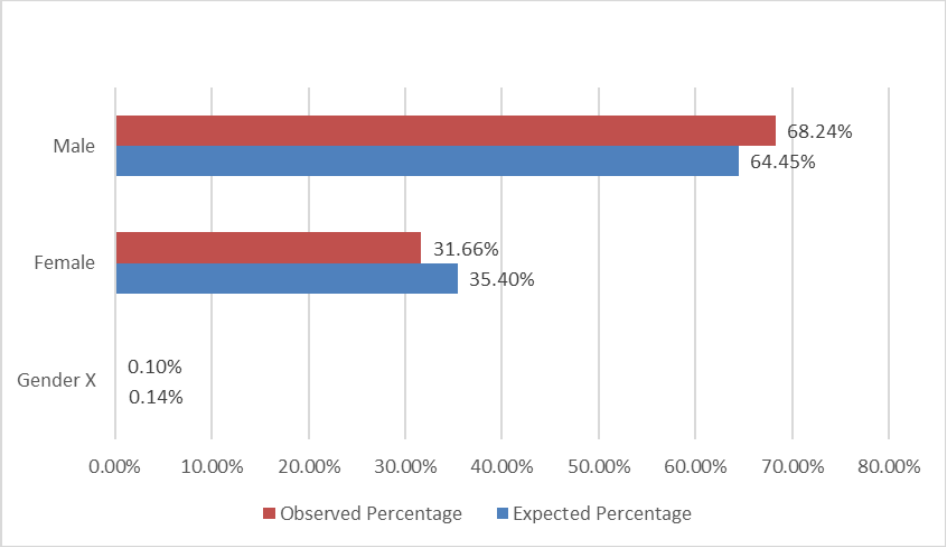



Figure 6 shows the dropout rate for males was 3.79% higher than expected. In addition to being overrepresented in special education, male students dropped out at higher rates than female students. In contrast, female dropout rates were 3.74% lower than the expected values. The difference in gender X was minor but may not have been representative of this gender due to the small population (39 of 26,982).

**Research Question 2**

Among high school students with disabilities in Washington State, what is the relationship between race/ethnicity and dropout rates?

The second research question sought to determine if a student's race/ethnicity had a relationship with dropout rates. To assess the validity of the null hypothesis, which was there was no relationship between race/ethnicity and dropout rates, a chi-square analysis was done on the nominal variables.

$H2_0$: There is no relationship between race/ethnicity and dropout rates.

$H2_A$: There is a relationship between race/ethnicity and dropout rates.

The chi-square analysis revealed there was a relationship between race/ethnicity and dropout rates at a significance level of less than 0.0001. Therefore, the null hypothesis was rejected because there was a relationship between race/ethnicity and dropout rates. Cramer's V and the contingency coefficient were calculated to measure the effect size for the chi-square test of independence. The analysis determined, with seven degrees of freedom, there was a small relationship between race/ethnicity and dropout rates. A summary of the statistical analyses is presented in Table 7.

**Table 7**

*Chi-Square Distribution by Race/Ethnicity of Sample Population*

| Race/Ethnicity | Dropout (%) | Graduated (%) | $X^2$ (df) | Cramer's V | Contingency coefficient |
|---|---|---|---|---|---|
| American Indian/Alaska Native | 163 (0.6) | 538 (2) | | | |
| Asian | 113 (0.4) | 725 (2.7) | | | |
| Black/African American | 491 (1.8) | 1,422 (5.3) | | | |
| Caucasian/White | 2,651 (9.8) | 12,061 (44.7) | | | |
| Hispanic/Latino | 1,225 (4.6) | 5,255 (19.4) | 105.671** (7) | 0.063 *(small)* | 0.062 *(small)* |
| Native Hawaiian/Pacific Islander | 36 (0.1) | 202 (0.7) | | | |
| Two or more races | 366 (1.4) | 1,664 (6.2) | | | |
| Not provided | 25 (0.1) | 45 (0.2) | | | |
| Total | 5,070 (18.8) | 21,912 (81.2) | | | |

*Note*. ** $\alpha < 0.0001$.

The statistical analyses identified a small relationship between race/ethnicity and dropout rates. Further analysis of the variables was conducted to determine the differences between the observed values of dropout rates and the expected values of dropout rates for the sample population (see Figure 7).

**Figure 7**

*One Sample Chi-Square Observed Versus Expected Dropout Percentages by Race/Ethnicity*

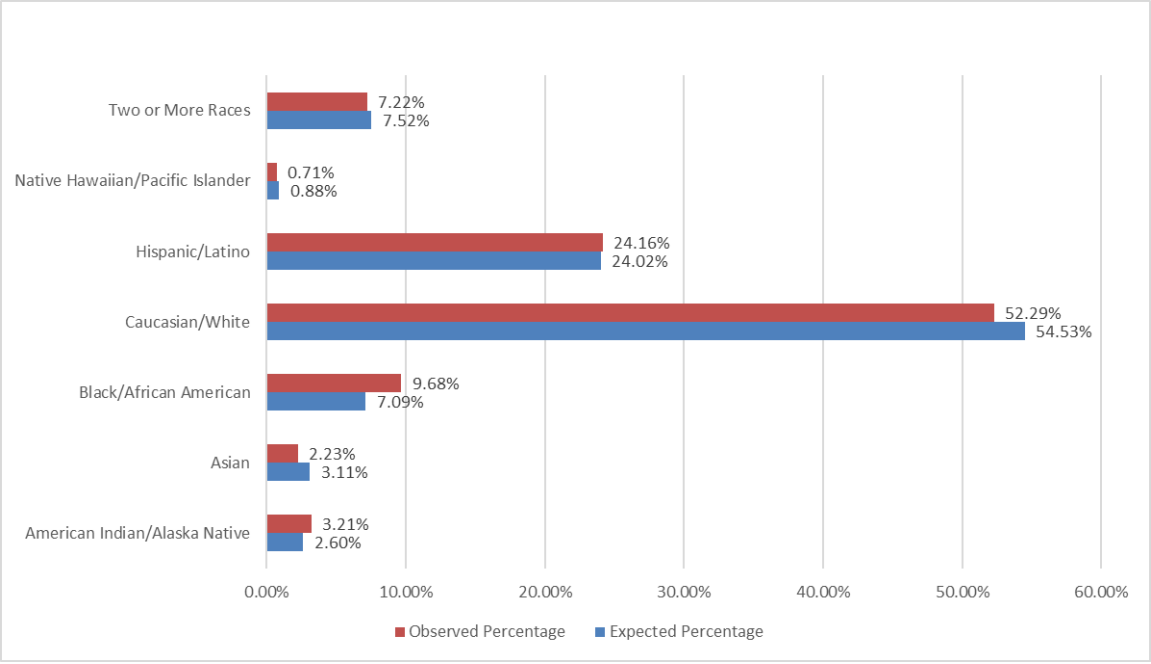



Figure 7 shows that significant differences are identified in the observed versus expected values for race/ethnicity. Three ethnicities of students had dropout rates that were higher than expected: Black/African American (2.59%), American Indian/Alaska Native (0.62%), and Hispanic/Latino (0.15%). Dropout rates that were lower than expected include Caucasian/White (2.24%), Asian (0.88%), Two or More Races (0.30%), and Native Hawaiian/Pacific Islander (0.17%).

**Research Question 3**

Among high school students with disabilities in Washington State, what is the relationship between Limited English Proficiency (LEP) qualification and dropout rates?

The third research question sought to determine if a student's ELL/LEP status had a relationship with dropout rates. To assess the validity of the null hypothesis, that there was no relationship between ELL/LEP status and dropout rates, a chi-square analysis was done on the nominal variables.

$H3_0$: There is no relationship between LEP qualification and dropout rate.

$H3_A$: There is a relationship between the LEP qualification and dropout rates.

The chi-square analysis revealed that there was a relationship between ELL/LEP status and dropout rates at a significance level of less than 0.0001. Therefore, the null hypothesis was rejected. Cramer's V and the contingency coefficient were calculated to measure the effect size. The analysis determined that with two degrees of freedom, there was a small relationship between ELL/LEP status and dropout rates. A summary of the statistical analyses is presented in Table 8.

**Table 8**

*Chi-Square Distribution by LEP/ELL Status of Sample Population*

| LEP/ELL status | Dropout (%) | Graduated (%) | $X^2$ (df) | Cramer's V | Contingency coefficient |
|---|---|---|---|---|---|
| LEP | 578 (2.1) | 2,770 (10.3) | | | |
| Non-LEP | 4,417 (16.4) | 19,041 (70.6) | 70.594**** (2) | 0.051 *(small)* | 0.051 *(small)* |
| Don't know | 75 (0.3) | 101 (0.3) | | | |
| Total | 5,070 (18.8) | 21,912 (81.2) | | | |

Note. **** $\alpha < 0.0001$.

The statistical analyses determined a small relationship between ELL/LEP status and dropout rates exists. Further analysis of the variables was conducted to determine the differences between the observed values of dropout rates and the expected values of dropout rates for the sample population (see Figure 8).

**Figure 8**

*One Sample Chi-Square Observed Versus Expected Dropout Percentages by ELL/LEP Status*

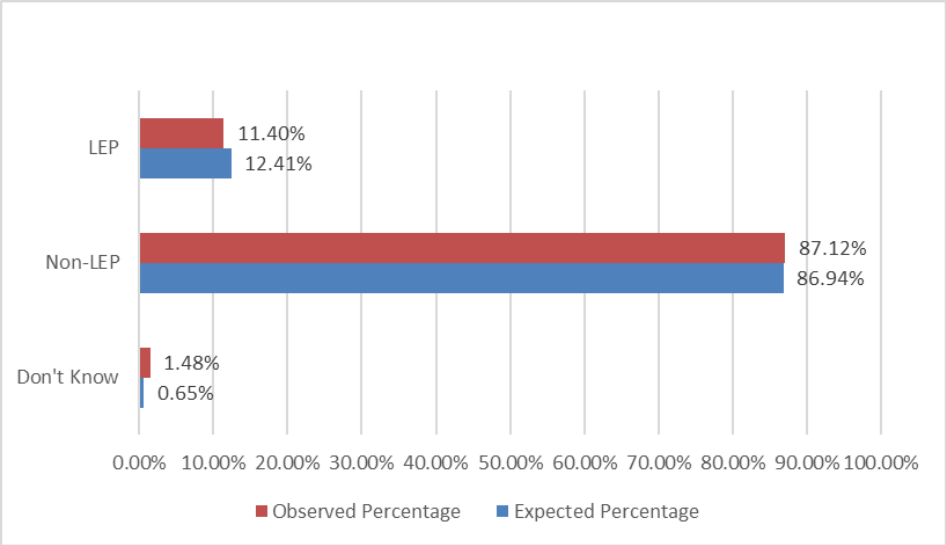



Figure 8 shows small differences in the observed versus expected values for ELL/LEP status. The dropout rate for students with ELL/LEP was 1.01% lower than those that did not hold that status. Individuals that are categorized as "don't know" may have slightly altered this percentage outcome.

**Research Question 4**

Among high school students with disabilities in Washington State, what is the relationship between disability category and dropout rates?

The fourth research question sought to determine if the student's diagnosed disability category had a relationship with dropout rates. To assess the validity of the null hypothesis, which was there was no relationship between disability category and dropout rates, a chi-square analysis was conducted.

$H4_0$: There is no relationship between the disability category and the dropout rate.

$H4_A$: There is a relationship between the disability category and dropout rates.

The chi-square analysis revealed there was a relationship between disability category and dropout rates at a significance level of less than 0.0001. Therefore, the null hypothesis was rejected. Cramer's V and the contingency coefficient were calculated to measure the effect size for the chi-square test of independence. The analysis determined that with 13 degrees of freedom, there was a strong relationship between disability category and dropout rates. The three highest rates of dropout were for SDL (7.6%), OHI (5.6%), and EBD (2.3%). A summary of the statistical analyses is presented in Table 9.

**Table 9**

*Chi-Square Distribution by Disability Category of Sample Population*

| Disability category | Dropout (%) | Graduated (%) | $X^2$ (df) | Cramer's V | Contingency coefficient |
|---|---|---|---|---|---|
| Autism | 286 (1.1) | 2,207 (8.2) | | | |
| Communication | 31 (0.1) | 233 (0.9) | | | |
| Deaf-Blindness | 0 (0) | 5 (0) | | | |
| Deafness | 1 (0) | 31 (0.1) | | | |
| EBD | 623 (2.3) | 898 (3.3) | | | |
| Hearing impairments | 22 (0.1) | 168 (0.6) | | | |

| Disability category | Dropout (%) | Graduated (%) | $X^2$ (df) | Cramer's V | Contingency coefficient |
|---|---|---|---|---|---|
| Intellectual disability | 261 (1.0) | 1,119 (4.2) | 1084.968*** (13) | 0.201 *(strong)* | 0.197 *(strong)* |
| Multiple disabilities | 137 (0.5) | 655 (2.4) | | | |
| Orthopedic impairment | 3 (0.0) | 39 (0.1) | | | |
| OHI | 1,514 (5.6) | 5,830 (21.6) | | | |
| SDL | 2,052 (7.6) | 10,551 (39.1) | | | |
| Traumatic brain injury | 25 (0.1) | 101 (0.4) | | | |
| Visual impairments | 8 (0.0) | 66 (0.3) | | | |
| Not reported | 107 (0.4) | 9 (0.0) | | | |
| Total | 5,070 (18.8) | 21,912 (81.2) | | | |

*Note*. *** $\alpha < 0.0001$.

The statistical analyses determined a strong relationship between disability category and dropout rates, and further analysis of the variables was conducted to determine the differences between the observed and expected values of dropout rates for the sample population (see Figure 9).

**Figure 9**

*One Sample Chi-Square Observed Versus Expected Dropout Percentages by Disability Category*

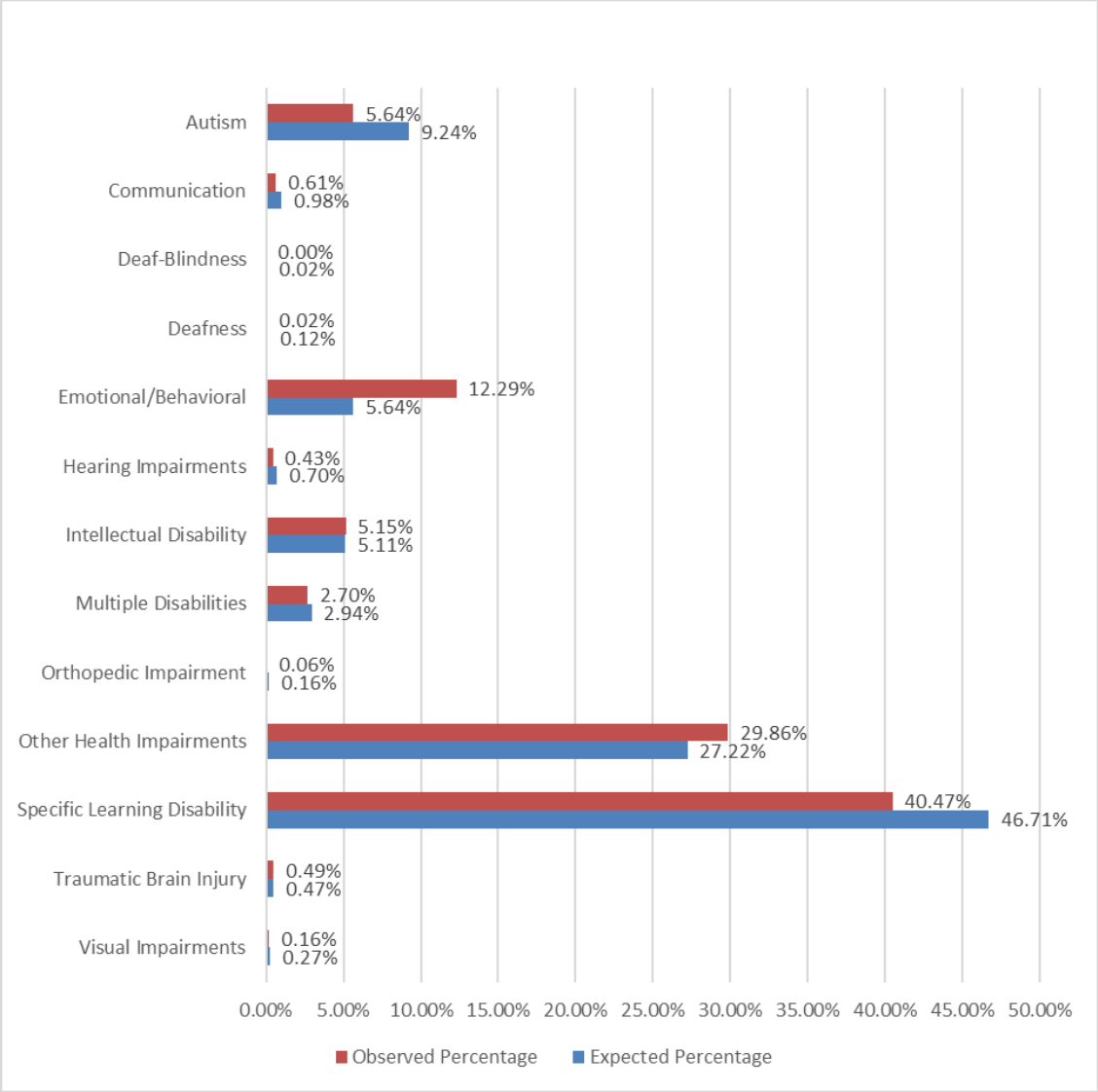



Figure 9 shows some significant differences in the observed versus expected values for the category of disability. These significant differences helped clarify why there was a strong Cramer's V and phi correlational relationship for this variable. Two categories of disability had a significantly higher dropout rate than expected: Emotional/Behavioral (EBD) (6.65%) and Other Health Impairment (OHI) (2.64%). In contrast, two categories of disability had significantly

lower dropout rates than expected: specific learning disability (SLD) (6.24%) and autism (3.60%). Although the dropout rates for most categories of disability were representative of the sample population size, the significantly higher dropout rates for EBD and OHI provided an opportunity to explore causation and implement interventions.

### Quantitative Summary

The analysis on the CCTS Post-School Outcomes survey data for the school years 2017–2018, 2018–2019, and 2019–2020, comprised of 26,982 students qualifying for special education services. A quantitative approach was used to explore whether there was a relationship between dropout rates and the variables of gender, race/ethnicity, ELL/LEP status, and category of disability. Each of the survey years included in this study were compiled by variable and dropout status and normalized for analysis. The statistical analyses used in this study included descriptive statistics, chi-square, Cramer's V, and contingency coefficient testing. Results of these analyses were presented in Chapter 4 and discussion and conclusions on the data are explored in Chapter 5.

## Qualitative Findings

The purpose of this study was to define and examine factors contributing to the students with disabilities dropping out of high school. The study design examined this question from both the student's and parent/guardian's perspectives. The first three chapters introduced the significantly higher dropout rates of students with disabilities in Washington State and the intention of educational leaders to meet a 90% on time graduation rate for all students. A review of the literature explored barriers to graduation including personal and environmental factors that may contribute to higher dropout rates among students with disabilities. The conceptual framework of this study organized these factors into barriers related to identity and intersectionality (Annamma et al., 2018), and related to environmental barriers presented under the social model of disability (Oliver, 1990, 2013; Oliver et al., 1983). Using a qualitative

methodology, this study applied thematic analyses to determine if the barriers facing students in Washington State aligned with the present literature and to explore possible linkage of dropout rate with additional factors that may have contributed to this outcome. The current section begins with an overview of the research design and description of participants and includes descriptive statistics on response data and thematic analysis to address the research question.

## Summary of the Research Design

This research study was designed to address the qualitative research question: From the student or parent/guardian's perspective, what factors may have led a student with disabilities to drop out of high school? This data set collected to address this question was obtained from the CCTS Post-School Outcomes survey for the graduating classes of 2017–2018, 2018–2019, and 2019–2020. As stated in Chapter 3, the entire study population included 26,982 individuals including 5,070 students who dropped out of school prior to receiving a diploma. Of these 5,070 students, there were a total of 2,336 respondents who answered the qualitative survey question.

### *Survey Question 17+*

"Next, I'm going to ask you about your education experience since leaving high school. But before I do, I see you left high school before graduating. Are you willing to tell me why?"

The 2,336 responses were reviewed and coded for themes. Of this sample set, there were a total of 662 responses (28.3%) coded as either "unknown" or "declined to answer." To conduct a thematic analysis on the frequency of themes, these responses were excluded such that the descriptive statistics actually presented represent 1,674 individual respondents. This dissertation used inductive thematic analysis in which participant responses were coded to conduct a frequency analysis to determine common response patterns.

## Data Analysis

Following the process described in Chapter 3, thematic analysis was conducted to identify, analyze, and interpret patterns in the qualitative data set (Saldaña & Omasta, 2016). The analysis of the data followed a six-step thematic analysis approach: (a) familiarization, (b) coding, (c) generating themes, (d) reviewing themes, (e) defining and naming themes, and (f) writing-up the data for presentation (Clarke et al., 2015). Themes were generated from the existing CCTS data set. The data were structured to identify response patterns for further analysis. Considerations for positionality and control for bias were followed as outlined in Chapter 3.

## Qualitative Findings

The thematic analysis of the data presented was contextual to the qualitative research question guiding the study. Using an inductive approach, a total of 24 codes were created from the 1,674 survey responses to why a student left school prior to graduation. From these 24 codes a total of eight themes emerged. These themes related to personal and identity barriers (Themes 1–4), environmental barriers (Themes 7–8), and those where defined to be undetermined or a combination of both personal and environmental barriers (Themes 5–6). The frequency and percentage of each of these themes is presented in Table 10.

**Table 10**

*Descriptive Statistics: Frequency of Themes*

| Theme | Description | Frequency | % |
|---|---|---|---|
| Theme 1 | Personal and family | 205 | 12.2 |
| Theme 2 | Moving and housing instability | 108 | 6.5 |
| Theme 3 | Health challenges | 147 | 8.8 |
| Theme 4 | Work and financial | 147 | 8.8 |
| Theme 5 | Disengagement | 317 | 18.9 |
| Theme 6 | Disability and environment | 51 | 3 |
| Theme 7 | Academic environment | 542 | 32.4 |
| Theme 8 | Environmental exclusion | 157 | 9.4 |
| Total | | 1,674 | 100 |

Each of these themes was analyzed to generate interpretation and meaning. An analysis of the codes and thematic frequency were included both for student responses and responses from those who were speaking on their behalf (i.e., parents, guardians, and relatives).

***Theme 1***

Three codes were generated that related to the theme of personal and family, including childcare and pregnancy, family, and general personal reasons. Participant responses were delineated between student reported responses and responses from others on their behalf. Of the 1,674 qualitative responses, 205 (12.2%) were categorized as personal and family reasons. A breakdown of responses is shown in Table 11.

**Table 11**

*Descriptive Statistics: Analysis of Theme 1 Personal and Family*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Childcare and pregnancy | 28 (1.6) | 45 (2.7) | 73 (4.3) |
| Family | 23 (1.4) | 38 (2.3) | 61 (3.7) |
| General | 23 (1.4) | 48 (2.9) | 71 (4.2) |
| Total | | | 205 (12.2) |

The largest percentage of codes in this group (4.3%) related to the need to leave school for pregnancy or childcare. Responses included both male and female respondents who stressed the demands of childcare and needing to work to support a family as reasons for leaving high school. One participant responded: “She mentioned that when she had a baby it became very difficult to finish school. She is thankful for people trying to help her, but she felt being with her baby was more important than being at school.”

Other respondents either returned to school or announced their intention to enroll in an alternate program. Of note is that childcare responsibilities sometimes included caring for younger siblings. Family was also cited as a significant reason that an individual dropped out of high school (3.7%). Personal family responses varied and were expressed frequently as simply “family concerns” or “problems at home.” Many left high schools after the death of a parent or guardian. Finally, a large number of responses were coded as personal reasons and often did not provide more specific reasoning, with responses including “personal issues” and “life happened”. Although personal reasons can be highly varied, the large number of responses in this category (4.2%) suggested that participants faced challenges that made attending school difficult and led to dropping out before graduating.

***Theme 2***

Theme 2 examined the codes that were related to housing instability or moving residences as the reason that students left high school without a diploma. Housing instability was differentiated from moving as it specifically included responses such as: (a) experiencing homelessness, (b) participation in the foster care system, or (c) ran away and lacked a stable residence. This was distinguished from other types of moves students made with their families. Table 12 shows the frequency of responses.

**Table 12**

*Descriptive Statistics: Analysis of Theme 2 Moving and Housing Instability*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Housing instability | 6 (0.4) | 18 (1.1) | 24 (1.5) |
| Moved | 19 (1.1) | 65 (3.9) | 84 (5) |
| Total | | | 108 (6.5) |

Housing instability accounted for 1.5% of all responses. One respondent stated they left school because they “spent too much time trying to find and maintain housing”. Other responses included students who ran away or those who were experiencing challenges in foster care. One previous foster parent who was interviewed stated, “he left with his father and may be currently homeless”. Moving was a common reason for not completing high school, which made up 5% of all responses. Most participants stated that they moved to another city and state. Some of the respondents stated that they had enrolled or completed programs in these new locations. However, it is noted that when students in Washington State transferred to another state prior to

their graduation, their records were transferred, and they are removed from the OSPI database so they would not have been listed in the CCTS survey participants.

***Theme 3***

Theme 3 included student responses related to physical and mental health challenges that prevented them from completing high school. Table 13 presents the frequency of the three codes of substance abuse, mental health and medical reasons.

**Table 13**

*Descriptive Statistics: Analysis of Theme 3 Health Challenges*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Substance abuse | 3 (0.2) | 22 (1.3) | 25 (1.5) |
| Mental health | 13 (0.8) | 67 (4) | 80 (4.8) |
| Medical | 9 (0.5) | 33 (2) | 42 (2.5) |
| Total | | | 147 (8.8) |

The most frequently cited reason in this category was mental health, which encompassed anxiety, depression, or a combination of both. Although some respondents just stated “anxiety” others gave a more detailed description of their experience such as this participant: “I was experiencing a lot of anxiety, which made it difficult for me to function at school. Staff tried to help me get through my challenges”.

Responses also mention stress in combination with anxiety. It could not be determined if the anxiety was diagnosed by a health professional or related to how a person was experiencing emotions. However, this outcome was unrelated to the experience of the individual as they entered the school environment. Responses included panic attacks, inability to cope, and feeling

overwhelmed. There were also responses specific to depression or the umbrella term of “mental health”.

Medical reasons were stated in 2.5% responses. Responses ranged from general “health concerns” and “medical” to more specific diagnoses like cancer and seizure disorders that resulted in hospitalization. Finally, substance abuse accounted for 1.5% of all responses. Respondents noted drug and alcohol abuse, with some respondents expressing they had entered rehabilitation programs to address the addiction.

***Theme 4***

Theme 4 consisted of work and financial reasons, accounting for a total of 147 (8.8%) responses. Table 14 provides a breakdown of responses provided by students or by others such as parents and guardians. Of all student respondents, this theme was the second most frequent after Theme 7 (i.e., enrolling in an alternate program). This response demonstrated that work or financial reasons were a significant reason for leaving from the student perspective.

**Table 14**

*Descriptive Statistics: Analysis of Theme 4 Work and Financial*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Work and financial | 64 (3.8) | 83 (5.0) | 147 (8.8) |
| Total | | | 147 (8.8) |

Students shared several reasons for leaving for work or financial reasons. Some students expressed the need to support themselves or their families. One participant stated: “I needed to get a job so I could help my mom with the bills”. A significant number of students went to work

as a choice, saying they wanted to work or that they chose work over school. One respondent summed up this sentiment: “Wanted to work and wasn’t interested in school”. It was difficult to distinguish between needing and wanting to work in many responses, and some participants stated a simple “to work” in response to why they left high school. It was also unclear if the student was experiencing personal or academic challenges in the school environment prior to their decision to leave to work. Despite the differing reasons, a significant portion of students left high school to work.

***Theme 5***

The theme of disengagement can be related to both personal circumstances and environmental factors. The data set included three codes for disengagement: uninterested, motivation, and attendance. Attendance was included as disengagement from the educational environment, acknowledging there may be personal reasons or stressors that would have created challenges in attending school. Table 15 provides a breakdown of the frequency of these codes in both student and other responses. A total of 18.9% of student responses fell in the theme of disengagement.

**Table 15**

*Descriptive Statistics: Analysis of Theme 5 Disengagement*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Uninterested | 51 (3.0) | 148 (8.8) | 199 (11.8) |
| Motivation | 20 (1.2) | 80 (4.8) | 100 (6.0) |
| Attendance | 6 (0.4) | 12 (0.7) | 18 (1.1) |
| Total | | | 317 (18.9) |

The largest number of responses were in the category of “uninterested”. Participants most commonly stated “did not like school” or even “hated it”. There was not enough detail in these responses to determine the specific environmental factors that would have caused a student to drop out. However, a few were more specific and expressed a lack of interest or boredom. One student’s response appeared to suggest it may have been the curriculum, stating “not engaged, classes seemed irrelevant”. Motivation was also listed as a common challenge to completing high school. It was especially important to distinguish between student and parent responses. For example, one student stated they “felt too far behind and gave up once he decided to try”. However, several parent responses included comments such as “he was lazy”. Although categorized under motivation, student perspective may have varied significantly from the parent perspective and may have been related to personal or environmental factors. Despite the ambiguity in some responses and the difference in type of respondent, this theme presented some of the environmental challenges that may have prevented students with disabilities from graduating from high school.

***Theme 6***

Theme 6 explored codes that related to either personal or environmental barriers of disability. The two codes incorporated the disability status itself (i.e., personal) and disability in the school environment. Table 16 presents a summary of responses with a note that there were very few student responses for this theme.

**Table 16**

*Descriptive Statistics: Analysis of Theme 6 Disability and Environment*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Disability status | 3 (0.2) | 26 (1.5) | 29 (1.7) |
| Disability school environment | 3 (0.2) | 19 (1.1) | 22 (1.3) |
| Total | | | 51 (3) |

Disability status was coded when a student or parent specifically stated the disability as the reason the student did not graduate. One parent responded: “Disabilities prevented him from completing high school”. There were also responses that included the specific disability such as Down’s syndrome or Asperger’s syndrome. These responses were distinguished from responses related to the ability to be successful with a disability in the school environment. One of the student responses described how he did not feel he got the services he needed: “Teachers wouldn’t listen to me. Willing to do before & [sic] after school but not received well. Need more hands on. Needed a proctor for tests”.

Parents also felt their students did not receive the appropriate support or accommodations afforded to them in their Individual Education Plan (IEP). Other respondents were concerned about their students being seen as different or “less than” when they were in special education classes or receiving services. Some reported embarrassment from receiving services, and one respondent stated they were put in special education courses accidentally. Finally, many responses stressed the importance of teacher support for their children. One parent response summarized this sentiment:

> Didn’t feel the connection. The teacher he had connected with got cancer and wasn’t available. Others stepped up for him but it wasn’t the same. He also felt less than because

of being special ed. He felt like he was the only one who needed special help. School wasn't for him. He felt like he got the basics and that's all he needed. He had a great job and didn't see the need to continue with school.

***Theme 7***

Theme 7 explored academic environmental barriers to students with disabilities graduating high school. Table 17 provides an overview of the five codes in this theme: academic challenges, school environment, thought received diploma, alternate program, and COVID-19/online learning. Student responses that were coded under these categories included difficulties in accessing the educational curriculum and meeting graduation requirements.

**Table 17**

*Descriptive Statistics: Analysis of Theme 7 Academic Environment*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Academic challenges | 15 (0.9) | 87 (5.2) | 102 (6.1) |
| School environment | 15 (0.9) | 51 (3.0) | 66 (3.9) |
| Thought received diploma | 18 (1.1) | 29 (1.7) | 47 (2.8) |
| Alternate program | 82 (4.9) | 202 (12.1) | 284 (17.0) |
| COVID-19/online learning | 9 (0.5) | 34 (2.1) | 43 (2.6) |
| Total | | | 542 (32.4) |

Academic challenges included statements about school and classes being too hard, being behind in academic graduation requirements, or encountering academic barriers such as passing standardized tests. Academic challenges accounted for 6.1% of total responses. When coding academic challenges, the student's disability and IEP were not mentioned but may have had an impact on the ability of the student to access their education. A "thought received diploma" code

emerged in the analysis, accounting for 2.8% of all responses. These respondents claimed to either have received their diploma or have walked with their class at graduation and assumed they graduated. The CCTS data set verified whether a student graduated from a Washington State school, despite numerous respondents stating that the database was “incorrect”, and they did graduate from high school. This outcome may be enabled by a practice that allows students with disabilities to walk with their class at graduation despite not meeting academic credit and testing requirements. A sample response illustrates this phenomenon: “Family member did not realize that the student did not graduate, they attended the graduation ceremony”.

School environment was also frequently noted as a reason for leaving high school. These respondents stated that school was not a good fit for them. Some respondents mentioned conflicts with both staff and students in the school environment. Others felt they could not get the appropriate support to be successful. Attending an alternate program was the most common response, accounting for 17% of responses. Many respondents stated they completed GED programs. However, their exit status for the Post-School Outcomes survey showed they had “dropped out” even though there is a separate category for “GED.” A significant number of students stated they were enrolled in GED programs at the time of the survey (i.e., one-year post graduation). In addition, alternate programs such as Job Corps were designed to help with employment skills while earning a diploma. Although the number of students intending to continue toward a diploma was high, the responses did not provide insight into the struggles they had in the traditional school environment that led to the transition.

The COVID-19 global pandemic, beginning in March of 2020, would have impacted the 3rd year of students in this research data set (2019–2020). Table 17 shows cumulative numbers for the 3-year sample set. However, the COVID-19 global pandemic would have only impacted

the graduating class of 2019–2020. During this school year, 544 of the 689 responses to this question are included in the eight themes. In 2020, a total of 43 students said they did not receive a diploma due to challenges with the COVID-19 global pandemic and the switch to an online learning environment, representing 7.9% of respondents during that year. A significant number of students found online learning challenging, specifically noting trouble with focus. One parent responded on behalf of a student stating that “the stress of the pandemic, school closures and online learning was too much for him”.

***Theme 8***

Theme 8 explored areas where students were excluded from the educational environment, resulting in dropping out of high school. This theme included five codes: (a) behavioral challenges, (b) law/incarceration, (c) environmental safety, (d) aged out, and (e) felt too old. Table 18 shows the distribution of responses and codes for these environmental barriers to graduation.

**Table 18**

*Descriptive Statistics: Analysis of Theme 8 Exclusion*

| Theme | Student responses *n* (%) | Other responses *n* (%) | Total responses *n* (%) |
|---|---|---|---|
| Behavioral challenges | 6 (0.4) | 23 (1.3) | 29 (1.7) |
| Law/Incarceration | 8 (0.5) | 52 (3.1) | 60 (3.6) |
| Environmental safety | 1 (0.1) | 18 (1.1) | 19 (1.2) |
| Aged out | 6 (0.4) | 29 (1.7) | 35 (2.1) |
| Felt too old | 2 (0.1) | 12 (0.7) | 14 (0.8) |
| Total | | | 157 (9.4) |

Behavior challenges were listed as a cause of dropping out by both parents and students who did not feel that they could be successful in their educational environment. Behavior challenges included school suspensions, expulsions, and instances where the parent removed the student because they felt they were a danger to others. Responses also included challenges integrating into the environment, following rules, and anger that was directed at students or staff. Although the perceived cause of the behavioral challenges was not always shared, this code represented a student who had trouble with his or her environment.

Students also left school due to environmental safety concerns (1.2%) and bullying. Some of the respondents expressed fear for personal safety and threats. One student was stabbed, and it resulted in him feeling unsafe to return. Some responses revealed that not feeling supported in the environment was related to bullying. One respondent wrote: “He probably has a learning disability and he was tired of the students bullying him for needing extra time to understand. There was also teachers that made comments that finally made him say forget it and drop out”.

A total of 3.6% of students stated that legal troubles or incarceration was the reason they left high school. Many said they left when their sentence was completed, suggesting they did not return to the public education system after attending a juvenile detention facility. One respondent stated they left school because “their time was served”. Other respondents noted that students did not return because they were currently in prison, meaning that they have aged out of the juvenile justice system.

Included in this theme were two sets of responses about students that were either too old for the environment (i.e., they aged out) or personally felt uncomfortable returning because of their age (i.e., they felt too old). “Aged out” responses largely stated that students left after their district 18–21 transition program, which largely serves students with severe and profound

disabilities. Many other students left because they "felt too old" One participant stated: "didn't finish in time and didn't want to come back to be a super senior". Although the student had the option to access their education until 21 years of age, the environment created a barrier to return to complete classes to and graduate high school.

**Qualitative Summary**

The thematic analysis presented in this chapter included 1,674 participant responses from the CCTS Post-School Outcomes survey, answering the qualitative research question of why students with disability dropout of high school. This analysis used inductive coding to limit preconceived notions and bias. The resulting 24 codes were grouped into eight themes related to personal and environmental barriers to graduation. The eight themes were: (a) personal and family, (b) moving and housing instability, (c) health challenges, (d) work and financial, (e) disengagement, (f) disability and environment, (g) academic environment, and (h) environmental exclusion. Analysis of each of these themes included descriptive statistics of the frequency of themes by respondent type (i.e., student vs. parent, family member, or another guardian). The thematic analysis provided insights into participant responses and opportunities for educational leaders to design and implement effective interventions. Implications for the analysis are explored in Chapter 5.

## Chapter 5 Discussion

The purpose of this study was to determine if there were specific factors that contribute to the higher dropout rates for students with disabilities in Washington State. This study examined data from 26,982 students in Washington state from the 2017–2018, 2018–2019, and 2019–2020 school years. This study used a mixed-methods approach to provide insights into some of the barriers related to identity and environment, and to determine if themes emerged that could provide recommendations into ways to increase the graduation rates for students with disabilities. After exploring the results of the quantitative and qualitative research questions, this chapter addresses limitations and strengths of the study and provides recommendations for educational leaders and future research.

This study used quantitative methods to determine if the specific variables of gender, race/ethnicity, English language learner (ELL)/limited English proficiency (LEP) status, and disability category had a relationship with dropout rates. Data analysis used chi-square to determine the relationship of the four variables and showed they all had a significance at less than 0.0001 (>99.99% confidence). However, additional statistical analyses of Cramer's V and coefficiency contingency were required to determine the strength of that relationship due to the large sample size. These additional analyses revealed the relationship between dropout rates and gender, race/ethnicity, and ELL/LEP status were each weaker than the relationship category of disability. Additional descriptive statistics are further explored in this chapter to provide insights into other factors such as overrepresentation. These findings are addressed in the context of the existing literature and the conceptual framework for this study.

This study also used qualitative methods of thematic analysis to examine student and parent/guardian responses to understand barriers students face in fully accessing their education

and graduating from high school. Of a total of 2,336 possible participant responses to the Post-School Outcomes survey, 662 (28.3%) either did not respond or declined to answer. The remaining 1,674 responses were analyzed separately and categorized into 24 codes, from which eight themes emerged. The eight themes were: (a) personal and family, (b) moving and housing instability, (c) health challenges, (d) work and financial, (e) disengagement, (f) disability and the environment, (g) academic environment, and (h) environmental exclusion. These eight themes revealed insights into both personal and environmental barriers, which both "push" and "pull" an individual away from the educational environment. These themes are explored in this chapter through the existing literature, the conceptual framework and data interpretation.

## Discussion of the Findings

The following section provides a review of key findings for each of the five research questions with interpretation and a discussion of these findings in context of the current literature.

### Research Question 1

The first question asked: Among high school students with disabilities in Washington State, what is the relationship between gender and dropout rates?

The data set in this study showed a relationship between gender and dropout rates that is statistically significant with a chi-square value of 39.555 ($\alpha < 0.0001$). However, a secondary analysis of this large sample set concluded that the strength of this relationship was minor (Cramer's $V < 0.05$) even though it had a high degree of certainty. For this research question there were only three variables (i.e., female, male, and gender X) or two degrees of freedom in the statistical analysis. The small representation of gender X may have concealed significant

challenges for graduation rates based on gender in Washington State, impacting the strength of the linkage between gender and dropout rate.

Although the statistical analyses showed a minor relationship, there were still significant gaps in expected versus observed percentages. Male students clearly drop out of high school at a higher rate than female students, revealing a focus for additional research or intervention. The chi-square statistical test examined the differences between observed and expected percentages for dropout rates. For example, Figure 6 showed that in this data set, males dropped out at a rate of 68.24% even though the expected percentage based on representation would have been 64.45%. Male students are dropping out at a rate that is 3.79% higher than expected and female students are dropping out at a rate that is 3.74% lower than expected.

The literature acknowledged that there are differences based on gender even though dropout rates for both males and females have declined significantly since the 1970s (Greene & Winters, 2006; Stark & Noel, 2015). Research studies also noted there is significant overrepresentation of males who receive special education services, which aligned with the results of this study (64.45% of students with disabilities were male). This phenomenon is not fully understood, but questions have been asked about whether overqualification of males is due to environmental factors or if this statistic is skewed by underqualification of females who may have a different presentation of their disability. Both explanations represent areas for future research and could provide insights for educational leaders to target interventions to decrease this gender overrepresentation. For example, there is possible bias in analytical and qualitative assessment that qualify students for special education. Removing identified bias to the extent possible by recognizing the various ways that disability may present in the academic environment may facilitate a more neutral assessment approach to qualification. This could

impact the current overrepresentation of males, or conversely, the underrepresentation of female students qualifying for special education services.

In addition, this study was not able to make any significant contributions to the knowledge about individuals that do not fall in these binary gender definitions. Washington State only recently started collecting data on individuals that do not identify as male or female, categorized by Washington State's Office of the Superintendent of Public Instruction (OSPI) as "Gender X." During the time span presented in this study, data was only available from the last two years in which a total of 39 students (less than 0.1%) were identified in the "Gender X" category. The overall paucity of data in this area, and the fact that gender identity selection for the survey is largely determined by parents and may not reflect student identity remain a challenge for assessing the linkage of gender identity with high school dropout rate. Collection of nonbinary gender data is also not mandated at the national level so this type of research may be influenced or hindered by the specific politics of state laws in the future. Expanding literature on nonbinary gender representations is an opportunity for researchers to explore these phenomena. The current research therefore underscores a need for expanding research to include nonbinary gender identity and representation within survey groupings. Findings from gender identification-inclusive research could then inform the design of educational programs aimed to meet the needs of all students with the goal of retaining these students in high school to complete their graduation requirements.

**Research Question 2**

The second question asked: Among high school students with disabilities in Washington State, what is the relationship between race/ethnicity and dropout rates?

Analysis of the data showed a statistically significant relationship between race/ethnicity and dropout rates with a chi-square value of 105.671 ($\alpha < 0.0001$) revealing a high confidence in the linkage of race/ethnicity and high school dropout variables. A secondary analysis concluded the strength of this relationship was small (Cramer's V of $0.05 < 0.10$), despite a high degree of certainty. Figure 7 highlighted the differences between observed versus expected percentages in dropout rates across race/ethnicity and provides insights into the demographics of this population impacting relationship strength.

Three racial/ethnic groups had higher than expected dropout rates: Black/African American (2.59%), Hispanic/Latino (0.15%) and American Indian/Alaska Native (0.62%). The higher than expected dropout rate among American Indian/Alaska Native students also aligned with the literature (Orfield et al., 2004; Swanson, 2004). Extensive research has examined the gap in graduation and dropout rates between White, Black/African American, and Hispanic students (DePaoli et al., 2015; Greene & Winters, 2002, 2005; McFarland et al., 2016; Orfield et al., 2004; Stark & Noel, 2015). These studies concluded that dropout rates for Black/African American and Hispanic/Latino students were significantly higher than White students. Importantly, this data set also showed a significantly higher dropout rate for Black/African American students in Washington State. However, for Hispanic/Latino students, the difference between observed and expected percentages was higher but only by a very small amount (0.15%). This is significant because Hispanic/Latino students made up 24% of the data set in this study. This relatively small difference in observed versus expected percentages for Hispanic/Latino students could be viewed as a success for students with disabilities in Washington state. These findings reveal a need to directly compare educational/programmatic policies to define specific differences in their application and practice across among educators to

racial/ethnic student groups. Such comparisons could identify key features that link with the differential dropout rates between groups, allowing educators to then establish programmatic criteria to modify and enhance the educational experiences of specific groups to facilitate high school retention and graduation.

Underscoring this consideration, this study also reveals that dropout rates that were lower than expected for Caucasian/White (2.24%), Asian (0.88%), Two or More Races (0.30%), and Native Hawaiian/Pacific Islander (0.17%). This finding aligned with the literature on graduation rates by race/ethnicity, with the exception of Hawaiian/Pacific Islander students who graduate at rates lower than their peers according to the literature (Greene & Winters, 2005; Orfield et al., 2004; Swanson, 2004). Hawaiian/Pacific Islander students provided another example of a relatively small difference in observed versus expected dropout rates, which could similarly be considered a success for students with disabilities in Washington state.

Finally, the overall descriptive statistics of this sample population revealed there was overrepresentation of certain races/ethnicities who qualify for special education. In comparison to the entire student population for Washington state, there were three groups that were overrepresented: American Indian/Alaska Native, Black/African American, and Hispanic/Latino. Asian Americans were significantly underrepresented in special education, and the other demographic groups were relatively proportional to the population. This finding aligned with the literature, which showed overrepresentation of African Americans (especially male) and Hispanic/Latino students who receive special education services (Artiles et al., 2002; Ford, 2012). Leaders have an opportunity to examine some of the environmental structures and specific support features that may be contributing to this overrepresentation to help increase educational access for all students. As noted above, a careful consideration of possible bias in

analytical and qualitative assessment of student skills for identifying specific disabilities should be considered for assessing skills and development of American Indian/Alaska Native, Black/African American, and Hispanic/Latino students. For example, a school environment that is not inclusive to diverse learners might underly the development of specific skill sets that would impact disability designation criteria, rendering group overrepresentation in disability outcome.

**Research Question 3**

The third question asked: Among high school students with disabilities in Washington State, what is the relationship between ELL/LEP status and dropout rates?

Analysis of the data showed there was a statistically significant relationship between ELL/LEP status and dropout rates, with a chi-square value of 70.594 ($\alpha < 0.0001$) reflecting high overall confidence in the linkage of ELL/LEP status and leaving high school. Additional analysis of this large data set showed the strength of this relationship was small (Cramer's V of $0.05 < 0.10$), although there was certainty in the relationship. To explore this relationship further, observed versus expected percentages were examined to yield insights into the relationship between these variables.

The data in Figure 8 showed that ELL/LEP students' drop out of school at slightly lower rates than expected (1.01%). Conversely, the literature stated that there are higher than average dropout rates of students qualifying as ELL/LEP at both the federal and state levels (Albers et al., 2009; Kim, 2011; Menken, 2010; Sheng et al., 2011; Subedi & Howard, 2013). The reason for this discrepancy is that this data set assessed students who both qualified for a disability and also for ELL/LEP services. In Washington State in 2020, ELL/LEPs had an overall dropout rate of 16.8%. The data shows that the dropout rate was 11.4% for those with both disabilities and

ELL/LEP qualification. These findings explain the discrepancy of this data set with the historic literature, and importantly reveal that Washington State students that qualify as ELL/LEP are receiving services through special education that are helping them succeed to graduate from high school. Educational leaders in Washington State can evaluate ELL/LEP programmatic features to identify the specific programming that link with this reduced rate of dropout. Identifying and leveraging or adapting specific programmatic features of the ELL/LEP education program could then serve to enhance education and outcomes of other student groups with disabilities. It should be noted also that the dropout rates for ELL/LEP students are still high in Washington State compared to students without disabilities, such that the results of this data set should be taken in context for consideration to improve the educational outcomes of ELL/LEP students by identifying specific educational criteria for modification toward enhancing outcomes.

In Washington State in 2020, ELL/LEP students had an on-time completion rate of 68.4% and a dropout rate of 16.8%, a significantly higher dropout rate than their peers (Washington Office of Superintendent of Public Instruction, 2020). Researchers have attempted to determine the cause of these high dropout rates and lower completion rates. Studies have examined the role of high stakes testing as a barrier to graduation and the extra challenge faced by ELL/LEP students (Kim, 2011; Menken, 2010; Sheng et al., 2011). Other studies sought to determine the intersection between ELL/LEP status and socioeconomic barriers by examining differences between graduation rates of students in high poverty schools (Hernandez, 2011; Jiménez-Castellanos & García, 2017; Subedi & Howard, 2013). Although these correlational studies cannot claim cause, further examining some ELL/LEP students' experiences may help explain the higher than average dropout rates and reveal areas for modification to enhance outcomes. In addition, there may have been disability overqualification of students that are also

ELL/LEP due to similar struggles in meeting literacy targets (Barrio, 2017; Ford, 2012). The literature suggested that ELL/LEP qualification may affect a student's ability to succeed in school, and this should be considered when educational leaders are considering graduation interventions. Overall, consideration of testing approaches and application, across disability group students including ELL/LEP students should be included as criteria to examine and possibly modify to alter educational programs toward enhancing high school graduation.

**Research Question 4**

The fourth research question asked: Among high school students with disabilities in Washington State, what is the relationship between the disability category and dropout rates?

Data analysis showed there was a statistically significant relationship between category status and dropout rates with a chi-square value of 1084.968, demonstrating a high confidence ($\alpha < 0.0001$) in linkage of disability category and dropout rates. Additional analysis of this large data set showed the strength of this relationship is strong (Cramer's $V > 0.15$). To determine which categories of disability, have the highest likelihood of dropping out of high school, the data presented in Figure 8 on observed versus expected percentages highlighted consideration for educational leaders.

For most categories of disability, the observed versus expected percentages are within 1% of each other. There are two categories of disability where students were dropping out of school at lower rates than expected: autism at 5.64% (3.6% lower than expected) and specific learning disability at 40.47% (6.24% lower than expected). The findings in this analysis aligned with the literature, which showed expected rates of graduation for these categories of disability as being relatively high (Smith et al., 2012; Wagner et al., 2007). Additional research in this area could yield insights into why these graduation rates are relatively high compared to other disability

groups. However, such comparison could not be explored within the limitations of this data set. Future research should include comparison of educational programs for different disability groups. Identification of these features could then serve to inform modification of educational programs to facilitate specific disability group enhancement for graduating from highs school.

Two categories of disability saw higher rates than expected: Emotional/Behavioral (EBD) at 12.29% (6.65% higher than expected) and Other Health Impairments (OHI) at 29.86% (2.64% higher than expected). Although the reasons for these discrepancies could not be determined for this data set, these rates aligned with the literature on disability and dropout rates. There are no studies that link OHI directly to dropping out of high school. However, there has been extensive research on the low graduation and high dropout rates for students with EBD (Bakken & Obiakor, 2008; Goldstein, 2003; Smith et al., 2012; Wagner, 1995, 2007). EBD may make it more challenging for students to engage in a traditional school environment, especially without appropriate support. In addition, students with EBD are overrepresented in juvenile detention facilities, which is also related to higher dropout rates (Bakken & Obiakor, 2008; Wagner et al., 2007). Although this study did not specifically look at the school or district, it did include data for juvenile detention facilities that were part of the Washington public school system.

The higher than average dropout rates for students with EBD and OHI represent barriers that students may face in the public-school system in accessing their education because of their learning disability. The findings from this research clearly indicate that EBD and OHI student needs are not being met and there are associated higher group dropout rates. These observations highlight a need to examine the complex programmatic requirements of these disability groups, going beyond the traditional high school and special education environments to examine the special needs to EBD students including students in detention. Moreover, the needs of OHI

students can be additionally complex related to health conditions and dynamic health-specific context of individuals that includes physical and mental health parameters, each of which should be considered in a given student's IEP and educational environment. Consideration and implementation of specific IEP and environmental modifications toward accommodating behavioral status and health needs of these disability student groups could serve to improve graduation outcomes.

**Research Question 5**

From the student or parent/guardian's perspective, what factors may lead a student with disabilities to drop out of high school?

Thematic analysis was used to generate a total of 24 codes which were grouped into eight themes. Key findings of each of the eight themes and their relation to the existing literature will be addressed here and their relation to the existing literature.

***Theme 1: Personal and Family***

Theme 1 examined participant responses that were related to childcare and pregnancy (4.3%), family (3.7%), and general personal reasons (4.2%). Results included both students and parent/guardians' responses. Childcare/pregnancy was the most highly cited reason for leaving high school. This "pull" factor coincided with the literature that suggested higher dropout rates are due to the necessity to care and support a new child (Bradley & Renzulli, 2011; Doll et al., 2013; McDermott et al., 2019; Rotermund, 2007; Rumberger & Rotermund, 2012). Responses coded as family reasons were often unclear, but some cited challenges with home environment. Rumberger and Rotermund (2012) examined the role of parental attitudes, behaviors, and supports in determining success in school and the finding from this research supports this conclusion. Finally, 4.2% of respondents cited personal reasons, often not providing specific

details. An unknown combination of personal and environmental factors could have been pulling them from the environment, although no conclusions could be made using this data set.

### *Theme 2: Moving and Housing Instability*

Theme 2 consisted of two sets of coded responses: housing instability (1.5%) and "moved" (5.0%). Housing instability responses related to moving residences frequently and referenced either foster care or homelessness. "Moved" was a broader category that included any other type of move that could not be attributed to one of the factors of housing instability. Some respondents said they moved and graduated from another program. This could not be verified in this data set, although most instances where students move prior to graduation removed them from the system and from the Post-School Outcomes survey database.

Housing instability and lack of a stable residence have been associated with dropout rates in the literature (Burrus & Roberts, 2012; DePaoli et al., 2015; Dieltiens & Meny-Gibert, 2008). Moving residences and changing schools is linked to higher rates of absenteeism, a risk factor of dropping out. In addition, these students are more likely to live in poverty and experience stress in the home environment, both of which act as "pull" factors away from the educational environment (Rumberger, 2015). Although educational leaders may not be able to control all factors that "pull" a student from the environment, this study clearly highlighted the need for continuous counseling and social worker support in public high schools to support students and partner with families in addressing these challenges.

### *Theme 3: Health Challenges*

Theme 3 revealed that health challenges were contributing to the decision to dropping out of high school and included three codes: mental health (4.8%), medical (2.5%), and substance abuse (1.5%). Mental health responses included anxiety and depression, but it was unclear from

the available data if these were medical diagnoses or personal responses of feeling. A number of students reported feeling anxious at school. Although this challenge could be a personal concern, there may be environmental reasons for why the student feels uncomfortable attending school. This finding aligned with the literature on mental health as a risk factor for to dropping out of high school (Maynard et al., 2015; Vaughn et al., 2014). Responses were coded as medical if the respondent cited a specific diagnosis or hospitalization that caused removal from the school environment. It is unclear from responses if there were supports put in place at school to help students navigate this type of personal challenge. These observations indicate a clear need for mechanisms to assess and monitor student health needs within the education programs of disability students to ensure they are able to access their education.

Alcohol and drug abuse were cited as a reason for leaving, as was movement to a substance abuse treatment center. Substance abuse is seen as a risk factor in the literature (Bradley & Renzulli, 2011; Doll et al., 2013; Maynard et al., 2015; Rumberger & Rotermund, 2012). This study cannot determine the extent of supports that were in place at schools to help students navigate these challenges. However, this finding highlighted the importance of continued and expanded socioemotional and counseling supports at high schools to help students and families navigate these challenges related to substance abuse in society.

***Theme 4: Work and Financial***

Theme 4, work and financial, accounted for 8.8% of all responses. This outcome was a large category and in most cases the nature of the responses made it unclear whether the students left school out of financial necessity or simply a desire to work instead of attend school. Specific responses highlighted the need to work to support their families. This result aligned with the literature, which suggested that some students are “pulled” from the educational environment

based on the familial need to work and earn money (Dalton et al., 2009; Doll et al., 2013; Rumberger & Lim, 2008). There was no specific literature on students that are "pulled" away by a desire to work, but there was literature that linked student engagement in high school to higher graduation rates (Rumberger & Rotermund, 2012). For students who "wanted to work," environmental factors of a traditional high school setting may have been prohibitive to student engagement. Although it is difficult to ascertain why a student would choose work over school, it is helpful for educational leaders to pursue additional research into what types of environmental support would incentivize students to stay in school. For example, examination of overall student needs that underscore their reason to leave school and seek employment could provide insight toward inclusion of vocational and work-study educational opportunities for disability students with this theme. Specific vocational training could retain students in school for skill set acquisition, toward facilitating a plan for the student to enter the work force following graduation from high school.

***Theme 5: Disengagement***

Disengagement was a theme that encompassed three codes related to why students leave: uninterested (11.8%), motivation (6.0%), and attendance (1.1%). Disengagement can be related to personal "pull factors," environmental "push factors," a combination, or neither. Attendance was considered as a physical disengagement from the environment, but it may have been the result of other factors such as necessity to support or care for a family, housing instability, or other personal reasons. Researchers have directly linked poor attendance to an increased risk of dropping out (Alexander et al., 1997; Allensworth & Easton, 2005, 2007; Rumberger, 2011). Attendance may be an early indicator and opportunity for intervention in which poor attendance marks the student at-risk for not graduating. In this case the education

team can take early action to engage the student, including implementing interventional approaches to support the student for retention to high school graduation.

The most frequent code was “uninterested,” with the most common response that students “didn’t like it”. There may have been issues in the environment that cannot be determined from this data set. Motivation was another common factor, and reasons for lacking motivation ranged from feeling too far behind to being “too lazy”. Many of these were parent/guardian responses and may not capture the true reasons a student did not graduate high school. The literature did not present any clear statistics on motivation but addressed this topic through student engagement (Rumberger & Rotermund, 2012). Rumberger and Rotermund (2012) posited that increasing student engagement and buy-in in the educational environment increases the likelihood students will graduate from high school. Educational leaders could consider what factors increase student engagement, including school environment, school curriculum, composition of teaching staff, extracurricular activities, or other factors that improve the student experience and create an environment that is more inclusive.

***Theme 6: Disability and the Environment***

The theme of disability and the environment combined codes that related specifically to a disability diagnosis or status (1.7%) or the relation of the disability to the environment (1.3%). The disability status code included responses that stated that their disability was the reason they did not graduate but no further information was given. Disability and the environment codes were related to responses that specifically referenced Individualized Education Program (IEP) accommodations, supports, or pull-out models. Some students or parents/guardians felt that they did not get access to their accommodations or that their case manager or teachers did not provide

the necessary tools to meet graduation requirements. Other environmental problems such as pull-out models or "resource room" settings made students feel inferior to their peers. These findings expanded upon the existing literature by providing specific examples of how disability status may contribute to dropout status. The relationship between disability and dropout rates is highlighted in the literature (Bakken & Obiakor, 2008; Goldstein, 2003; Smith et al., 2012; Wagner et al., 2007). However, these studies are generally quantitative and do not necessarily describe the specific ways the disability changes the student experience or their access to their education. The data from this survey provided unique insights that educational leaders can use to consider special education service models that prevent students from dropping out of school. For example, consideration of student disability type could inform how the student is best physically placed within the classroom context, with careful thought going to placements in which the student may is inclusive with their peers. Educator attention to student needs presented by family members and the education team is critical in this theme, where the educator should be encouraged to seek input and guidance from other educational professionals and health care professionals as they revise and implement the student's IEP.

***Theme 7: Environmental Barriers***

The theme of environmental barriers included five codes that are related to specific challenges in the structure of the educational environment: (a) academic challenges, (b) thought received diploma, (c) school environment, (d) alternate program, and (e) COVID-19/online learning.

Academic challenges (6.1%) included responses that classes were too hard, students were credit deficient, and there were barriers for successfully completing high school. These findings aligned with the literature on academic challenges as an environmental barrier for graduation

(Allensworth & Easton, 2005, 2007; Bradley & Renzulli, 2011; Doll et al., 2013; Rumberger & Rotermund, 2012). Academic challenges also included responses related to challenges with standardized testing, which also supported findings from the literature (Darling-Hammond, 2007; Guisbond & Neill, 2004; Katsiyannis et al., 2007). A unique finding from this study that was not found in the literature is that 2.8% of respondents stated they either thought they had received their diploma, or they did receive it. If this occurred in a Washington state high school, they would not have been recorded with the dropout indicator. Sometimes students with disabilities in Washington state are allowed to attend graduation ceremonies due to equity concerns; yet, this may have caused confusion for some students and parents who did not receive the official diploma. Others had attended graduation and were only short on meeting the testing component for the graduation pathway and did not know this until after the fact. These novel findings clearly reveal a communication gap exists between educational leaders, student and family members, at least in Washington State within student disability groups, wherein the student/student's family are not effectively informed of their graduation status. Overall, this outcome likely reflects a larger and problematic communication gap issue that needs immediate attention. Direct communication infrastructure to include communication verification between educator, student, and student's family should be a central component of the educational program for all students and is highly imperative for the success of disability students.

Responses for school environment (3.9%) related to either the environment itself or conflicts with staff and students at school. The variety of responses made it more difficult to determine possible causes or interventions. However, research has shown that making a more inclusive environment where students see themselves represented may help to mitigate these environmental challenges (Rumberger & Rotermund, 2012).

Attending an alternate program (17%) had the largest proportion of responses in this study. This code included students that attended GED programs, alternate programs that partner with Washington public schools, and other alternate programs such as Job Corps that may lead to a diploma. The responses included students that entered a program and left, students currently enrolled, and those who graduated from alternate programs. These categories were not distinguished because responses were not clear and could not be verified. This finding expanded the existing literature on challenges to the school environment (Rumberger & Rotermund, 2012). Although schools can work to make their environments more inclusive and accessible, educational leaders could consider that some students may find an alternate setting to be more appropriate in meeting their educational and postsecondary vocational goals.

The traditional high school environment may not be a fit for all students and presents an opportunity to be more inclusive of programs that teach job skills or translate the curriculum to different formats and settings. For example, a plan to include routine student surveys to assess student goals and job skill-needs could serve to inform educational leadership on addressing specific needs of disability students in terms of alternatives to traditional education objectives, including vocational education. These mechanisms are currently available through the transition planning component of the IEP, however, the degree to which this is happening and including student voice cannot be determined from this data set. In addition, implementing vocational skills courses could address the needs for alternative education for disability students to engage them and facilitate high school retention and graduation.

Finally, the code for COVID-19/online learning accounted for 2.6% of all responses. This was significant as the full data set was a tally of 3 years of data. When isolating responses from 2019–2020, COVID-19/online learning accounted for 7.9% of respondents who dropped out of high school. This expands the existing literature as there are no specific studies on the impacts of the combination of disability, the COVID-19 global pandemic, and dropout rates. Looking at data sets for following years could be useful to examine the impact of COVID-19 on student dropout rates over time. Data is available on overall graduation rates for students in Washington state in the 2018–2019 and 2019–2020 school years to examine the impacts of the COVID-19 global pandemic on graduation rates. The dropout rate for students with disabilities actually decreased from 16.2% to 13.4% between 2018–2019 and 2019–2020 (Washington Office of Superintendent of Public Instruction, 2020). Education policy may explain the contradiction between the OSPI data, which showed significantly lower rates of dropping out, and the findings from the qualitative analysis that a large number of students were dropping out due to the pandemic. During the 2019–2020 school year, the state of Washington had made two major changes: (a) changing the graduation pathways to provide options beyond standardized testing, and (b) Graduation Requirement Emergency Waiver (GREW) credit waivers to reduce the required total credits so that local education agencies (LEAs) had the power to graduate students that did not have the full 24 required credits. These findings related to the impact of the COVID-19 global pandemic have important implications for educational leaders and policy makers.

Although the pandemic was beyond anybody's control, there may still be remaining concerns from students related to online learning and this may or may not be related to disability. In addition, consideration of credit waivers and flexibility in graduation

requirements has likely decreased dropout rates. However, with expiration of these types of programs and resources after the 2022–2023 school year, the decline in dropout rates may reverse. It may be worthwhile to examine longer term options for earning credit and flexibility in the ways that students access their education. In this sense there is huge need to evaluate the impact of the COVID-19 pandemic on the success of all students so that educational program flexibility can be reviewed to identify the best practices for pandemic education including special education where student/educator interactions are engaged virtually. A careful analysis of the successes and failures of each virtual curriculum will allow for identifying and modifying a virtual learning plan for each disability group should the need arise again.

### *Theme 8: Environmental Exclusion*

The final theme revealed in this research was environmental exclusion, which included codes for behavioral challenges (1.7%), law/incarceration (3.6%), environmental safety (1.2%), aged out (2.1%), and felt too old (0.8%). These codes related to environmental factors that may "push" students out of the environment and exclude students from schools.

For students that aged out, the majority of responses were made by students who were in 18–21 programs that supported them with severe and profound disabilities. This was in contrast to students who "felt too old." These students did not feel comfortable returning as a 5th year senior who would rather have left without a diploma. This finding contributed to the literature by providing a specific student or parent/guardian voice on why a student might leave, unrelated to other environmental factors. This may also have aligned with earlier findings on students that move to alternate programs (i.e., Theme 7) due to the environment, although this connection cannot be determined from this data. Additional qualitative research studies that examine student

voice may help determine if there is a significant environmental barrier based on age and provide ideas on how to address this factor. For example, could students do credit recovery in alternate settings that are more comfortable for them, and would this lead to higher retention rates.

Another environmental factor was that many students felt unsafe as a result of either physical violence or bullying. This finding aligned with literature that stated teasing and bullying, or the perception of it, can lead to increased high school dropout rates (Cornell et al., 2013; Doll et al., 2013; Maynard et al., 2015; Rumberger & Rotermund, 2012). In Washington state, legislators worked to directly address harassment and bullying in public schools by passing Senate Bill 5698. This recent legislation specifically stated that by January 31, 2020, every school district had to adopt or amend policies and procedures to prevent harassment, intimidation, and bullying (HIB). This bill was passed during the final school year in this data set, so future research can explore whether or not that legislation results in fewer instances of bullying.

The findings did reveal that behavioral challenges were a reason that many students dropped out of high school, noting behavior problems, fighting, or suspension/expulsion. The findings for this data set also showed that many students either left due to problems with the law or incarceration. The findings for these two codes aligned with the existing literature that indicated behavioral challenges may lead to exclusion from the educational environment (Bradley & Renzulli, 2011; Ford, 2012; Rotermund, 2007; Rumberger, 2011). This is significant for educational leaders who look to expand the use of response to intervention and positive behavioral interventions and supports (PBIS). This is explored further in the recommendations section.

## Implications

The results of this mixed-methods study provided insights for educational leaders into the challenges and barriers students with disabilities in Washington state encounter as they attempt to successfully graduate from high school. This study used the conceptual frameworks of the social model of disability (Oliver, 1990, 2013; Oliver et al., 1983) and intersectionality of identity (Annamma et al., 2018; Crenshaw, 1991). Within this contextual framework, the results of this study highlighted not only challenges students face, but also potential opportunities for leaders to implement programs that support all students.

The quantitative study examined variables related to identity, the multiple and overlapping facets that may interact with disability and provide additional areas of disadvantage or advantage, and possibly may provide barriers to accessing their education (Annamma et al., 2018; Crenshaw, 1991). Although the quantitative analysis showed that all these variables had a significant relationship with dropout status, the degree of strength for these relationships varied from minor to strong. Additional analyses of observed versus expected results yielded insight into areas of concern for educational leaders looking to improve graduation rates. For example, gender only had a minor correlation, but males are both overrepresented in disability categories and also dropping out at rates that are much higher than their female peers. This could be due to over or underrepresentation of each gender and additional research into this phenomenon could yield insights into this question. The current research also reveals a need for expanding research to include nonbinary gender identity and representation within survey groupings. Findings from gender identification-inclusive research could then inform the design of educational programs aimed to meet the needs to these students with the goal of retaining these students in high school to complete their graduation requirements.

An analysis of the variable of race/ethnicity in Washington state showed, similar to existing literature, Black/African American, Hispanic/Latino, and Native American students with disabilities are dropping out at higher than expected rates. Thus, it is recommended that educational leaders directly compare educational/programmatic policies to define specific differences in their application and practice across among educators to racial/ethnic student groups. Such comparisons could identify key features that link with the differential dropout rates between groups, allowing educators to then establish programmatic criteria to modify and enhance the educational experiences of specific groups to facilitate high school retention and graduation. Consideration of possible bias in analytical and qualitative assessment of student skills for identifying specific disabilities should be considered for assessing skills and development of American Indian/Alaska Native, Black/African American, and Hispanic/Latino students.

This study identified a statistically significant relationship between ELL/LEP status and dropout rates that show that these dual qualifiers had better high school retention and overall graduation rates. It is suggested therefore that educators and educational leaders carefully evaluate Washington State ELL/LEP programs to identify the specific features that link with this reduced rate of dropout compared to other disability groups and the National trends. Adapting or modeling these programmatic features of the ELL/LEP education program could then serve to enhance education and outcomes of other student groups with disabilities.

This study revealed that EBD and OHI student needs are not being fully addressed, resulting in higher than expected group dropout rates. The underlying causes of this finding should be examined in more detail to define the programmatic requirements to support graduation success among these disability groups. Such efforts should move beyond considering

the traditional high school and special education environments to examine the special needs to EBD students including students in detention. This latter student group should be presented opportunities to interact with assigned mentor(s) for specific one-one one or group interactions to engage the student in a positive trajectory toward meeting graduation requirements. Defining the specific needs to facilitate high school graduation success of OHI students will certainly be complex, as health-specific contextual framework has to be included in such considerations. As noted above, OHI student considerations should include physical and mental health parameters that would obviate an agenda for environmental modifications toward accommodating the needs of these student groups and improve graduation outcomes. This study also revealed that in Washington State students with autism had a higher than expected graduation rate in comparison to students qualifying with other disabilities. This outcome supports the suggestion that educators should compare educational programs for autism students against parallel programs for other disability groups to identify differences that link with lower graduation rates of non-autism disability groups. Programmatic modification modeled accordingly could then facilitate specific disability group enhancement for graduating from high school.

Within this framework, the qualitative research analysis also provided unique insights into why students or parents/guardians expressed that they dropped out of high school. A large number of respondents identified personal “pull factors” as the reason they chose to drop out of high school. Among the qualitative responses, there was one response that mentioned race/ethnicity or staff members, and none that mentioned gender or ELL/LEP status. A small but significant number of responses specifically cited disability or accessing their IEP in the educational environment. Personal factors were cited as reasons for leaving, including responses such as personal, childcare/pregnancy, family, moving, medical, mental health, and the need to

work. Although the qualitative data were limited to providing one reason, it does not necessarily mean that an individual's gender, race/ethnicity, or ELL/LEP status did not intersect with these other factors. The results of this dissertation indicated that although identity is unique, the intersectionality of these variables may provide insights into additional areas of support or intervention.

Although identity is one component of an individual's educational experience, it is important to recognize the interplay between the individual and their environment. The conceptual framework used the social model of disability to frame the environmental, organizational, and attitudinal barriers that prevent full access and inclusion for some students (Oliver, 1990, 2013; Oliver et al., 1983). This framework recognized that the barriers related to identity may have more to do with how that individual is educated and embraced in their educational environment. This model suggests that by altering the structure of the system, and making it more inclusive for everyone, including those with disabilities, that students will have more opportunities to engage and thrive.

The qualitative data provided some insights into the environmental barriers that may be preventing students from graduating from high school. The theme of disengagement indicated whether students were uninterested or unmotivated. Although these answers were often short, such as "didn't like it," they suggested the school environment may not be a comfortable environment even if we do not necessarily know the reasons. There were also specific instances of emerging codes and themes that discussed disability in the environment, either lack of access to their IEP or through service models such as "pull-out" classes. The qualitative research also showed that academic challenges continue to present a barrier, and these may have been exacerbated by the COVID-19 global pandemic and switch to online learning, something many

respondents listed was not an effective way to access their education. Finally, it is important to look at the number of students who either were excluded or excluded themselves from the environment. Law or incarceration were commonly listed as reasons for leaving, along with behavioral challenges that led to suspension or expulsion from schools. Many students chose to leave because they felt too old, pursue alternate programs, or work. By creating an environment that provides individualized access and removes barriers, students may have more ways to access their education and meet the graduation milestone.

## Recommendations

Due to the size of this data set, this research dissertation yielded quantitative and qualitative data that provided numerous insights into challenges faced by students with disabilities in Washington state. The data has also produced insights into areas where educational leaders have succeeded in lowering overall dropout rates and where targeted interventions for certain student populations may have shown dramatic improvement. As educational leaders continue to explore ways to improve graduation rates and engagement of all students, including those with disabilities, three major recommendations emerged: (a) increase or maintain social emotional and mentoring supports in schools, (b) address environmental culture to be more inclusive to all types of students, and (c) consider programmatic revisions in schools that allow different types of learners to engage in more varied content and programs.

### Social Emotional and Mentoring Supports

The results of the qualitative research yielded several findings that suggested students are often “pulled” from the school environment due to personal struggles. These findings related to codes across several themes such as family, housing instability, substance abuse,

and mental health. These challenges were present across multiple themes and highlight the necessity of continued counseling and health supports for students in schools to help mitigate personal pull factors that remove students from the educational environment. Educational leaders should focus resources on increasing funding for programs that support students with these challenges.

### *Increasing Counseling and Social Worker Services*

Students experienced high rates of personal challenge or trauma, and counseling and social worker support are critical interventions that can be employed to help mitigate these challenges. In public schools counselors provide not just academic and vocational guidance, but also play a critical role in providing socio-emotional supports, as well as managing physical and mental health challenges (Stephan et al., 2015). Counselors serve as a trusted adult to help students manage challenges both at school and at home, and provide critical guidance for students as they make the transition to early adulthood. In schools, counselors can help students manage challenges with peers or teachers and provide strategies for student self-advocacy. Social workers are also key partners as that can help bridge communications and supports between the school and home environments. Counselors and social workers provide bridges to services such as outside professionals, substance abuse treatment programs, crisis management and community support services.

Counselors also can serve as members of multi-disciplinary teams that provide wraparound services for students. Monitoring for student attendance is a strong marker of at risk for non-graduation. In this case, the education team can take early action to engage the student, including implementing interventional approaches to support the student for retention to high school graduation (Alexander et al., 1997; Allensworth & Easton, 2005, 2007;

Rumberger, 2011). Counseling and social worker services act as mitigating factors to help keep students in schools. Currently funding for these services varies by district and often is supplemented by levies which means there is inconsistencies in the level of support that students receive across the state. Educational leaders should increase focus and resources on counseling and social workers supports.

### *Positive Behavioral Interventions and Supports (PBIS)*

Response to Intervention (RTI) in Washington state schools has largely focused on positive behavioral interventions and supports (PBIS) to determine social, emotional, and behavioral factors contributing to student challenges (Stephan et al., 2015). RTI is an approach that address student challenges through a tiered system of supports and interventions (Bradley et al., 2007; Preston et al., 2016). A continuation and expansion of this work is necessary to address these remaining challenges students experience. Educational leaders can use RTI and PBIS to help address some of the challenges that push students from the educational environment. Students served through special education services are served in Tier 3, the most intensive level of support providing services to the top 1% to 5% of students. Tier 3 services are often mandated by state and federal legislation; however, Tier 1 and 2 interventions are largely left up to individual districts meaning that there may be inconsistencies in the student experience. This may explain why consistent with the research, there is still overrepresentation of students in special education based on both race and gender, as well as discrepancies in observed versus expected dropout rates. In addition, this data set reveals that there are higher than expected dropout rates for students qualifying for special education under the OHI or EBD categories. OHI includes students that qualify with Attention-Deficit/Hyperactivity Disorder (ADD/ADHD). These two categories of disability

may require more intensive behavioral interventions for students to be successful in the classroom and these students may be pushed into special education services as a result (Ford, 2012). Increasing the focus of PBIS, and increasing consistency in Tier 1 and 2 supports statewide is critical to preventing students from being "pushed" from the educational environment.

### *Mentoring Programs*

Another potential intervention is to consider creating or expanding existing mentoring programs, which have been shown to promote understanding, motivation, and care for students, and increase the likelihood of remaining in school (Hickman & Anderson, 2019). Mentors can provide a crucial support in helping engage or re-engage students in the educational environment and help them envision their future goals. As educational leaders work to build a more diverse and inclusive workforce of educators and administrators, there remains an immediate challenge for diversity with the overwhelming number of teachers being White and female. Mentoring programs provide an opportunity to increase the diversity of trusted adults to help them navigate the transition to early adulthood. Educational leaders should consider mentoring services and programs are an integral part of creating a community that is supportive to a diverse group of learners.

## Inclusive Environmental Culture

The results of this study suggested some students did not feel comfortable or included in their high school environment. Of the students who were uninterested or unmotivated, many cited challenges specific to teachers or peers at their school. Environmental culture is a problem that may be easier to address at the LEA level because so much is specific to a unique school or district. Researchers have noted that high dropout rates are associated with certain elements of

environmental culture including social demographics of both peers and teachers, discipline policies, classroom culture, curriculum, and rated supports that may serve to "push" students away from the educational environment (Bradley & Renzulli, 2011; Bridgeland et al., 2006; Christle et al., 2007; Wagner et al., 2007). Educational leaders have an opportunity to build a supportive and inclusive environment that may mitigate factors at home beyond the sphere of educational leaders and may motivate students to stay in school.

### *School Culture*

This research shows that there are significant challenges with student disengaging from the school environment or lacking motivation to continue their education. Educational leaders at the district level have an opportunity to create more inclusive school cultures that create a learning environment that works for all students. Student identity is complex and multi-faceted, in addition to having a disability, there are factors related to race, gender, English-limited proficiency as well as cultural considerations. Creating an inclusive school culture would require leaders to increase diversity of administrators, teachers and support staff to be more representative of student demographics. In addition, district leaders can support training for staff to increase the diversity of their curriculums and teaching materials to reflect cultural responsiveness. Curriculum that represents more diverse gender, family structures, race/ethnicities, religions and other identities will make it more relevant to learners and increase engagement in the classroom. Finally, educators will need additional training and resources in how to address difficult topic with students and provide them tools for students to be open to presenting their experiences and perspectives. A positive and inclusive environmental culture can act as a protective factor to help lower dropout rates for students with disabilities in Washington State and increase graduation rates and future opportunities.

### *Inclusion*

Educational leaders at the state level have made progress to move students with disabilities into the least restrictive environment after NCLB set requirements and targets for inclusion of students in general education classroom settings. Despite this significant progress, this research revealed that students continued to experience challenges receiving their special education services as well as concerns with placement and exclusion. In consideration of disability and specific environment, student disability type should be carefully considered to inform how the student is best physically placed within the classroom context, with careful thought going to placements in which the student may is inclusive with their peers.

District leaders have an opportunity to look at SDI service matrices and find more ways to include students with their general education peers. A review of these services will likely reveal that in order to achieve these aims there will need to be additional staffing and resources diverted to programs that serve students with disabilities. Additional funding and staffing will provide additional opportunities for students, however, even with funding challenges district leaders can explore additional models that make more efficient use of the existing staffing resources. For example, special education teachers can focus on designing and monitoring special education services that are administered by general education teachers and paraeducators. In addition to staffing models, district leaders can implement more inclusive teaching practices such as Universal Design for Learning (UDL) that are accessible to a wider variety of learners. Educational leaders should evaluate inclusion models within the constraints of existing resources and look for opportunities to expand funding, staffing and training for these initiatives in schools.

### *Increased Clarity in Communications*

This study reveals findings that suggest a communication gap between families and educational leaders, whether at the state or local level. This gap exists between educational leaders, student and family members, at least in Washington State within student disability groups, wherein the student/student's family are not effectively informed of their graduation status. This finding likely reveals a larger and problematic communication gap issue that needs immediate attention. Direct communication infrastructure to include communication verification between educator, student, and student's family should be a central component of the educational program for all students and is highly imperative for the success of disability students. Thus, improving communication infrastructure should be a common programmatic objective for all educators and education leadership personnel. These efforts should engage a platform of routine and *ad hoc* check in, leadership engagement where needed, verification of communications, and continual efforts to identify additional communication needs.

## Programmatic Recommendations

The data in this dissertation showed a significant number of students leave high school because of either academic challenges or obstacles relating to their IEP and the support they receive. The literature aligned with these findings and provides educational leaders an opportunity to look at graduation requirements and explore alternate models (Bradley & Renzulli, 2011; Rumberger & Rotermund, 2012). Although these academic push factors could be addressed through targeted interventions and supports, it is important to also recognize "pull" factors are enticing students to leave the traditional academic environment to explore other opportunities aligned with their interests and needs.

### *Curriculum and Vocational Skills*

A major finding from this study was that the largest number of students who dropped out left to pursue alternate programs. In addition, a substantial number of students left to pursue work opportunities. Although some students who left to work did so out of necessity, others did so out of choice, choosing to work instead of completing their education. The qualitative research in this study shows that a significant number of students with disabilities preferred vocational skills training to the traditional high school curriculum. Curriculum varies by district and it is worthwhile for leaders to consider what types of classes are being offered to students and whether these represent a wide diversity of learners.

Routine assessment of student needs for inclusion of vocational and work-study educational opportunities could engage students to remain in school for graduation. Specific vocational training could retain students in school for skill set acquisition toward facilitating a plan for the student to enter the work force following graduation from high school. Work-study opportunities wherein a student could earn income and school credits through at-work instruction could serve the needs to of the student and family while facilitating the high school education and graduation. Specific vocational training could retain students in school for skill set acquisition toward facilitating a plan for the student to enter the work force following graduation from high school.

***Linkage to Alternate Programs***

LEA leaders can examine partnerships to alternate programs to determine if there are vocational and job training opportunities that are available and accessible to students in their district. Leaders at the district level need to take into consideration that some students may be inadvertently “pushed” from the educational environment into alternate programs due to behavioral challenges or factors related to their disability. While alternate programs provide

an alternate opportunity for some to complete their education, there are also a significant number of students that also drop out of alternate programs after transferring. A consideration for leaders is that many of these alternate programs provide structured supports, but are not required to fully implement the IEP. It is a concern that students may be moved to alternate programs to increase graduation rates, essentially excluding students with challenging behaviors or needs from the environment. State leaders can work to increase the disability supports in these alternate programs and continue to establish more robust relationships with these partner programs.

This study revealed a specific environmental exclusion perception of disability students impacts their graduation rate. Students have major concern about being too old to be in school when they are part of the 18-21 extended education program. It is suggested here that students could better be placed into age grouping for the specific educational goal, thereby adjusting away from the perception that the student is older than other students to clear inclusion. Routine assessment of student needs for inclusion of vocational and work-study educational opportunities could engage students to remain in school for graduation.

***Transition Planning***

Transition planning is legally mandated for all students over the age of 16 that receive special education services. This provides an opportunity and additional intervention to help facilitate successful transition to early adulthood and postsecondary endeavors for students with disabilities. Researchers have shown the effectiveness of transition plans to help students articulate and achieve personal and professional goals (Bakken & Obiakor, 2008). Transition plans help students identify strengths and challenges, but also create postsecondary goals for education, employment and independent living. This can help students make the connection

between high school graduation and their own personal goals. Despite this opportunity, transition planning efforts are inconsistent due to staffing and funding differences among districts. Educational leaders have an opportunity to examine transition planning efforts and streamline the process for consistency across districts.

## Organizational Development Recommendations

This dissertation recommends interventions that can be implemented in Washington State high schools to create more inclusive environments that serve the needs of all students, resulting in an increased likelihood that these students will graduate from high school. These initiatives will largely be determined at the level of the Local Education Agency (LEA), as educational district leaders have the flexibility to determine solutions that can provide the greatest benefits to their organization, given their specific demographics and resource constraints. Organizational Development (OD) theories and frameworks can be successfully applied in educational institutions looking to implement new initiatives or reimagine the way we educate students. In particular, Change Management is a subset of organizational development w that focuses on building a structured approach to implementing organizational change.

This dissertation proposes recommendations requiring organizational development and change management strategies for leaders to have the tools to increase their probability of a successful change intervention. Leaders can be instigators of change; however, they must provide an environment in which team members at all les change agents build better solutions for the organization. In schools, district leaders need the active partnership and buy-in of teachers, staff, students, parents, and the community to implement these interventions and initiatives. Organizational leadership scholars have introduced the concept of learning organizations to recognize that organizations are complex and constantly changing and quire prescriptive models

that allow for flexibility and continual change.

Argyris and Schön (1974) first introduced the concepts of single-loop and double-loop learning for change management methods and as a tool to improve organizational efficiency. Argyris and Schön (1996) expanded upon organizational learning, recognizing both the permanence of learning and change and the necessity of integrating performance and learning. Senge (1994) would continue to develop these theories in his concepts of learning organizations. Learning organizations can acquire and transfer knowledge but, more importantly, alter behaviors to reflect on knowledge and insights. This notion is fundamental in our educational institutions as we improve student engagement and retention. Senge (2012) applies his organizational learning theory to schools in *Schools That Learn* a handbook for educational leaders, teachers, parents, students, and anyone interested in developing our schools' capacities and increasing student success. Schools will need to embrace new challenges as external pressures and internal initiatives drive the most effective ways to educate our students. A review of these strategies and approaches can help serve as a framework for how we implement changes to support students with disabilities in our high schools.

**Change Management Model**

Recognizing that organizations are constantly evolving, change management tools have emerged to help leaders implement these organizational changes. Kotter's (1995) eight step model focuses on people's responses to organizational change. It provides a framework for leaders to create a sense of urgency and buy-in. Implementing an intervention in an organization provides a framework for leaders to plan efforts and prepare their teams for change. Accepting change in individuals can lead to a more receptive climate for creating learning organizations. Kotter (1995) presents eight critical steps to transform an organization; 1) establish a sense of

urgency, 2) form a powerful guiding coalition, 3) create a vision, 4) communicate the vision, 5) empower others to act, 6) plan and create short-term wins, 7) consolidate improvements to sustain acceleration and 8) institutionalize new approaches. These steps are broad enough to be applicable across many types of organizations, from businesses to non-profits, and provide a proven strategy to increase the likelihood of successful organizational development efforts. Kotter's (1995) eight step model can also be applied in educational organizations, with a framework to implement steps for new initiatives and programs that benefit students. Change management principles can move school districts toward learning organizations.

***Step One: Establish a Sense of Urgency***

This first stage involves an examination of the current realities in an organization and the identification of potential gaps, opportunities, or crises. In this dissertation, the quantitative data results show opportunities to target interventions to benefit specific struggling populations, such as students relating to gender, race/ethnicity, and category of disability. In addition, the qualitative data highlights the many ways that students with disabilities are either pulled or pushed from the school environment.

***Step Two: Form a Powerful Guiding Coalition***

This step requires the assembly of a group of individuals responsible for the initiatives' outcomes. This group will be more substantial if it is diverse and consists of individuals at all levels of the organization, from critical stakeholders to employees doing the work. Educational initiatives are often driven at the district level but need to include a comprehensive set of stakeholders to set the conditions for lasting change, including educators, students, and families.

***Step Three: Create a Vision***

Creating a vision should be collaborative to ensure the greatest possible buy-in. This

involves examining the issue, but more importantly, envisioning the future state. A crucial part of this stage is vital strategic planning, ensuring alignment within the organization and increasing the chances for successful change rollout. One recommendation from this dissertation would be to envision a more inclusive school with a diverse curriculum or universal design for learning supports that could serve all students.

***Step 4: Communicate the Vision***

Communications should be consistent with the guiding coalition of key stakeholders so that each person can articulate the vision and build buy-in from the larger community. This commitment is significant as members of the organization move through the discomfort of change. In educational institutions, communications must come from various stakeholders, administrators, teachers, staff, parents, and students.

***Step 5: Empower Others to Act***

Empowering others to act is a critical step to removing obstacles to change. Despite the best strategic planning, change implementation efforts will primarily be driven by organizational employees who will encounter challenges. The role of the leader is to change systems or structures that undermine the vision. In education, this can include an environment that encourages risk-taking and embraces nontraditional ideas, actions, and teaching practices.

***Step 6: Create Short-Term Wins***

Large-scale change management projects have the potential for employee burnout, significantly if the challenges individuals face outweigh their unclear vision of a future. This may be more critical in schools as teaching staff will often endure the most significant change to their teaching practices, and there is the potential for burnout. Short-term wins recognize and reward employees for their improvements.

### *Step 7: Sustain Acceleration and Improvements*

Following early wins, leaders should use the momentum to change systems, structures, and policies that no longer align with the strategic vision. This process will be made more accessible by crucial change agents and employees who buy into the idea. It is possible to develop these employees through professional development or hire new employees who share the same values that align with the new vision. In education, some changes may be limited by policy, for example, by teachers' unions, however, offering opportunities for professional development may increase employee buy-in and create new ideas for expanding the vision.

### *Step 8: Institutionalize New Approaches*

The final step to ensure that change initiatives continue to develop and succeed is to institutionalize these new approaches to the problem. Leaders must be able to articulate how the new behaviors or skills align with the overall success of the organization. There also needs to be expanded inclusion of new leadership opportunities so that others can develop and continue to grow the organization.

## Strengths and Limitations

### Strengths of the Study

This research leveraged existing data sets from the 2017–2018, 2018–2019 and 2019–2020 school years, following up with students with an IEP one year after they leave public education. The Post-School Outcomes survey has been conducted for over two decades and is funded by the OSPI. Portions of this data set were published annually to inform educational leaders on current trends, which further adds to the rigor and validity of this data set. This was a unique and rich data set that provided the researcher access to both quantitative and qualitative data. The large sample size of 26,982 students for the three-year period was a significant strength

of this study, along with the 2,344 qualitative survey respondents. In addition, this is an annual study so there are significant opportunities to further explore past and future data and analyze longitudinal trends.

**Limitations of the Study**

A limitation of this study was that it was unique to students with disabilities in Washington state, which may limit generalizability of the data across local and national trends. The quantitative data included variables related to dropout rates and gender, ELL/LEP qualification, and category of disability. However, an examination of these variables may specify areas of need for intervention. Elements of identity such as race or gender do not necessarily correlate with why a student did not complete high school. In addition, the literature has suggested that socioeconomic factors have a correlational relationship with dropping out from high school, but this question could not be answered or addressed given the variables used in this research study. The study does present a potential opportunity for revision of survey qualitative questions that can better inform outcomes, including broader response reasons for leaving school for personal reasons, for more detailed information on disengagement as well as more detailed reasoning from those students that went to alternate programs or to work.

The qualitative data were analyzed using thematic analysis. Thematic analysis can be limiting in its methodology, relying on the perspective of the researcher. Although attempts were made to limit bias as outlined in Chapter 3, there was only one researcher; it is possible that the researchers' perspectives may have affected coding and creation of themes. Thematic analysis is flexible, but this may lead to a lack of coherence in developing themes, and researchers cannot make claims on language use (Clarke et al., 2015). There was no opportunity in this study to conduct inter-rater reliability. Another limitation was that although the survey provided qualitative data, the question and data collection predated this dissertation project and was not

specifically designed to address the research question. All coding was done in the response to one survey question. It is possible that additional data and studies could collect additional clarifying data as noted above. For example, of the 2,336 responses that were reviewed and coded, 662 (28.3%) chose either "unknown" or "declined to answer." A substantial percentage of respondents are missing from the qualitative data. Another challenge inherent to the limitations of this research study related to who was answering the survey question. Of the 2,336 responses, only 24.4% (570) were given by the student. The remaining responses were answered by a parent, guardian, or family member. Due to these challenges with the qualitative data set, it cannot be said that the codes and themes presented are entirely representative of a student's personal reasons for dropping out of high school. More detailed or additional qualitative survey questions may help clarify student's reasoning behind disengagement.

## Future Research

This study used a large existing database and provided a broad overview of the personal and environmental factors that may contribute to higher dropout rates among students with disabilities in Washington state. Future research could contribute to (a) more nuanced understandings of the reasons students with disabilities drop out of high school, (b) determining the relationships between policy and graduation and dropout rates in Washington state, and (c) exploring how the decision to drop out affected employment and salary one year later. The thematic analysis used in this research was selected due to the limitations around the constraints of this study and the availability of the existing data. Survey modifications could be implemented to include expanded selection of questions to better categorize criteria from codes and themes. For example, inclusion of an expanded range of personal and family

reasons that a respondent could simply select could improve the performance to render increasingly informative data for this part of the survey.

Future qualitative research could yield additional insights into why students dropout from high school. A major limitation of this qualitative study was that student's own voices were only represented in 24.4% of responses. Although it may not be possible to reach as many students, a research study using a follow up survey or focus group methodology designed to gather additional student voices would provide useful insights to educational leaders.

This study also highlighted the paradox of the large percentage of students who cited the COVID-19 global pandemic and the online learning environment as the reason for dropping out (7.9% for the 2019–2020 school year) versus the overall decline in dropout rates for students during this same year. This data set only includes students who were affected by the first 3 months of the pandemic. As additional annual survey data becomes available it would be useful to see how these student responses, and overall graduation rates, change over time.

Finally, A significant number of respondents said they left school to pursue work. Although it was beyond the scope of this dissertation, the Post-School Outcomes survey contains information on whether or not a student is working one year later and their current salary. This could be a potential opportunity to investigate the difference in economic outcomes between students who dropped out of high school and their peers who earned a high school diploma.

## Conclusion

Educational leaders in Washington state have targeted a 90% on-time graduation for all students and have implemented policies to help achieve that mission. Leaders at the state level have implemented legislation to help school districts meet this target, and LEA leaders have risen to the challenge by implementing interventions and support in their school districts that will help Washington achieve its mission. Students with disabilities in Washington state are still dropping out higher rates than their peers, but the gap is narrowing, and there have been numerous successful policies that have helped achieve that result. Quantitative and qualitative data analysis from this research study helped to illuminate some of those challenges and potential areas for intervention. There are opportunities to implement or maintain policy changes and for districts to continue to make their schools even more inclusive and accommodating of all students. Future research can provide even more information to the educational leaders of Washington state to help them achieve their on-time graduation goal.

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# Appendix A

## OSPI Data Share Approval



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k12.wa.us

Washington Office of Superintendent of
PUBLIC INSTRUCTION
Chris Reykdal, Superintendent

May 2, 2022

Elaine Marcinek
Seattle University
901 – 12th Avenue
Seattle, WA 98122

**SUBJECT: Administrative Amendment to Datashare Agreement #2019ID-012/Contract #20200091**

Dear Ms. Marcinek:

This is to notify you of an administrative change to Datashare Agreement #2019ID-012/Contract #20200091 with OSPI's Student Information Office. The list of Authorized Users in Exhibit D is amended to read as follows:

The individuals below are authorized to have access to or work directly with data provided in this agreement.

At any point in time during the duration of the data sharing agreement any of the staff listed below are removed from the project written notification must be provided to OSPI immediately.

At any point in time during the duration of the data sharing agreement individuals are to be added as authorized users for research, written notification of the individual(s) to add and a signed original Exhibit B Statement of Confidentiality and Non-Disclosure for each person must be provided to OSPI, prior to providing access to the data.

1. Cinda Johnson, Principal Investigator
2. Elaine Marcinek, Director
3. ~~Kristin Hirschman, Director of Transition Services, Training and Curriculum~~
4. Jay Shepherd, Marketing and Communication Specialist
5. Shi Pu, Software Developer
6. Ben Smith
7. Sean Li, Student Worker
8. Cynthia Gale, COE Doc Student
9. Jason Parkin, Faculty