

DIFFERENCES IN COLLEGE-READINESS RATES FOR STUDENTS WHO WERE
ENROLLED IN SPECIAL EDUCATION IN TEXAS: A MULTIYEAR, STATEWIDE
INVESTIGATION

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DEDICATION

I dedicate this dissertation to my amazing family and friends. The support that I have received from my family and friends has been truly inspiring. I knew that at the rough moments, I could count on them to keep me going. My daughter Kylie, who has had to be without a mommy at times, has always supported my decision, and was always ready for her snuggle time when mommy was through writing. My son Tyler, who has been with me since the beginning of my college career and has been my motivation to always push myself to meet my goals, knowing I wanted him to know, you can be and do whatever you set your mind to. To my husband who had to put his own career goals on hold for me to accomplish mine. To my parents, who always pushed me to be better tomorrow than I am today. And to the silent heroes, who were there to answer my questions, push me when I needed it, and cheer me on every step of the way. I appreciate everyone who has stuck by me, even though, at times relationships were a simple text message, I knew the love and support was always there.

ABSTRACT

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Purpose

The purpose of this journal-ready dissertation was to examine the extent to which college-readiness rates of Texas high school graduates differed by disability category and by economic status for students who qualified for special education services. The first purpose was to analyze the degree to which differences were present in college-readiness rates by disability category of Texas high school graduates who qualified for special education services. A second purpose was to determine the extent to which differences were present in college-readiness rates by economic status of Texas high school graduates who were Learning Disabled. Finally, a third purpose was to examine the degree to which differences were present in college-readiness rates by economic status of Texas high school graduates who were Emotionally Disturbed. Each of these three research studies involved an analysis of three years of Texas statewide data. As such, the extent to which consistencies were present in the college-readiness rates of these groups of students was ascertained.

Method

In this causal-comparative research design, archival data were obtained and analyzed from the Texas Education Agency Public Education Information Management System for the 2008-2009 through the 2010-2011 school years. Inferential statistical procedures were calculated to determine whether differences were present in reading, mathematics, and both subjects college-readiness performance among four groups of

students who were enrolled in special education (i.e., Learning Disability, Emotionally Disturbed, Other Health Impaired, Speech or Language Impaired); for students who were Learning Disabled by their economic status; and for students who were Emotionally Disturbed by their economic status.

Findings

The college-readiness rates in reading and mathematics for students who were Learning Disabled were statistically significantly higher than the college-readiness rates for students with an Emotional Disturbance, Other Health Impairment, or a Speech or Language Impairment. Students who had an Other Health Impairment had higher college-readiness rates in both subjects than the other three disability categories. For students with Learning Disabilities, very low college-readiness rates were present. For students with an Emotional Disturbance, not a single student with an Emotional Disturbance met the college-readiness standard in reading, mathematics, and both subjects.

KEY WORDS: Special education, Learning Disabled, Other Health Impairment, Emotionally Disturbed, Speech Impairment, Language Impairment, College-readiness, Economic status

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CHAPTER I

INTRODUCTION/BRIEF REVIEW OF THE LITERATURE

“A rigorous public education system is a fundamental building block for our future workforce and must provide a strong foundation to prepare all students for a lifetime of learning and training required of a rapidly evolving global economy” (Paredes, 2013, p. 16). Of the 15 fastest growing occupations in the United States, 11 of these occupations require some form of postsecondary education (United States Bureau of Statistics, 2015). Not only is the demand for postsecondary education growing, the percent of students who receive special education services also continue to grow. Students, including students who are enrolled in certain disability categories (e.g., Learning Disability, Emotionally Disturbed, Speech and Language Impaired) in special education, should leave high school with the necessary skills to be successful in postsecondary education.

For this journal-ready dissertation, research literature in several areas was reviewed. In the review of the literature for the first journal-ready manuscript, the issue of college-readiness for students in special education was reviewed. In this section, the major categories of students in special education were discussed. In the literature review for the second journal-ready manuscript, the issue of poverty and its relationship to college-readiness were investigated for students who were diagnosed with a Learning Disability. Finally, in the literature review for the third journal-ready manuscript, the relationships of poverty and college-readiness for students who were Emotionally Disturbed were discussed.

College-Readiness and Students in Special Education

Public Law 94-142 (Individuals with Disabilities Education Act) was enacted in 1975 to require public schools to provide free access for all students with disabilities from ages 3 to 21. Congress amended the act in 1986, 1990, and then again in 2004 to clarify and to increase the emphasis on the appropriate education students with disabilities should be receiving, including the least restrictive environment. Of particular interest to this article is the increased emphasis placed on promoting college-readiness for students with disabilities. Even with an emphasis on promoting college-readiness for students with disabilities, only 7.6% of students who qualified for special education services in high school attended 4-year universities, compared to 29.2% of students who had not been enrolled in special education (Brand, Valent, & Danielson, 2013). Of those students who attended 4-year universities, only 34.2% of students who had been enrolled in special education completed their degree within eight years of graduating high school, compared to 51.2% of students who completed their degree within eight years and who had not been enrolled in special education (Brand et al., 2013). Ten years after students have been enrolled in postsecondary education, only 44% of students with disabilities had completed their degree compared to 68% of students without a disability (Cameto, Levine, & Wagner, 2004). The gap in public high school graduation rates for students with disabilities may reflect that students with disabilities require different approaches to their education than students without disabilities (Brault, 2011).

College-readiness, academic success, and persistence in postsecondary institutions have been analyzed by numerous researchers (Barnes & Slate, 2010, 2011, 2013; Barnes, Slate, & Rojas-LeBouef, 2010; Chandler, Slate, Moore, & Barnes, 2014a,

2014b; Harvey, Slate, Moore, Barnes, & Martinez-Garcia, 2013; Holden & Slate, 2016). The rigor of a student's high school course selections is correlated to the persistence of a 4-year degree. The more rigorous the high school course selection, the greater the odds are that students will attain a postsecondary degree (Adelman, 2006; Horn & Kojaku, 2001).

With respect to students enrolled in special education, one group of students relevant to this investigation are students with a Learning Disability. Students with a Learning Disability constitute the largest group of students in the United States who receive special education services (Cortiella & Horowitz, 2014). In the 2010-2011 school year, 5.7 million students were served in special education nationally. Of those students, 42% were students with a Learning Disability (Cortiella & Horowitz, 2014). Regarding the state of interest in this investigation, Texas, students with a Learning Disability constitute 43.2% of students who are enrolled in special education in Texas (Cortiella & Horowitz, 2014). Even though students who have a Learning Disability comprise the largest group of students who receive special education services, they attend 4-year universities at half the rate of the general population and only 17% of those students receive accommodations or support (Cortiella & Horowitz, 2014). Also, Cortiella and Horowitz (2014) noted one third of students with a Learning Disability had been retained at least one year and one out of every two students with a Learning Disability in the 2011 school year received a disciplinary consequence, such as suspension or expulsion. These two events are negatively related with high school completion (Cortiella & Horowitz, 2014).

Also addressed in this journal-ready dissertation were the college-readiness rates of Other Health Impaired students. Of these students with a disability, the National Center for Education Statistics (2016) reported, in the 2011-2012 school year, 11.6% of students who were enrolled in special education in the United States were classified as Other Health Impaired. With respect to the state of interest in this investigation, the Texas Education Agency (2016c) reported 13.5% of students who were enrolled in special education were Other Health Impaired in the 2015-2016 school year. The Other Health Impairment category is often used as a last resort when a student did not qualify for special education services because it has a wide range of classifications under the definition (Grice, 2002). School staff members receive pressure from parents to identify their children as needing special education services in the Other Health Impairment category to receive modifications or accommodations for state testing (Grice, 2002).

Students receiving services for Speech or Language Impairment constitute a third group of students in this investigation. Nationally, in the 2010-2011 school year, students with a Speech or Language Impairment accounted for 19% of students who received special education services (Cortiella & Horowitz, 2014). This group of students represented approximately 20% of students with disabilities in Texas (Texas Council of Developmental Disabilities, 2013). As noted by the National Institute on Deafness and other Communication Disorders (2004), 5% of children were diagnosed with a Speech disorder by the time they entered first-grade. Children with Speech Impairments performed lower than students without Speech Impairments on literacy tasks as well as in other content areas (Nathan, Stackhouse, Goulandris, & Snowling, 2003). For example, Snowling, Adams, Bishop, and Stothard (2001) documented that preschool children with

language impairments had lower mathematic skills at a later age than did students without a language impairment. Nathan, Stackhouse, Goulandris, and Snowling (2004) analyzed the assessment results of students who had Speech Impairments. In their study, students whose Speech Impairments persisted performed below those students without Speech Impairments on reading, spelling, and mathematics assessments. However, students whose Speech Impairments were successfully resolved performed at the same rate as students without Speech Impairments on the reading, spelling, and mathematics assessment (Nathan et al., 2004).

The fourth group of students examined in this journal-ready dissertation were students who were determined to be Emotionally Disturbed. Nationally, 6% of students receiving special education services were determined to be Emotionally Disturbed (Cortiella & Horowitz, 2014). According to data from the Texas Education Agency (2016c), students who are Emotionally Disturbed represented 5.8% of special education students in Texas in the 2015-2016 school year. Students who were Emotionally Disturbed enrolled in postsecondary education at a rate of 34.7% compared to 62.6% of the general population (Newman et al., 2010). For students who are Emotionally Disturbed, 33% attended an alternative postsecondary institution, 38% attended a 2-year college, and only 11% attended a 4-year college. Of these students, less than half, 45.9%, attained a postsecondary degree or certificate of any type (Newman et al., 2011). Less than a fifth of students who were Emotionally Disturbed received supports or accommodations in postsecondary environments (Newman et al., 2011). More startling is the rate at which young adults who are Emotionally Disturbed are arrested. In 2009, the arrest rate for persons who were Emotionally Disturbed was 60.5%, which is much

higher than any other disability category (Newman et al., 2010, 2011). Wagner et al. (2003) noted more than one third of this population had been arrested at least once before leaving high school.

Specific to two groups in this journal-ready dissertation, students who were Emotionally Disturbed were disproportionately disciplined in the 1999-2000 to the 2001-2002 school years and students with a Learning Disability were disciplined more often than all students with disabilities during the same time (Zhang, Katsiyannis, & Herbst, 2004). When analyzing the effects of disciplinary consequences on students who were Emotionally Disturbed, or Learning Disabled, or Other Health Impairment, Allman and Slate (2012, 2013) documented that students with disabilities who received an in-school suspension, out-of-school suspension, or a disciplinary alternative education program placement had statistically significantly lower academic achievement than their peers who had not received a discipline consequence.

With the amendment to Public Law 94-142 in 2004, in which an emphasis was placed on college enrollment for students with disabilities, a definition of what constitutes college-readiness is needed (Individuals with Disabilities Education Act, 2004). Conley (2007, 2008) defined college-readiness as students successfully making the transition from high school to the college environment equipped to manage the demands of college without remediation. To meet the needs of the global economy a vast range of skills are needed (Brand et al., 2013). Conley (2007, 2008) described four key components college-readiness is built upon (a) key cognitive knowledge, (b) key content knowledge, (c) academic behaviors, and (d) contextual skills and knowledge. Cognitive knowledge consists of students having the capability to analyze, interpret, and problem

solve. With respect to content knowledge, students must have key content knowledge to be considered college ready (Conley, 2007, 2008). Academic behaviors are noncognitive behaviors such as time management skills and study skills that require students to have self-control in a college environment (Conley, 2007, 2008). For students with disabilities, placing focus on the noncognitive aspects of college-readiness is essential (Brand et al., 2013). Lastly, for students to be college-ready and successful, they need contextual skills and knowledge to be able to apply and acculturate in the unknown world of college (Conley, 2007, 2008). However, as noted in Barnes and Slate (2011), in the State of Texas, college-readiness indicators were specific to the following standardized assessments: (a) Texas Assessment of Knowledge and Skills, (b) Scholastic Aptitude Test, and (c) American College Test.

Almost 60 years of federal legislation has resulted in efforts to improve the college-readiness of high school graduates beginning with the National Defense Education Act in 1958 to the newest piece of legislation, Every Student Success Act in 2016. These legislative acts have created an environment of high-stakes testing. Barnes and Slate (2013) coined the term one-size-fits-all college-readiness agenda, created by the government. This agenda is believed to have resulted in ineffective and uncreative learning environments. The shift to high-stakes testing could force teachers and schools to focus on test preparation instead of academic preparation for postsecondary education (Barnes & Slate, 2013).

Researchers (e.g., Barnes & Slate, 2010, 2011; Barnes et al., 2010; Chandler et al., 2014b) have documented that students graduate from high school without the skills necessary to be successful in postsecondary settings. In particular reference to this

journal-ready dissertation, Chandler et al. (2014b) examined college-readiness rates of students who were (a) economically disadvantaged, (b) Limited English Proficient, or (c) enrolled in special education. Of the five consecutive school years of data they analyzed, students who were Limited English Proficient or enrolled in special education performed lower than those students who were economically disadvantaged. Statistically significant findings were determined, with 13 large effect sizes and two moderate effect sizes being present. Chandler et al. (2014b) established an almost 20-percentage point increase in reading college-readiness rates between the 2006-2007 and the 2010-2011 school years for all students. However, during the same period, students who were enrolled in special education exhibited a little over 2% increase in their reading college-readiness rates.

With respect to mathematics college-readiness rates for all students, an increase of 13.15 percentage points was present, whereas students who were enrolled in special education had relatively no change in their mathematics college-readiness rates from the 2006-2007 through the 2010-2011 school years (Chandler et al., 2014b). When analyzing college-readiness in both subjects, students who were not in special education experienced an increase of 17.14 percentage points compared to a slight decrease in the college-readiness rates in both subjects for students who were enrolled in special education (Chandler et al., 2014b).

In a recent investigation in Texas, Holden and Slate (2016) provided empirical evidence that low percentages of students in special education were college-ready. In this study, the percentages of students who were enrolled in special education and who were college-ready in reading, mathematics, and in both subjects were commensurate with the percentages reported by Chandler et al. (2014b). As such, clear evidence existed that low

percentages of students in special education were college-ready. In the Chandler et al. (2014b) and in the Holden and Slate (2016) investigations, results were based on aggregated school level data and not on individual students.

College-readiness and Economic Status of Students with Learning Disabilities

Socioeconomic status has been a strong predictor of academic achievement (Cabrera & La Nasa, 2001; Horn & Kojaku, 2001; Reardon, 2011) and is now a better predictor than race (Reardon, 2013). The achievement gap for students who live in poverty versus their counterparts is now greater than 50% larger than the gap between Black and White students (Reardon, 2011). Children with Learning Disabilities are more likely to live in poverty (Coppin et al., 2006; Cortiella & Horowitz, 2014; Emerson, Shahtahmasebi, Lancaster, & Berridge, 2010; Spies, Morgan, & Matsuura, 2014).

Even though the Americans with Disabilities Act of 1990 assures equal education and employment to those people with and without disabilities, Stoddard (2014) reported a 33.9% employment rate for people living with a disability (i.e., only those individuals with disabilities who are capable of working) compared to 74.2% of people living without a disability. Few people with disabilities are employed, with many of them employed in jobs that pay under the poverty level (Hughes & Avoke, 2010). DeNavas-Walt and Proctor (2015) reported 46.7 million people living in poverty and 28.5% of those people living with a disability between the ages of 18 and 64 in 2014 reported poverty income levels. Specific to anyone over the age of five and living with a Learning Disability, the rate of individuals living in poverty was 2.6% compared to those individuals not having a Learning Disability at 1.5% (Cortiella & Horowitz, 2014).

The achievement gap for students who lived in poverty was analyzed by Lee and Slate (2014) in a quantitative study about the advanced achievement of students who were economically disadvantaged. Grade 11 students who took the 2012 Texas Assessment of Knowledge and Skills (TAKS) were examined on their Met Standard, Commended Performance, and college-readiness performance. Nearly one half of the sample size was students who were economically disadvantaged. Lee and Slate (2014) established that students who were economically disadvantaged had 20% lower Commended Performance and college-readiness rates on the TAKS Reading and Mathematics assessment than those students who were not economically disadvantaged. When analyzing the Met Standard rates, Lee and Slate (2014) documented similar rates of success for students who were in poverty and students who were not in poverty.

In the second article of this journal-ready dissertation, the college-readiness of students who had a Learning Disability was investigated. The demands of the 21st century economy require a wider spread of skills than ever before (Brand, Valent, & Danielson, 2013). To compete with the global market, a larger percent of youth, including individuals with disabilities, need to obtain a postsecondary degree of some type (Brand et al., 2013). In conjunction with this demand, emphasized in the amendment to Public Law 94-142 was an emphasis on college-readiness for students with disabilities, it is essential to learn what is meant by college-readiness. Conley (2007, 2008) defined college-readiness as students successfully transitioning from high school to the college environment equipped to manage the demands of college without remediation. Barnes et al. (2010) asserted college-readiness as currently measured was essentially academic preparedness. However, in the state of Texas, college-readiness

indicators were specific to the following standardized assessments: (a) Texas Assessment of Knowledge and Skills, (b) Scholastic Aptitude Test, and (c) American College Test, as noted in Barnes and Slate (2011).

The group of students relevant to the second article in this journal-ready dissertation are students with Learning Disabilities. Of all students in special education programs in 2011, students diagnosed with a Learning Disability were the largest group at 42% for the United States and 43.2% in Texas (Cortiella & Horowitz, 2014). Of the students with a Learning Disability, one third had been retained at least one grade level and one out of every two students with a Learning Disability had been given a disciplinary consequence such as suspension or expulsion in 2011 (Cortiella & Horowitz, 2014).

Unfortunately, students who have Learning Disabilities are attending 4-year institutions at one half the rate of students without a Learning Disability. Of those students with Learning Disabilities who are attending 4-year intuitions, only 17% are receiving some type of accommodation or support for their disability. Only 41% of students with a Learning Disability complete college compared to 52% of students without a Learning Disability (Cortiella & Horowitz, 2014). Over a lifetime, a 4-year college graduate will earn 84% more than a high school graduate (Carnevale, Rose, & Cheah, 2011).

Holden and Slate (2016) provided empirical evidence that low percentages of students in special education were college ready. Students enrolled in special education classes in large high schools exhibited low college-readiness rates. The percent of students in special education who Met Standard in Reading was 17.60%, Met Standard in

Mathematics was 24.19%, and Met Standard in both subjects was only 9.78%. Also, Chandler et al. (2014b) established the presence of minimal improvements in college-readiness rates for students in special education. For all students in the study, Chandler et al. (2014b) documented about a 20% increase in reading college-readiness rates between the 2008-2009 and the 2010-2011 school years, whereas students who were in special education demonstrated a mere 2% increase during the same time. An increase of slightly over 10% for the college-readiness rate in mathematics was determined for all students, whereas students enrolled in special education had no change in their mathematics (Chandler et al., 2014b). When analyzing the college-readiness rate in both subjects, Chandler et al. (2014b) established an increase of 17.14% for all students compared to a decrease for students in special education between the 2006-2007 and the 2010-2011 school years.

Students are beginning college without the readiness skills to obtain their degrees (Hunt, Boyd, Gast, Mitchell, & Wilson, 2012). This lack of skills could lead to barriers for future economic success (Hunt et al., 2012). With respect to students with learning disabilities, the Center for Public Policy Priorities (2015) reported 60.3% of all students were economically disadvantaged in the 2013-2014 school year. With respect specifically to students in special education, the Employment and Disability Institute (2011) established that 27.8% were in poverty. Also noted was only 12.5% of students with disabilities graduated with a bachelor's degree, with the highest percentage of graduates being those students who were hearing impaired. Employment rates of people who had a disability were 33.4% compared to 75.6% for people who did not have a disability (Employment and Disability Institute, 2011).

College-readiness and Economic Status of Students with an Emotional Disturbance

Public schools, in 1975, were required by Public Law 94-142 (Individuals with Disabilities Education Act) to provide all students with disabilities free access to education. The act was amended by Congress in 1986, 1990, and then again in 2004 to increase postsecondary enrollment for students with disabilities. Of specific interest to the third article in this journal-ready dissertation are the 6.3% of special education students ages 6-21 who were in the Emotionally Disturbed category. This 6.3% translates to 358,686 students nationally in the 2012-2013 school year who were determined to be Emotionally Disturbed (Center for Public Education, 2016). In Texas, students labeled Emotionally Disturbed accounted for 5.8% of the special education population, or about 25,663 students (Texas Education Agency, 2016).

Students who are Emotionally Disturbed achieve at lower rates than their peers (Bradley, Henderson, & Monfore, 2004; Nelson, Benner, Lane, & Smith, 2004; Wagner & Cameto, 2004). Temple-Harvey and Vannest (2012) measured the performance of students who were Emotionally Disturbed on a statewide mathematics assessment and noted only 34% of students in the investigation met the proficiency standard. Carr-George, Vannest, Willson, and Davis (2009) examined participation and performance rates of students who were Emotionally Disturbed and documented in the 2006-2007 school year, only 56% of students who were Emotionally Disturbed participated in the Texas Assessment of Knowledge and Skills Reading assessment. Of those students who were Emotionally Disturbed and took the assessment, only 44% met the proficiency standard.

Wagner, Kutash, Duchnowski, Epstein, and Sumi (2005) used data from the Special Education Elementary Longitudinal Study and the National Longitudinal Transition Study-2 to determine whether trends were present in the performance of students who were Emotionally Disturbed. When comparing retention rates, students who were Emotionally Disturbed represented a little over 20% of the special education population retained in elementary and middle school and slightly over 33% of high school students. Students who were Emotionally Disturbed accounted for about 50% of the special education population in elementary and middle school to have been suspended or expelled and almost 75% of the special education population in high school (Wagner et al., 2005). The effect of discipline consequences on students with disabilities was investigated by Allman and Slate (2013). Specific to this investigation, students who were Emotionally Disturbed and who were assigned a discipline consequence had statistically significantly lower academic achievement than did those students who were Emotionally Disturbed but who did not receive a discipline consequence (Allman & Slate, 2013).

Researchers (e.g., Barnes & Slate, 2010, 2011; Barnes et al., 2010; Chandler et al., 2014) have documented that students graduate high school without the skills necessary to be successful in postsecondary settings. College-readiness, as noted in Barnes and Slate (2011), in the State of Texas, were specific indicators to standardized assessments. Unfortunately, almost 60 years of federal legislation efforts to improve the college-readiness of high school graduates beginning with the National Defense Education Act in 1958 to the newest piece of legislation, Every Student Success Act in 2016 have created environments of high-stakes testing. Instead of focusing on academic

preparation for postsecondary education, teachers are forced to focus on test preparation due to this shift to high-stakes testing (Barnes & Slate, 2013). Texas has taken steps to ensure students are college-ready and is a national leader (Jobs for the Future, 2009). In 2006, House Bill 1 was passed to raise college-readiness rates and has resulted in consistent efforts to align curricula with college expectations (Jobs for the Future, 2009).

With respect to the college-readiness of students enrolled in Texas schools, Moore et al. (2010) analyzed college-readiness rates in the 2006-2007 school year. Statistically significant differences were present in students' college-readiness rates in reading, in mathematics, and in both subjects. Less than 50% of high school graduates in Texas were determined to be college-ready in reading and in mathematics. Less than 33% of Texas graduating high school students were college-ready in both subjects (Moore et al., 2010).

Concerning to the college-readiness of special education students, Holden and Slate (2016) analyzed college-readiness rates as function of high school size. Of importance to this investigation were the alarmingly low college-readiness rates of students who qualified for special education programs (Holden & Slate, 2016). Percentages of students placed in special education programs and who were college-ready in reading were 17.60%, in mathematics were 24.19%, and in both subjects, only 9.78% (Holden & Slate, 2016).

Focused upon in the third article of this journal-ready dissertation are students who live in poverty. An individual's socioeconomic status is directly related to access and attainment of a postsecondary degree (Cabrera & La Nasa, 2001; Newman, Wagner, Cameto, & Knokey, 2009; Wagner & Blackorby, 2002). Reardon (2013) contended

income is a better predictor of success than race. The achievement gap for students living in poverty has grown between 30% and 40% since the 1970's (Reardon, 2011).

Unfortunately, students with disabilities are more likely to grow up in poverty than are students without disabilities (Emerson & Hatton, 2007, 2009).

Students with disabilities who live in poverty have greater disadvantages than their peers when it comes to gaining access to postsecondary education (Newman et al., 2011). The academic preparation and expectation of postsecondary attendance of students with disabilities who live in poverty are extremely low and become barriers for success (Newman et al., 2011). Other factors for student success and progress to postsecondary degree attainment are rigor of the curriculum, teacher expectation, teacher preparation and experience, and parent participation (Somers & Piliawsky, 2004). Students living in poverty and having a disability have a higher probability of not attending a school in which these factors are present.

Student data were examined by Lee and Slate (2014) to determine the degree to which student economic status was related to reading and mathematics performance. They analyzed data on Texas Grade 11 students in the 2011-2012 school year who took the Texas Assessment of Knowledge and Skills (TAKS) Reading and Mathematics tests. Analyzed were the Met Standard, Commended Performance, and college-readiness performance in reading and in mathematics. Students who were economically disadvantaged had about a 20% lower Commended Performance and college-readiness rates on the TAKS Reading and Mathematics assessments than those students who were not economically disadvantaged (Lee & Slate, 2014).

Statement of the Problem

The National Center for Education Statistics (2015a) reported 11% of undergraduate students had a disability in the 2007-2008 and 2011-2012 academic years. Of the students enrolled in a 4-year university, only 59% graduated within six years of beginning their course work (National Center for Education Statistics, 2014). In 2014, employment rates (a) for people holding a bachelor degree or higher was 88.1%, (b) for people completing some college 75%, (c) for people with a high school diploma 63.7%, and (d) for people who did not graduate high school 46.6% (National Center for Education Statistics, 2015b). The United States Bureau of Labor Statistics (2015) determined that 17.1% of people who have any reported disability are employed compared to people who do not have a disability.

Students are beginning college without the readiness skills to obtain their degrees (Hunt, Boyd, Gast, Mitchell, & Wilson, 2012). This lack of skills could lead to barriers for future economic success (Hunt et al., 2012). With respect to the group of students of interest in this investigation, the Center for Public Policy Priorities (2015) reported 60.3% of all students were economically disadvantaged in the 2013-2014 school year. With respect specifically to students in special education, the Employment and Disability Institute (2011) established that 27.8% were in poverty. Also noted was only 12.5% of students with disabilities graduated with a bachelor's degree, with the highest percentage of graduates being those students who were hearing impaired.

According to Brault (2008), Americans with disabilities were a minority group that was one of the fastest growing student populations in our nation. In addition, with the growth rate of students with disabilities, the dropout rate was increasing. At 51%,

Emotionally Disturbed students had the highest high school dropout rate of any special education disability category (United States Department of Education, 2002). A worker with only a high school diploma will earn 84% less in his or her lifetime than a graduate from a 4-year university earns (Carnevale, Rose, & Cheah, 2011). On average, workers with only a high school diploma will earn \$21,000 less per year than worker who attain bachelor's degrees (Paredes, 2013). By 2020, in Texas, 59% of jobs will require some sort of postsecondary training, yet currently only 31% of the Texas workforce has an Associate's degree or higher (Paredes, 2013).

Purpose of the Study

The purpose of this journal-ready dissertation was to examine the extent to which college-readiness rates of Texas high school graduates differed by disability category and by economic status for students who qualified for special education services. The first purpose was to analyze the degree to which differences were present in college-readiness rates by disability category of Texas high school graduates who qualified for special education services. A second purpose was to determine the extent to which differences were present in college-readiness rates by economic status of Texas high school graduates who were determined to be Learning Disabled. Finally, a third purpose was to examine the degree to which differences were present in college-readiness rates by economic status of Texas high school graduates who were determined to be Emotionally Disturbed. Each of these three research studies involved an analysis of three years of Texas statewide data. As such, the extent to which consistencies were present in the college-readiness rates of these groups of students was ascertained.

Significance of the Study

With the enactment of the amendment to the Individuals with Disabilities Act of 2004, federal mandates placed greater emphasis on college-readiness rates for students enrolled in special education. Therefore, research findings in the first investigation have practical implications for legislators and educators. Extensive research exists on college-readiness; however, literature is lacking with regard to college-readiness by special education category that might be used to determine trends and provide an understanding of the specific needs of each group of students placed in special education programs. Practitioners can utilize the research findings to recognize trends and gain new understandings to provide specific support for each group of students who qualify for special education services.

Along with a plethora of research existing on college-readiness rates, research exists on students with Learning Disabilities, and on students in poverty; however, research studies in which these three variables were analyzed concurrently is limited. The research results in the second investigation may add to the body of research on these specific groups of students. With 59.2% of students in poverty and 432,763 students who were enrolled in special education in Texas in 2010-2011 school year (Texas Education Agency, 2015b), results from this investigation may have practical implications for school systems to incorporate change in their districts to improve the college-readiness rates of students who qualify for special education and who are in poverty. With the improvement of college-readiness rates for students enrolled in special education programs and are economically disadvantaged, the future economic status of these students has much potential for improvement.

Extensive research exists on students who were Emotionally Disturbed and on students in poverty; however, research is limited on college-readiness of students who were Emotionally Disturbed and living in poverty. The third empirical investigation may add to the research on these specific students. The results from this investigation may have practical implications for school systems to enact change and improve the college-readiness of students who are placed in special education classes, specifically those students who are Emotionally Disturbed and live in poverty. Improving the college-readiness of these students could positively affect their economic status.

Definition of Terms

Terms that are important to the three research investigations included in this journal-ready dissertation will now be defined for the reader.

College-readiness

College-readiness is defined by the Texas Education Agency as the following: To be considered college-ready as defined by this indicator, a graduate must have met or exceeded the college-ready criteria on the TAKS exit-level test, or the SAT test, or the ACT test. Readers are directed to Table 1 in Barnes and Slate (2011) for the breakdown of the specific scores to be deemed college-ready in Texas.

Economically Disadvantaged

Economically disadvantaged is defined as students who are eligible for free or reduced lunch by the Texas Education Agency. According to the United States Department of Agriculture (2015), eligibility requirements for acquiring free or reduced lunch include:

The family-size income levels prescribed annually by the Secretary of Agriculture for determining eligibility for free and reduced price meals and free milk. The free guidelines are at or below 130 percent of the federal poverty guidelines. The reduced price guidelines are between 130 and at or below 185 percent of the Federal poverty guidelines. (p. 10)

Emotional Disturbance

According to the Texas Education Agency (2015a) a student with an emotional disturbance is defined as, “one who has been determined to meet the criteria for emotional disturbance as stated in 34 CFR, §300.8(c)(4). For further clarification, 34 CFR, §300.8(c)(4) is defined by United States Department of Education (2016) as the following:

Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

(C) Inappropriate types of behavior or feelings under normal circumstances.

(D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section (United States Department of Education, 2016, July).

Higher Education Readiness Component

The Higher Education Readiness Component (HERC) was mandated under the Texas Assessment of Knowledge and Skills by Senate Bill 103. A performance standard was required to identify students who were college-ready under this legislation. The HERC standard is on the Texas Assessment of Knowledge and Skills scale score system, was established by Texas Higher Education Coordinating Board, and the Texas Education Agency is responsible for implementing and facilitating the assessment with fidelity (Texas Education Agency, 2006).

Learning Disabled

The Texas Education Agency (2015a) defines Learning Disabled students as the following.

(B) A student with a Learning Disability is one who: (i) has been determined through a variety of assessment tools and strategies to meet the criteria for a specific Learning Disability as stated in 34 CFR, §300.8(c)(10), in accordance with the provisions in 34 CFR, §§300.307-300.311; and (ii) does not achieve adequately for the student's age or meet state-approved grade-level standards in oral expression, listening comprehension, written expression, basic reading skill, reading fluency skills, reading comprehension, mathematics calculation, or mathematics problem solving when provided appropriate instruction, as indicated by performance on multiple measures such as in-class tests; grade average over time (e.g. six weeks, semester); norm- or criterion-referenced tests; statewide assessments; or a process based on the student's response to scientific, research-based intervention; and (I) does not make sufficient progress when provided a

process based on the student's response to scientific, research-based intervention (as defined in 20 USC, §7801(37)), as indicated by the student's performance relative to the performance of the student's peers on repeated, curriculum-based assessments of achievement at reasonable intervals, reflecting student progress during classroom instruction; or (II) exhibits a pattern of strengths and weaknesses in performance, achievement, or both relative to age, grade-level standards, or intellectual ability, as indicated by significant variance among specific areas of cognitive function, such as working memory and verbal comprehension, or between specific areas of cognitive function and academic achievement. (p. 7)

Other Health Impaired

The following criteria are set by the Texas Education Agency (2015a) for students with Other Health Impairment.

A student with Other Health Impairment is one who has been determined to meet the criteria for Other Health Impairment due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette's Disorder as stated in 34 CFR, §300.8(c)(9). The multidisciplinary team that collects or reviews evaluation data in connection with the determination of a student's eligibility based on Other Health Impairment must include a licensed physician. (p. 6)

Public Education Information Management System

The Texas Education Agency Public Education Information Management System is a compilation of demographic student data used to monitor student achievement and tracking. All data received by the Texas Education Agency and requested about public education are compiled using the Public Education Information Management System, including “student demographic and academic performance, personnel, financial, and organizational information” (Texas Education Agency, 2015b, para. 1). The Texas Education Agency and the Texas state legislature conducts legal review and functional oversight of public education in Texas with the assistance of necessary Public Education Information Management System data (Texas Education Agency, 2015b).

Special Education

The Texas Education Agency (2014) defined special education as the following: *Special Education* refers to the population of students served in special education programs. Assessment decisions for students in special education programs are made by their Admission, Review, and Dismissal (ARD) committee. The ARD committee is made up of the parent(s) or guardian, teachers, administrator, and other concerned parties. In the 2012-13 school year, a student in special education may have been administered the STAAR, STAAR Modified, or STAAR Alternate. Results from all these assessments are included in the STAAR performance shown on the TAPRs. Other indicators that include the performance of students in special education are: advanced course/dual enrollment longitudinal, attendance rate, annual dropout rates, college-ready graduates, longitudinal rates, RHSP/DAP, TAKS exit-level cumulative pass rate and the

Texas Success Initiative. Information that would allow the separation of performance of students in special education on college admissions tests and on Advanced Placement and International Baccalaureate examinations is not available. (pp. 20-21)

Speech and Language Impairment

The Texas Education Agency (2015a) determines a student is eligible for services if they meet following criteria:

A student with a Speech Impairment is one who has been determined to meet the criteria for Speech or Language Impairment as stated in 34 CFR, §300.8(c)(11). The multidisciplinary team that collects or reviews evaluation data in connection with the determination of a student's eligibility based on a Speech Impairment must include a certified speech and hearing therapist, a certified speech and language therapist, or a licensed speech/language pathologist. (p. 7)

State of Texas Assessment of Academic Readiness (STAAR)

The current state-mandated assessment that has preceded the TAKS test is the STAAR which is defined by the Texas Education Agency (2016a) as:

A series of state-mandated standardized tests given to Texas public school students in grades 3-8 and those enrolled in five specific high school courses. First given in spring 2012, STAAR is based on the state's curriculum standards called the Texas Essential Knowledge and Skills (TEKS).

Texas Assessment of Knowledge and Skills (TAKS)

The TAKS is defined by the Texas Education Agency (2016a) as:

Criterion-referenced achievement tests designed to measure the extent to which a student has learned and is able to apply the defined knowledge and skills at each tested grade level. The TAKS program was launched in 2003 and was replaced by the STAAR (State of Texas Assessment of Academic Readiness) program beginning in 2012.

Texas Education Agency

The state agency that helps deliver education to over five million students is the Texas Education Agency. The Commissioner of Education is the head of the agency and is supported by a hierarchy of staff. The Texas Education Agency is responsible for distributing state and federal funds, administering assessment and accountability systems, supporting the State Board of Education in curriculum development and materials adoption, administering data collection systems, and monitoring compliance (Texas Education Agency, 2016b).

Procedures

A request was submitted to the Sam Houston State University Institutional Review Board for their approval after the doctoral dissertation committee provided their consent. Following approval by the Institutional Review Board at Sam Houston State University, a Public Information Request form for data by economic status, special education category for students enrolled in special education, and college-readiness performance was then sent to the Texas Education Agency. The Texas Education Agency Public Education Information Management System provided data for Texas high

school students who were enrolled in special education during the 2008-2009 through the 2010-2011 school years.

Literature Review Search Procedures

For the purpose of this journal-ready dissertation, the literature regarding student special education categories, student economic status, and college-readiness in reading, mathematics and in both subjects was examined. Phrases that were used in the search for relevant literature were: *college-readiness, special education, Other Health Impairments, Learning Disability, Emotionally Disturbed, Speech and Language Impairment, and poverty*. Searches were conducted through the EBSCO Host database. Only peer reviewed articles from 2000-2016 were considered.

Key word searches from 2000-2016 for “college-readiness” yielded 41,644 results and by narrowing by only peer review articles, the search was reduced to 7,341. A key word search for “Other Health Impairments” between 2000 and 2016 yielded 6,743 articles, but was condensed to 2,104 when “special education” was added to the search. When the key words “Learning Disability” were used, the search yielded 292,209 articles. To reduce the number, the terms “special education” and “college-readiness” were used to garner 357 articles from the years 2000 to 2016. “Emotionally Disturbed” was the next key word search. This search yielded 27,008 articles, which was condensed to 3,695 when the word “poverty” was added. A key word search for “economically disadvantage” between the years 2000 and 2016 yielded 13,484 articles, which was narrowed to 64 by adding the term “college-readiness.” Relevant articles were reviewed pertaining to their relationship to college-readiness of students.

Delimitations

In this investigation, college-readiness rates in reading, mathematics, and both subjects for students who were enrolled in special education in Texas high schools in the 2008-2009, 2009-2010, and 2010-2011 school years were analyzed. Specifically examined were the college-readiness rates of three groups of students who had been enrolled in special education: (a) special education by disability category, (b) Learning Disabled, and (c) Emotionally Disturbed. Only data from students who were enrolled in special education in traditional public high schools in Texas were used. Data on students in special education who were enrolled in private, alternative, or charter high schools were not included in this study because of differences in school accountability requirements from traditional public high schools.

Limitations

For the purposes of this journal-ready dissertation, college-readiness rates as determined by the state-mandated assessment were analyzed for special education students in Texas by their disability category (i.e., Other Health Impaired, Learning Disabled, Emotionally Disturbed, and Speech and Language Impairment) and by economic status (i.e., economically disadvantaged or not economically disadvantaged). Only quantitative data were used as the measure of college-readiness. Furthermore, only standardized test information was used in the determination of what constitutes college-readiness. As such, college-readiness as measured in this journal-ready dissertation comprises a narrow perspective. However, the college-readiness definition used herein is the definition of college-readiness in Texas.

A major limitation involved the use of the Texas Assessment of Knowledge and Skills test data and not the new state-mandated assessment, the State of Texas Assessment of Academic Readiness (STAAR). Numerous difficulties have occurred in the implementation of STAAR, thereby reducing the fidelity of using STAAR scores. After the STAAR has been implemented for several years, test score data from its administration may be appropriate for statistical analyses.

Another limitation involves the sample of students on whom college-readiness data were obtained and analyzed. The degree to which students who qualify for special education services in Texas are similar to students who qualify for special education services in other states is not known. Thus, the extent to which results may be generalizable to students who qualify for special education services in other states may be limited.

Assumptions

For the purpose of this journal-ready dissertation, the assumption was made that the consistency in which schools evaluated students through the admission, review, and dismissal committee process and determined eligibility for any student with a disability was within the guidelines noted by the Code of Federal Regulations. Additionally, the assumption was made that Texas schools collected and reported data accurately across the state. Finally, it was assumed the Texas Education Agency Public Education Information Management System reported the college-readiness rates and demographic data accurately.

Organization of the Study

Three research studies were conducted in this journal-ready dissertation. Examined in the first study were the college-readiness rates by disability category of students who were enrolled in special education in the 2008-2009 through the 2010-2011 school years. In the second study, research questions on differences in college-readiness by economic status of students who were Learning Disabled in the 2008-2009 through 2010-2011 school years were addressed. Finally, for the third study, differences in college-readiness by economic status for students who were Emotionally Disturbed in the 2008-2009 through the 2010-2011 school years were examined.

This journal-ready dissertation is composed of five chapters. Included in Chapter I are the background of the study, statement of the problem, purpose of the study, significance of the study, definition of terms, delimitations, limitations, assumptions and organization of the study. In Chapter II, the framework for the first journal-ready dissertation investigation on college-readiness for students who qualify for special education services was discussed. In Chapter III, the framework for the second journal-ready research study on college-readiness by economic status for students who were Learning Disabled was provided. Discussed in Chapter IV was the third journal-ready research investigation on college-readiness rates by economic status for students who were Emotionally Disturbed. Finally, Chapter V is a summary of each investigation, implications for policy and practice, suggestions for future research, and conclusions.

CHAPTER II**DIFFERENCES IN COLLEGE-READINESS BY DISABILITY CATEGORY FOR
TEXAS HIGH SCHOOL STUDENTS IN SPECIAL EDUCATION: A MULTIYEAR
STATEWIDE ANALYSIS**

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

The extent to which differences were present in college-readiness rates in reading, mathematics, and both subjects by disability category for students who were enrolled in special education in Texas public high schools for 2008-2009 through 2010-2011 school years were determined in this investigation. Statistically significant differences were revealed in reading, mathematics, and both subjects college-readiness in each school year. No students who were Emotionally Disturbed or had a Speech or Language Impairment met the college-readiness standard in reading, mathematics, or both subjects. Of importance were extremely low college-readiness rates in reading, mathematics, and both subjects for students who were enrolled in special education for the 2008-2009 through the 2010-2011 school years.

Keywords: Special education, Learning Disabled, Other Health Impairment, Emotionally Disturbed, Speech or Language Impairment, College-readiness

DIFFERENCES IN COLLEGE-READINESS BY DISABILITY CATEGORY FOR
TEXAS HIGH SCHOOL STUDENTS IN SPECIAL EDUCATION: A MULTIYEAR
STATEWIDE ANALYSIS

Public Law 94-142 (Individuals with Disabilities Education Act) was enacted in 1975 to require public schools to provide free access for all students with disabilities from ages 3 to 21. Congress amended the act in 1986, 1990, and then again in 2004 to clarify and to increase the emphasis on the appropriate education students with disabilities should be receiving, including the least restrictive environment. Of particular interest to this article is the increased emphasis placed on promoting college-readiness for students with disabilities. Even with an emphasis to promote college-readiness for students with disabilities, only 7.6% of students who had been enrolled in special education attended 4-year universities, compared to 29.2% of students who had not been enrolled in special education (Brand, Valent, & Danielson, 2013). Of those students who attended 4-year universities, only 34.2% of students who qualified for special education services completed their degree within eight years of graduating high school, compared to 51.2% of students who not receiving special education services who graduated within eight years (Brand et al., 2013). Ten years after students enrolled in postsecondary education, only 44% of students with disabilities had completed their degree compared to 68% of students without disabilities (Cameto, Levine, & Wagner, 2004). The gap in graduation rates for students with disabilities may reflect that students with disabilities require different approaches to their education than students without disabilities in public schools (Brault, 2011).

College-readiness, academic success, and persistence in postsecondary institutions have been analyzed by numerous researchers (Barnes & Slate, 2010, 2011, 2013; Barnes, Slate, & Rojas-LeBouef, 2010; Chandler, Slate, Moore, & Barnes, 2014a, 2014b; Harvey, Slate, Moore, Barnes, & Martinez-Garcia, 2013; Holden & Slate, 2016). The rigor of high school course selection is correlated to the persistence of a 4-year degree. The more rigorous the high school course selection, the greater the odds are that students will attain a postsecondary degree (Adelman, 2006; Horn & Kojaku, 2001).

With respect to students enrolled in special education, one group of students relevant to this investigation is students with a Learning Disability. Students with a Learning Disability constitute the largest group of students in the United States who receive special education services (Cortiella & Horowitz, 2014). In the 2010-2011 school year, 5.7 million students were served in special education nationally. Of those students, 42% were students with a Learning Disability (Cortiella & Horowitz, 2014). In Texas, students with a Learning Disability constitute 43.2% of students who qualify for special education services (Cortiella & Horowitz, 2014). Even though students who have a Learning Disability comprise the largest group of students who receive special education services, they attend 4-year universities at half the rate of the general population, and only 17% of those students receive accommodations or support (Cortiella & Horowitz, 2014). Readers should note; however, that college students with disabilities are responsible for initiating any accommodations and support that they may require. Also, Cortiella and Horowitz (2014) noted 33% of students with a Learning Disability had been retained at least one year and 50% of students with a Learning Disability in the 2011 school year received a disciplinary consequence, such as suspension or expulsion. These

two events are negatively related with high school completion (Cortiella & Horowitz, 2014).

Also addressed in this article are the college-readiness rates of Other Health Impaired students. The Other Health Impairment disability category is often used as a last resort when a student does not qualify for special education services because it has a wide range of classifications under the definition (Grice, 2002). School staff members receive pressure from parents to identify their children as needing special education services to receive modifications or accommodations for state testing (Grice, 2002). Of these students with disabilities, the National Center for Education Statistics (2016) reported, in the 2011-2012 school year, 11.6% of students who received special education services in the United States were classified as Other Health Impaired. The Texas Education Agency (2016) reported that 13.5% of students who qualified for special education services were Other Health Impaired in the 2015-2016 school year.

Students receiving services for Speech or Language Impairment constitute a third group of students in this investigation. Nationally, in the 2010-2011 school year, students with a Speech or Language Impairment accounted for 19% of students who received special education services (Cortiella & Horowitz, 2014). This group of students represent about 20% of students with disabilities in Texas (Texas Council of Developmental Disabilities, 2013). As noted by the National Institute on Deafness and Other Communication Disorders (2004), 5% of children were diagnosed with a Speech Disorder by the time they reach the first-grade. Children with Speech Impairments performed lower than did students without Speech Impairments on literacy tasks and in other content areas (Nathan, Stackhouse, Goulandris, & Snowling, 2003). For example,

Snowling, Adams, Bishop, and Stothard (2001) suggested preschool children with language impairments had lower mathematic skills at a later age than did students without language impairments. Nathan, Stackhouse, Goulandris, and Snowling (2004) analyzed the assessment results of students who had Speech Impairments. According to Nathan et al. (2004), students whose Speech Impairment persisted performed below those students without a Speech Impairment on the reading, spelling, and mathematics assessment. However, students who successfully resolved their Speech Impairments performed at the same rate as students without Speech Impairments on the reading, spelling, and mathematics assessment (Nathan et al., 2004).

The fourth group of students who receive special education services are students who are determined to be Emotionally Disturbed. Nationally, 6% of students receiving special education services were determined to be Emotionally Disturbed (Cortiella & Horowitz, 2014). Of note, students who are Emotionally Disturbed represented 5.8% of special education students in Texas in the 2015-2016 school year (Texas Education Agency, 2016). Students who were Emotionally Disturbed enroll in postsecondary education at a rate of 34.7% compared to 62.6% of the general population (Newman, Wagner, Cameto, Knokey, & Shaver, 2010). For students who were Emotionally Disturbed, 33% attended an alternative postsecondary institution, 38% attended a 2-year college, and only 11% attended a 4-year college. Of these students, less than one half, 45.9%, attained a postsecondary degree (Newman et al., 2011). Less than 20% of the students who were Emotionally Disturbed received supports or accommodations in their postsecondary environments (Newman et al., 2011).

More startling is the rate at which young adults who are Emotionally Disturbed are arrested. The arrest rate in 2009 for persons who were Emotionally Disturbed was 60.5%, much higher than any other disability category (Newman et al., 2010, 2011). Wagner et al. (2003) noted more than one third of this population had been arrested at least once before leaving high school.

Specific to two groups in this study, students who were Emotionally Disturbed were disproportionately disciplined in the 1999-2000 to the 2001-2002 school years and students with a Learning Disability were disciplined more often than all students with disabilities during the same time (Zhang, Katsiyannis, & Herbst, 2004). When analyzing the effects of disciplinary consequences on students who were Emotionally Disturbed, Learning Disabled, or Other Health Impairment, Allman and Slate (2012, 2013) documented that students with disabilities who received an in-school suspension, out-of-school suspension, or a disciplinary alternative education program placement had statistically significantly lower academic achievement than their peers who had not received a discipline consequence.

With the amendment to Public Law 94-142 in 2004, in which an emphasis was placed on college enrollment for students with disabilities, a definition of what constitutes college-readiness is needed (Individuals with Disabilities Education Act, 2004). Conley (2007, 2008) defined college-readiness as students successfully making the transition from high school to the college environment equipped to manage the demands of college without remediation. To meet the needs of the global economy a vast range of skills are needed (Brand et al., 2013). Conley (2007, 2008) described four key components upon which college-readiness is built: (a) key cognitive knowledge, (b) key

content knowledge, (c) academic behaviors, and (d) contextual skills and knowledge. Cognitive knowledge consists of students having the capability to analyze, interpret, and problem solve. With respect to content knowledge, students must have key content knowledge to be considered college-ready (Conley, 2007, 2008). Academic behaviors are noncognitive behaviors such as time management skills and study skills that require students to have self-control in a college environment (Conley, 2007, 2008). For students with disabilities, focusing on the noncognitive aspects of college-readiness is critical (Brand et al., 2013). Lastly, for students to be college-ready and successful, they need contextual skills and knowledge to apply and acculturate in the unknown world of college (Conley, 2007, 2008). However, as noted in Barnes and Slate (2011), in the State of Texas, college-readiness indicators were specific to the following standardized assessments: (a) Texas Assessment of Knowledge and Skills, (b) SAT, and (c) ACT.

Almost 60 years of federal legislation has resulted in efforts to improve the college-readiness of high school graduates beginning with the National Defense Education Act in 1958 through the newest piece of legislation, Every Student Success Act in 2016. These legislative acts have created an environment of high-stakes testing. Barnes and Slate (2013) coined the term one-size-fits-all college-readiness agenda, created by the government. This agenda is believed to have resulted in ineffective and uncreative learning environments. The shift to high-stakes testing could force teachers and schools to focus on test preparation instead of academic preparation for postsecondary education (Barnes & Slate, 2013).

Researchers (e.g., Barnes & Slate, 2010, 2011; Barnes et al., 2010; Chandler et al., 2014b) have documented that students graduate high school without the skills

necessary to be successful in postsecondary settings. In particular reference to this investigation, Chandler et al. (2014b) examined college-readiness rates of students who were (a) economically disadvantaged, (b) Limited English Proficient, or (c) enrolled in special education. Of the five consecutive school years of data they analyzed, students who were Limited English Proficient or enrolled in special education performed lower than those students who were economically disadvantaged. Statistically significant findings were determined, with 13 large effect sizes and two moderate effect sizes being present. Chandler et al. (2014b) established an almost 20 percentage point increase in reading college-readiness rates between the 2006-2007 and the 2010-2011 school years for all students; however, during the same period, students who were enrolled in special education had only a little over 2 percentage point increase in their reading college-readiness rates. With respect to mathematics college-readiness rates for all students, an increase of 13.15 percentage points was present, whereas students who were enrolled in special education had relatively no change in their mathematics college-readiness rates from the 2006-2007 through the 2010-2011 school years (Chandler et al., 2014b). When analyzing college-readiness in both subjects, students who were not in special education experienced an increase of 17.14 percentage points compared to a slight decrease in the college-readiness rates in both subjects for students who were enrolled in special education (Chandler et al., 2014b).

In a recent investigation in Texas, Holden and Slate (2016) provided empirical evidence that small percentages of students receiving special education services were college-ready. In this study, their percentages of students who received special education services and who were college-ready in reading, mathematics, and in both subjects were

commensurate with the percentages reported by Chandler et al. (2014b). As such, clear evidence exists that low percentages of students in special education are college-ready. In the Chandler et al. (2014b) and in the Holden and Slate (2016) investigations, results were based on aggregated school level data and not on individual students.

Statement of the Problem

The National Center for Education Statistics (2015b) reported 11% of undergraduate students had a disability in the 2007-2008 and 2011-2012 academic years. Of the students enrolled in a 4-year university, only 59% graduated within six years of beginning their course work (National Center for Education Statistics, 2014). In 2014, employment rates: (a) for people holding a bachelor degree or higher was 88.1%, (b) for people completing some college 75%, (c) for people with a high school diploma 63.7%, and (d) for people who did not graduate high school 46.6% (National Center for Education Statistics, 2015a). The United States Bureau of Labor Statistics (2015, June) determined that 17.1% of people who have any reported disability are employed compared to people who do not have a disability.

Purpose of the Study

The purpose of this study was to determine the extent to which differences were present in college-readiness in reading by disability category for students enrolled in special education. A second purpose for this study was to determine the degree to which differences were present in college-readiness in mathematics by disability category for students enrolled in special education. The third purpose of this study was to determine the extent to which differences were present in college-readiness in both subjects by disability category for students enrolled in special education. Finally, the fourth purpose

of this statewide empirical investigation was to ascertain the degree to which trends were present in college-readiness in reading, mathematics, and in both subjects by special education enrollment categories over time. The disability categories for which data were analyzed were: (a) Learning Disability, (b) Emotional Disturbance, (c) Other Health Impairment, and (d) Speech or Language Impairment. These four disability categories were selected because they comprise the four largest categories of students in Texas who received special education services and for whom college-readiness may be an appropriate academic goal.

Significance of the Study

With the enactment of the amendment of the Individuals with Disabilities Education Act in 2004, federal mandates increased the emphasis on college-readiness for students who qualify for special education. Therefore, this research investigation has practical implications for legislators and educators. Extensive research exists on college-readiness; however, the literature is lacking with regard to college-readiness by special education category that might be used to determine trends and provide an understanding of the specific needs of each group of students enrolled in special education.

Practitioners may utilize the trends and new understandings to provide specific support for each group of students who receive special education services.

Research Questions

The following research questions were addressed in this empirical investigation:

(a) What is the difference in college-readiness in reading by disability category for students enrolled in special education?; (b) What is the difference in college-readiness in mathematics by disability category for students enrolled in special education?; (c) What

is the difference in college-readiness in both subjects by disability category for students enrolled in special education?; and (d) What trends are present in college-readiness in reading, mathematics, and in both subjects over time by disability category for students enrolled in special education? The first three research questions were repeated for the 2008-2009, 2009-2010, and 2010-2011 school years whereas the fourth research question was repeated for the three college-readiness measures. Therefore, a total of 12 research questions constituted this research investigation.

Method

Research Design

This nonexperimental, quantitative study was a causal comparative design (Creswell, 2014). In this study, the outcomes of student reading and mathematics performance had already occurred. Archival data were used to examine the difference in academic performance of students who were enrolled in special education in public Texas high schools in the 2008-2009, 2009-2010, and 2010-2011 school years. The independent variable in this investigation was special education enrollment categories (i.e., Learning Disability, Other Health Impairment, Speech and Language Impairment, and Emotionally Disturbed) and the dependent variables were college-readiness in reading, in mathematics, and in both subjects.

Participants and Instrumentation

Examined in this study were three college-readiness variables for students who were enrolled in special education. Participants were evaluated on their performance on the Higher Education Readiness Component (HERC) standard for college-readiness. The HERC was mandated under the Texas Assessment of Knowledge and Skills by Senate

Bill 103. A performance standard was required to identify students who were college-ready under this legislation. The HERC standard is the Texas Assessment of Knowledge and Skills scale score system, which was established by Texas Higher Education Coordinating Board, and the Texas Education Agency is responsible for implementing and facilitating the assessment with fidelity (Texas Education Agency, 2006).

Archival data were requested and obtained for the 2008-2009, 2009-2010, and 2010-2011 school years from the Texas Education Agency Public Education Information Management System for all Grade 11 and 12 high school students who were enrolled in special education. These data included (a) grade span configuration of each high school campus, (b) student special education enrollment categories, (c) reading college-readiness, (d) mathematics college-readiness, and (e) both subjects college-readiness.

The population whose data were analyzed herein were for students who were enrolled in special education in Texas high schools. In this study,

Special Education refers to the population of students served in special education programs. Assessment decisions for students in special education programs are made by their Admission, Review, and Dismissal (ARD) committee. The ARD committee is made up of the parent(s) or guardian, teachers, administrator, and other concerned parties. In the 2012-13 school year, a student in special education may have been administered the STAAR, STAAR Modified, or STAAR Alternate. Results from all these assessments are included in the STAAR performance shown on the TAPRs. Other indicators that include the performance of students in special education are: advanced course/dual enrollment longitudinal, (b) attendance rate, (c) annual dropout rates, (d) college-ready

graduates, (e) longitudinal rates, (f) RHSP/DAP, (g) TAKS exit-level cumulative pass rate, and (h) the Texas Success Initiative. Information that would allow the separation of performance of students in special education on college admissions tests and on Advanced Placement and International Baccalaureate examinations is not available. (Texas Education Agency, 2014, pp. 20-21)

Data on four specific special education categories (i.e. Learning Disabled, Other Health Impairment, Speech or Language Impairment, and Emotionally Disturbed) were examined in this investigation. These four categories are the four largest categories in special education in which the majority of students are assessed at the standard state level. The Texas Education Agency (2015) defined *Learning Disabled* students as the following:

(A) Prior to and as part of the evaluation described in subparagraph (B) of this paragraph and 34 CFR, §§300.307-300.311, and in order to ensure that underachievement in a student suspected of having a specific Learning Disability is not due to lack of appropriate instruction in reading or mathematics, the following must be considered: (i) data that demonstrates the student was provided appropriate instruction in reading (as described in 20 United States Code (USC), §6368(3)), and/or mathematics within general education settings delivered by qualified personnel; and (ii) data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal evaluation of student progress during instruction. Data-based documentation of repeated assessments may include, but is not limited to, response to intervention progress monitoring results, in-class tests on grade-level curriculum, or other regularly administered

assessments. Intervals are considered reasonable if consistent with the assessment requirements of a student's specific instructional program.

(B) A student with a Learning Disability is one who: (i) has been determined through a variety of assessment tools and strategies to meet the criteria for a specific Learning Disability as stated in 34 CFR, §300.8(c)(10), in accordance with the provisions in 34 CFR, §§300.307-300.311; and (ii) does not achieve adequately for the student's age or meet state-approved grade-level standards in oral expression, listening comprehension, written expression, basic reading skill, reading fluency skills, reading comprehension, mathematics calculation, or mathematics problem solving when provided appropriate instruction, as indicated by performance on multiple measures such as in-class tests; grade average over time (e.g. six weeks, semester); norm- or criterion-referenced tests; statewide assessments; or a process based on the student's response to scientific, research-based intervention; and (I) does not make sufficient progress when provided a process based on the student's response to scientific, research-based intervention as defined in 20 USC, §7801(37).

The following criteria were set by the Texas Education Agency (2015) for students with *Other Health Impairment*.

A student with Other Health Impairment is one who has been determined to meet the criteria for Other Health Impairment due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning,

leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette's Disorder as stated in 34 CFR, §300.8(c)(9).

The Texas Education Agency (2015) set the following criteria for students with a *Speech or Language Impairment*, “A student with a Speech Impairment is one who has been determined to meet the criteria for Speech or Language Impairment as stated in 34 CFR, §300.8(c)(11).”

Students are labeled *Emotionally Disturbed* by using the following criteria set by the Texas Education Agency (2015), “A student with an Emotional Disturbance is an individual who has been determined to meet the criteria for Emotional Disturbance as stated in 34 CFR, §300.8(c)(4). (p. 5)” For further clarification, 34 CFR, §300.8(c)(4) is defined by United States Department of Education (2016) as the following:

Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

(C) Inappropriate types of behavior or feelings under normal circumstances.

(D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.

College-readiness is defined by the Texas Education Agency as the following: To be considered college-ready as defined by this indicator, a graduate must have met or exceeded the college-ready criteria on the TAKS exit-level test, or the SAT test, or the ACT test. Readers are directed to Table 1 in Barnes and Slate (2011) for the breakdown of the specific scores to be deemed college-ready in Texas.

Results

To determine whether differences were present in reading, mathematics, and both subjects college-readiness rates (i.e., met standard or did not meet standard) for Texas high school students for students enrolled in special education by their disability category (i.e., Learning Disability, Other Health Impairment, Speech and Language Impairment, and Emotionally Disturbed), Pearson chi-square statistics were calculated. Frequency data were present for the college-readiness variables and special education categories; therefore, this procedure is viewed as the appropriate statistical procedure (Field, 2009; Slate & Rojas-LeBouef, 2011). When both variables are nominal, chi-squares are the statistical procedure of choice. The available sample size per cell was more than five; therefore, the assumptions were met for using the Pearson chi-square procedure. Results will now be discussed in order of the research questions by school year.

Research Question One

The focus in the first research question was on whether differences were present in reading college-readiness rates for students who were enrolled in special education by their disability category for the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 1,220 for students who had a Learning Disability, 118 students with an Other Health Impairment, 3 students who had a Speech

or Language Impairment, and 102 students who had an Emotional Disturbance ($N = 1,443$). With respect to the research question, the Pearson chi-square procedure revealed the presence of a statistically significant difference in reading college-readiness rates among the disability categories, $\chi^2(3) = 10.09$, $p = .02$, Cramer's V of .08, trivial effect size (Cohen, 1988). Students who had a Learning Disability had the highest Met Standard percentage, 8.8%, of the four disability groups. Of concern was that no students who had a Speech and Language Impairment or who had an Emotional Disturbance met the standard for college-readiness in reading. Furthermore, less than 10% of students in these four disability categories met the college-readiness standard in reading. Frequencies and percentages for reading college-readiness rates by disability category are presented in Table 2.1.

 Insert Table 2.1 about here

Concerning the 2009-2010 school year, a statistically significant difference was not yielded in reading college-readiness rates by disability category. In this school year, not a single student in these four special education categories met the reading college-readiness standard. Readers are directed to Table 2.1 for the frequencies and percentages by disability category for reading college-readiness rates.

With respect for the 2010-2011 school year, a statistically significant difference in reading college-readiness rates was not present, $\chi^2(3, N = 1,501) = 6.50$, $p = .09$. Readers should note that very low rate of students who met the HERC standard in reading. Only 6.9% of students with a Learning Disability met the HERC Reading standard and no

students who were Emotionally Disturbed or had a Speech or Language Impairment met this reading college-readiness standard.

Research Question Two

The second research question was on whether differences were present in mathematics college-readiness rates by disability category for students who were enrolled in special education in the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 972 students who had a Learning Disability, 97 students who were diagnosed with an Other Health Impairment, two students who had a Speech or Language Impairment, and 73 students who had an Emotional Disturbance ($N = 1,144$). With respect to the research question, the Pearson chi-square procedure did not reveal the presence of a statistically significant difference in mathematics college-readiness rates among the disability categories, $\chi^2(3) = 4.66, p = .20$. For students who had a Learning Disability, only 5.6% met the HERC Mathematics standard for the 2008-2009 school year, followed by 4.1% of students who had an Other Health Impairment. Frequencies and percentages for mathematics college-readiness rates by disability category are located in Table 2.2.

Insert Table 2.2 about here

Concerning the 2009-2010 school year, a statistically significant difference was not yielded in mathematics college-readiness rates by disability category, $\chi^2(3) = 0.54, p = .91$. In the 2009-2010 school year, of the four disability categories analyzed in this investigation, only 0.1% of students who had a Learning Disability met the HERC

Mathematics standard. No other disability grouping had a single student who met this standard. Readers are directed to Table 2.2 for the frequencies and percentages by disability category for this school year.

With respect to the 2010-2011 school year, a statistically significant difference in mathematics college-readiness rates was not present, $\chi^2(3) = 5.96, p = .11$. Only 7.7% of students who had a Learning Disability and 5.3% of student with an Other Health Impairment were college-ready in mathematics. The frequencies and percentages of mathematics college-readiness rates by disability category are delineated in Table 2.2.

Research Question Three

The third research question involved the degree to which differences were present in both subjects college-readiness rates by disability category for students who were enrolled in special education in the 2008-2009 through the 2010-2011 school years. For the 2008-2009 school year, 2,247 students had a Learning Disability, 406 students were diagnosed with an Other Health Impairment, six students had a Speech or Language Impairment, and 233 students had an Emotional Disturbance ($N = 2,992$).

With respect to the research question, the Pearson chi-square procedure did not reveal the presence of a statistically significant difference in both subjects college-readiness rates among the disability categories, $\chi^2(2) = 1.30, p = .52$. Extremely low percentages of students who were Learning Disabled or Other Health Impairment were college-ready in both subjects. No students who were Emotionally Disturbed or Speech or Language Impairment were college-ready in both subjects in the 2008-2009 school year. Frequencies and percentages for both subjects college-readiness rates by disability category are revealed in Table 2.3.

Insert Table 2.3 about here

For the 2009-2010 school year, the Pearson chi-square procedure did not reveal a statistically significant difference in both subjects college-readiness rates by disability category. Of note for this school year was that no students in the four disability categories were college-ready in both subjects. Table 2.3 contains the frequencies and percentages for both subjects college-readiness rates by disability category.

With respect to the 2010-2011 school year, a statistically significant difference in both subjects college-readiness rates was not present, $\chi^2(3) = 5.84, p = .12$. Only 7.7% of students who were labeled as Other Health Impairment were college-ready in both subjects and only 1.6% of students who were Learning Disabled were college-ready in both subjects. Presented in Table 2.3 are the frequencies and percentages for both subjects college-readiness rates by disability category.

Discussion

In this investigation, differences in reading, mathematics, and both subjects college-readiness rates by disability category for students in special education were analyzed using Texas Education Agency Public Education Information Management System data for the 2008-2009 through the 2010-2011 school years. Inferential statistical analyses yielded only one statistically significant difference in reading, and no statistically significant differences in mathematics, and both subjects college-readiness rates for the four groups of students in special education. Effect sizes are delineated in Table 2.4.

Insert Table 2.4 about here

For the three school years of data analyzed, students who were Learning Disabled had the highest college-readiness rates followed by students who were diagnosed with Other Health Impairment. For every year in this investigation, not a single student who was diagnosed with a Speech or Language Impairment or an Emotional Disturbance were college-ready in reading. Reading college-readiness rates for special education students by disability category are depicted in Figure 2.1.

Insert Figure 2.1 about here

For all three school years of data analyzed, not a single student who was diagnosed with either a Speech or Language Impairment or as Emotionally Disturbed met the HERC Mathematics standard. Students who were Learning Disabled had the highest college-readiness rates followed closely by students who were diagnosed with Other Health Impairment. Readers should note; however, the extremely low college-readiness rates that were present for the four groups of students. Depicted in Figure 2.2 are the mathematics college-readiness rates for special education students by disability category.

Insert Figure 2.2 about here

No student in the four special education categories in the 2009-2010 school year were college-ready in both subjects. Students in all four disability groups had extremely low to nonexistent college-readiness percentages in reading, mathematics, and in both subjects. Depicted in Figure 2.3 are both subjects college-readiness rates for special education students by disability category.

Insert Figure 2.3 about here

Implications for Policy and Practice

Students who were enrolled in special education in this investigation had alarmingly low college-readiness rates. Brault (2011) said students with disabilities may require different approaches to their education. It is clear, with these results, another look at the way students with disabilities are being instructed is needed. Policy makers and educational leaders must get involved and enact change for students with disabilities to become more successful. It is evident, educators and families need support to raise the level of academic achievement and college-readiness. Professional development for educators on differentiating in the classroom, co-teaching models, and disability categories is needed. Administrators need to call into action curriculum departments to ensure student needs are being met within the curriculum that is distributed throughout the district. Lastly, policy makers need to ensure school districts are meeting the needs of all of the students.

Recommendations for Future Research

With the negative relationship between high school completion and students who were retained or received a suspension or expulsion (Cortiella & Horowitz, 2014), future research should be conducted on college-readiness of students who were enrolled in special education by disability category and by how many times a student has been retained. Another recommendation for future research is to extend this study into other states to determine the degree to which results from this study are generalizable. Lastly, a recommendation for future research is on the effectiveness of the types of accommodations and modifications utilized for students by disability category.

Conclusion

In this multiyear, statewide investigation, the extent to which differences were present in college-readiness by disability category of Texas high school students enrolled in special education was addressed. Statewide data were obtained from the Texas Education Agency Public Education Information Management System for the 2008-2009, 2009-2010, and 2010-2011 school years on all students who were enrolled in special education. Inferential statistical analyses revealed that the college-readiness rates of students in the four disability groups were extremely low. Students with Learning Disabilities had the highest reading and mathematics and reading college-readiness rates of the four groups of students whose data were analyzed in this investigation. In the 2009-2010 school year, only two students met the mathematics college-readiness standard. No students met the reading or the both subjects college-readiness standards.

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Table 2.1

Frequencies and Percentages of the HERC Reading Met Standard by Disability Category for the 2008-2009, 2009-2010, and 2010-2011 School Years

Disability Category	Met Standard	Met Standard	Met Standard
	2008-2009	2009-2010	2010-2011
Learning Disability	(n = 107) 8.8%	(n = 0) 0%	(n = 91) 6.9%
Other Health Impairment	(n = 9) 7.6%	(n = 0) 0%	(n = 6) 5.8%
Speech or Language Impairment	(n = 0) 0%	(n = 0) 0%	(n = 0) 0%
Emotional Disturbance	(n = 0) 0%	(n = 0) 0%	(n = 0) 0%

Table 2.2

Frequencies and Percentages of the HERC Mathematics Met Standard by Disability Category for the 2008-2009, 2009-2010, and 2010-2011 School Years

	Met Standard	Met Standard	Met Standard
Disability Category	2008-2009	2009-2010	2010-2011
Learning Disability	(<i>n</i> = 54) 5.6%	(<i>n</i> = 2) 0.1%	(<i>n</i> = 84) 7.7%
Other Health Impairment	(<i>n</i> = 4) 4.1%	(<i>n</i> = 0) 0%	(<i>n</i> = 5) 5.3%
Speech or Language Impairment	(<i>n</i> = 0) 0%	(<i>n</i> = 0) 0%	(<i>n</i> = 0) 0%
Emotional Disturbance	(<i>n</i> = 0) 0%	(<i>n</i> = 0) 0%	(<i>n</i> = 0) 0%

Table 2.3

Frequencies and Percentages of the HERC Both Subjects Met Standard by Disability Category for the 2008-2009, 2009-2010, and 2010-2011 School Years

	Met Standard	Met Standard	Met Standard
Disability Category	2008-2009	2009-2010	2010-2011
Learning Disability	(n = 9) 1.4%	(n = 0) 0%	(n = 12) 1.6%
Other Health Impairment	(n = 1) 3.8%	(n = 0) 0%	(n = 2) 7.7%
Speech or Language Impairment	(n = 0) 0%	(n = 0) 0%	(n = 0) 0%
Emotional Disturbance	(n = 0) 0%	(n = 0) 0%	(n = 0) 0%

Table 2.4

Cramer's Vs for Statistically Significant College-Readiness Rates Among Disability

Categories for Special Education Students in Reading, Mathematics, and Both Subjects

School Year	Reading	Mathematics	Both Subjects
2008-2009	Trivial	Not Statistically	Not Statistically
		Significant	Significant
2009-2010	Not Statistically	Not Statistically	Not Statistically
	Significant	Significant	Significant
2010-2011	.Not Statistically	Not Statistically	Not Statistically
	Significant	Significant	Significant

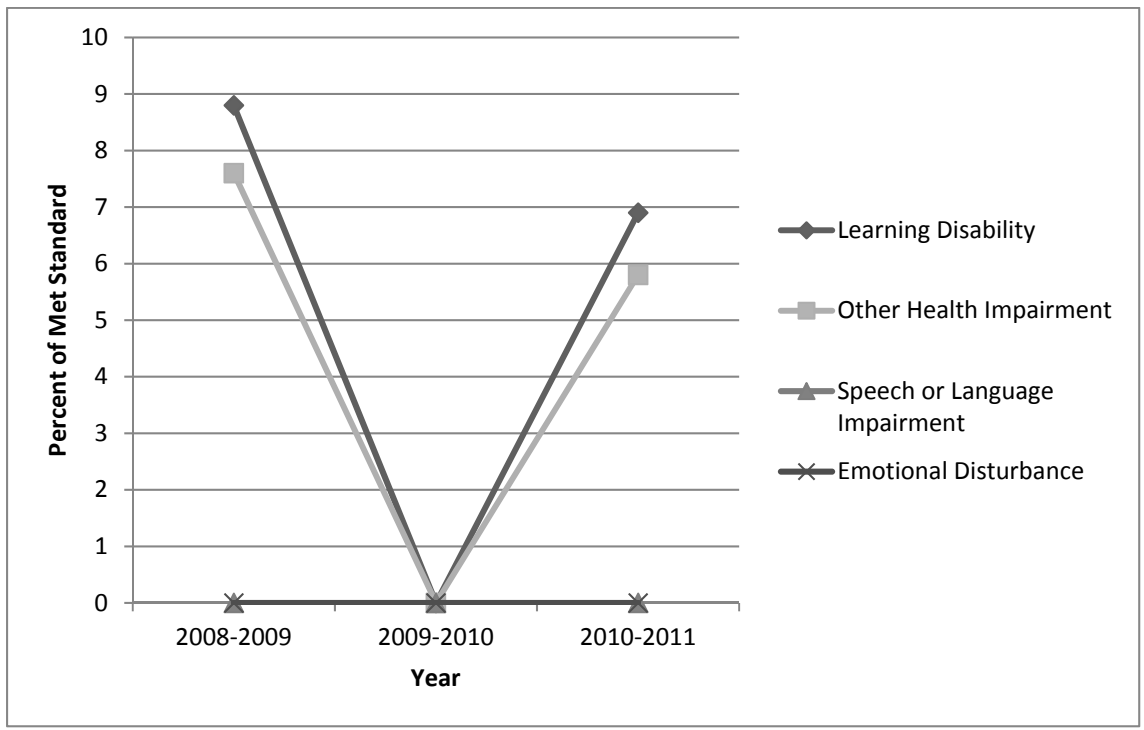


Figure 2.1. A 3-year trend of college-readiness rates in reading for special education students by disability category in Texas.

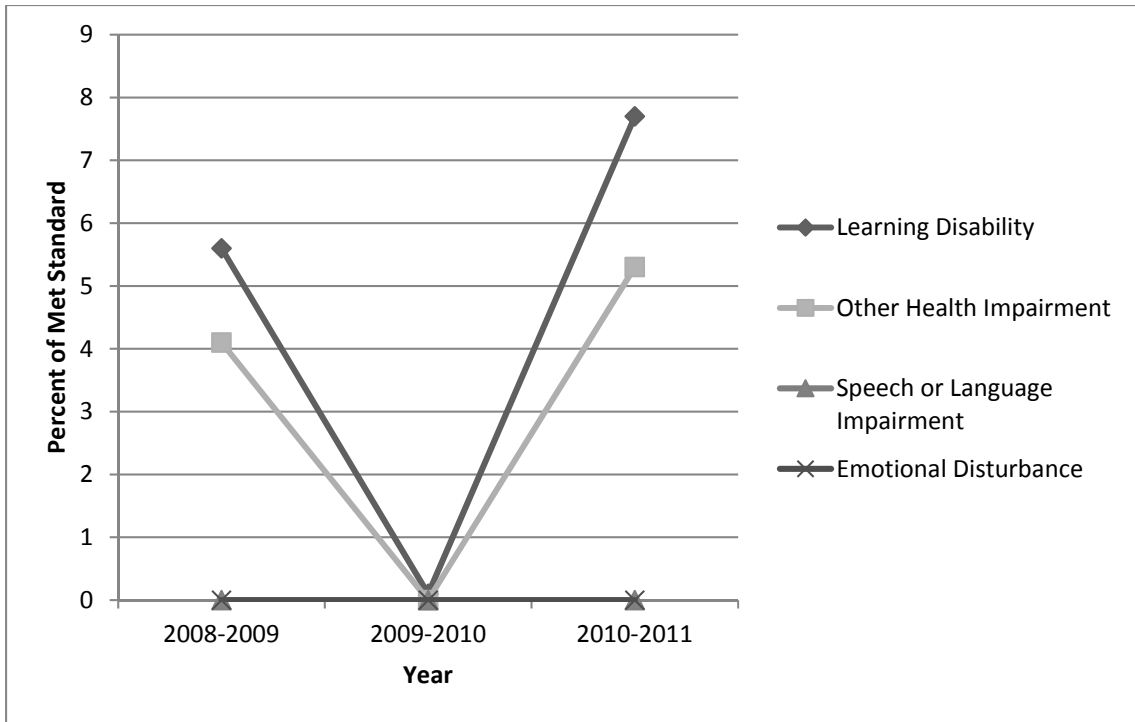


Figure 2.2. A 3-year trend of college-readiness rates in mathematics for special education students by disability category in Texas.

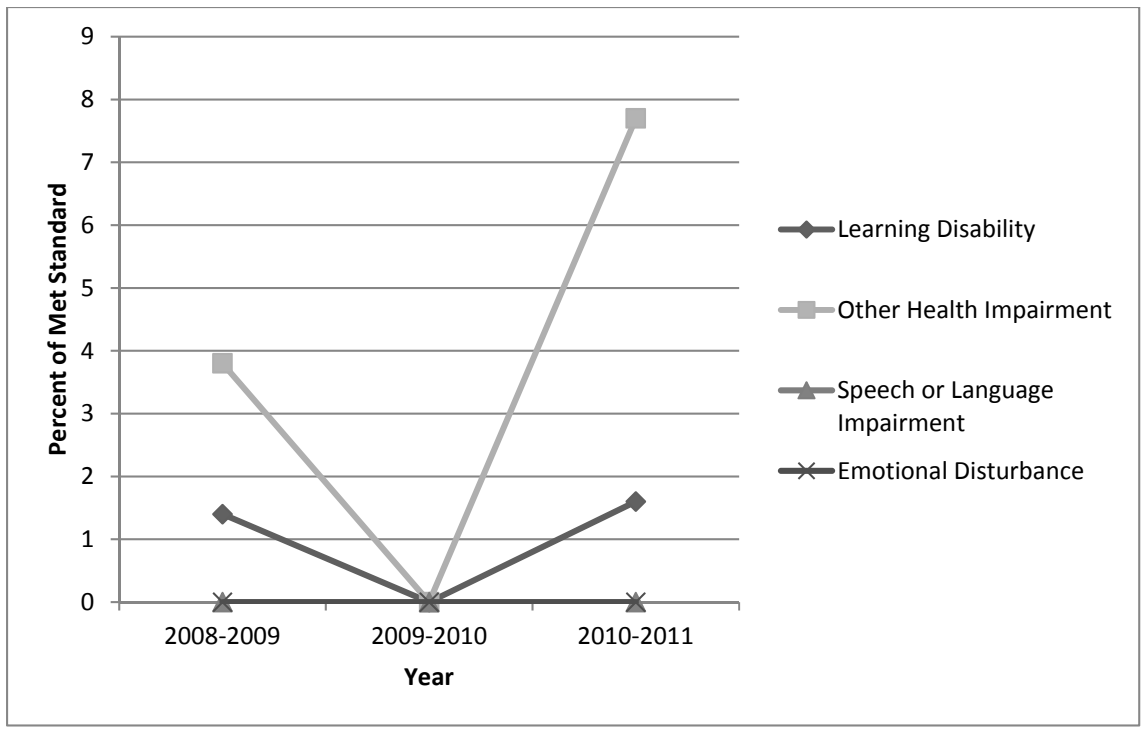


Figure 2.3. A 3-year trend of college-readiness rates in both subjects for special education students by disability category in Texas.

CHAPTER III

DIFFERENCES IN COLLEGE-READINESS BY ECONOMIC STATUS OF TEXAS
HIGH SCHOOL STUDENTS WITH A LEARNING DISABILITY: A STATEWIDE
MULTIYEAR INVESTIGATION

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

The extent to which differences were present in college-readiness rates in reading, mathematics, and both subjects by economic status for students who were Learning Disabled in Texas public high schools for 2008-2009 through 2010-2011 school years were analyzed in this study. Archival data were obtained from the Texas Education Agency Public Education Information Management System on all high school students who were diagnosed as being Learning Disabled. Statistically significant differences in reading, mathematics, and both subjects college-readiness were present for all three school years. Extremely low college-readiness rates were present in reading, mathematics, and both subjects for students who were Learning Disabled in the 2008-2009 through the 2010-2011 school years.

Keywords: Special education, Learning Disabled, College-readiness, Economic status

DIFFERENCES IN COLLEGE-READINESS BY ECONOMIC STATUS OF TEXAS
HIGH SCHOOL STUDENTS WITH A LEARNING DISABILITY: A STATEWIDE
MULTIYEAR INVESTIGATION

A family's socioeconomic status has been a strong predictor of academic achievement (Cabrera & La Nasa, 2001; Horn & Kojaku, 2001; Reardon, 2011) and is now a better predictor than race (Reardon, 2013). The achievement gap for students who live in poverty versus their counterparts is now greater than 50% larger than the gap between Black and White students (Reardon, 2011). With respect to the group of students relevant to this empirical investigation, children with Learning Disabilities are more likely to live in poverty (Coppin et al., 2006; Cortiella & Horowitz, 2014; Emerson, Shahtahmasebi, Lancaster, & Berridge, 2010; Spies, Morgan, & Matsuura, 2014).

Even though the Americans with Disabilities Act assures equal education and employment to those people with and without disabilities, Stoddard (2014) reported a 33.9% employment rate for people living with a disability compared to 74.2% of people living without a disability. Few people with disabilities are employed, with many of them employed in jobs that pay under the poverty level (Hughes & Avoke, 2010). DeNavas-Walt and Proctor (2015) reported 46.7 million people living in poverty and 28.5% of those people living with a disability between the ages of 18 and 64 in 2014 reported poverty income levels. Specific to anyone over the age of five and living with a Learning Disability, the rate of living in poverty was 2.6% compared to those people not living with a Learning Disability at 1.5% (Cortiella & Horowitz, 2014).

The achievement gap for students who lived in poverty was analyzed by Lee and Slate (2014) in a quantitative study about the advanced achievement of students who

were economically disadvantaged. Grade 11 students who took the 2012 Texas Assessment of Knowledge and Skills (TAKS) were examined on their Met Standard, Commended Performance, and college-readiness performance. Nearly one half of the sample size was students who were economically disadvantaged. Lee and Slate (2014) established that students who were economically disadvantaged had 20% lower Commended Performance and college-readiness rates on the TAKS Reading and Mathematics assessment than those students who were not economically disadvantaged. When analyzing the Met Standard rates, Lee and Slate (2014) documented similar rates of success for students who were in poverty and students who were not in poverty.

In this study, the college-readiness of students who had a Learning Disability will be investigated. The demands of the 21st century economy require a wider spread of skills than ever before (Brand, Valent, & Danielson, 2013). To compete with the global market, a larger percent of youth to graduate with postsecondary degrees, including students with disabilities is required (Brand et al., 2013). In conjunction with this demand, emphasized in the amendment to Public Law 94-142 was an emphasis on college-readiness for students with disabilities, it is essential to learn what is meant by college-readiness. Conley (2007, 2008) defined college-readiness as students successfully transitioning from high school to the college environment equipped to manage the demands of college without remediation. Barnes, Slate, and Rojas-LeBouef (2010) define college-readiness as academic preparedness. However, in the state of Texas, college-readiness indicators are specific to the following standardized assessments: (a) Texas Assessment of Knowledge and Skills, (b) Scholastic Aptitude Test, and (c) American College Test, as noted in Barnes and Slate (2011).

The group of students relevant to this investigation are students with Learning Disabilities. Students who were diagnosed with a Learning Disability are the largest group who receive special education services out of all of the other categories of disability, about 42% in 2011 for the United States and 43.2% in Texas (Cortiella & Horowitz, 2014). Of the students with a Learning Disability, one third had been retained at least one grade level and one out of every two students with a Learning Disability had been given a disciplinary consequence such as suspension or expulsion in 2011 (Cortiella & Horowitz, 2014).

Unfortunately, students who have Learning Disabilities are attending 4-year institutions at one half the rate of students without Learning Disabilities. Of those students with Learning Disabilities who are attending 4-year universities, only 17% are receiving some type of accommodation or support for their disability. Only 41% of students with Learning Disabilities complete college compared to students without Learning Disabilities (Cortiella & Horowitz, 2014). When over a lifetime, a 4-year college graduate will earn 84% more than a high school graduate (Carnevale, Rose, & Cheah, 2011), it is imperative that students with Learning Disabilities graduate from college.

Holden and Slate (2016) provided empirical evidence that low percentages of students receiving special education services were college ready. Students who were enrolled in special education in large-size high schools had low percentages who were college-ready. The percent of students receiving special education services who Met Standard in Reading was 17.60%, in Mathematics was 24.19%, and in both subjects was only 9.78%. Chandler, Slate, Moore, and Barnes (2014) also established the presence of

minimal improvements in college-readiness rates for students who qualified for special education services. For the all students category in the study, Chandler et al. (2014) documented about a 20% increase in reading college-readiness rates between the 2008-2009 and the 2010-2011 school years, whereas students who received special education services demonstrated a mere 2% increase during the same time. An increase of slightly over 10% for all students' mathematics college-readiness rates was determined, whereas students who were enrolled in special education had no change in their mathematics college readiness-rates (Chandler et al., 2014). When analyzing college-readiness rates for both subjects, Chandler et al. (2014) established an increase of 17.14% for all students compared to a decrease for students who received special education services between the 2006-2007 and the 2010-2011 school years.

Statement of the Problem

Students are beginning college without the readiness skills to obtain their degrees (Hunt, Boyd, Gast, Mitchell, & Wilson, 2012). This lack of skills could lead to barriers for future economic success (Hunt et al., 2012). With respect to the group of students of interest in this investigation, the Center for Public Policy Priorities (2015, March) reported 60.3% of all students were economically disadvantaged in the 2013-2014 school year. With respect specifically to students who received special education services, the Employment and Disability Institute (2011) established that 27.8% were in poverty. Also noted was only 12.5% of students with disabilities graduated with a bachelor's degree, with the highest percentage of graduates being those students who were hearing impaired. Employment rates of people who had a disability were 33.4% compared to 75.6% for people who did not have a disability (Employment and Disability Institute, 2011).

Purpose of the Study

The first purpose of this study was to determine the extent to which differences were present in reading college-readiness as a function of economic status for students with a Learning Disability. A second purpose of this investigation was to ascertain the degree to which differences were present in mathematics college-readiness as a function of economic status for students with a Learning Disability. Thirdly, the purpose of this study was to determine the extent to which differences were present in both subjects' college-readiness as a function of economic status for students with a Learning Disability. Finally, the fourth purpose of this empirical statewide investigation was to ascertain the degree to which trends were present in the performance of students with a Learning Disability across the three years of school data that were analyzed herein.

Significance of the Study

Research exists on college-readiness rates, on students with Learning Disabilities, and on students in poverty; however, research is limited on all three variables concurrently. This research investigation begins to add to the body of research on these specific groups of students. With 59.2% of students in poverty and 432,763 students enrolled in special education in Texas in the 2010-2011 school year (Texas Education Agency, 2015b), results from this investigation may have practical implications for school districts to improve the college-readiness rates of students who are enrolled in special education and who are in poverty. With the improvement of college-readiness rates for students who are enrolled in special education and are economically disadvantaged, the future economic status of these students has the potential for improvement.

Research Questions

The following research questions were addressed in this empirical investigation:

(a) What is the difference in reading college-readiness as a function of economic status for students with a Learning Disability?, (b) What is the difference in mathematics college-readiness as a function of economic status for students with a Learning Disability?, (c) What is the difference in both subjects college-readiness as a function of economic status for students with a Learning Disability?; and (d) What is the trend in reading, mathematics, and both subjects college-readiness rates over time for students with a Learning Disability? The first three research questions were repeated for the 2008-2009, 2009-2010, and 2010-2011 school years whereas the trend question was repeated for each of the three college-readiness rates across the three school years. Therefore, a total of 12 research questions constituted this research investigation.

Method

Research Design

This nonexperimental quantitative study was a causal comparative design because the reading, mathematics, and both subjects college readiness performance has already occurred (Creswell, 2014). Archival data for the 2008-2009, 2009-2010, and 2010-2011 school years were used to examine the relationship of college readiness by economic status of students who had a Learning Disability. The independent variable in this investigation was economic status (i.e., not economically disadvantaged or economically disadvantaged) and the dependent variables were college-readiness rates in reading, in mathematics, and in both subjects. The sample of students whose data were analyzed herein was students who were determined to have a Learning Disability.

Participants and Instrumentation

Archival data were requested from the Texas Education Agency Public Education Information Management System for the 2008-2009, 2009-2010, and 2010-2011 school years for high school students who had a Learning Disability. These data included: (a) grade span configuration of each high school campus, (b) student special education enrollment status, (c) reading college-readiness rates, (d) mathematics college-readiness rates, (e) both subjects college-readiness rates, and (f) economic status. Data was only used for students who were enrolled in special education in traditional public high schools. Therefore, charter schools, alternative education campuses, and high schools that did not have a grade span configuration of Grades 9-12 were excluded from the study.

Examined in this study were three college-readiness variables by student economic status for students who had a Learning Disability. Participants were evaluated on their performance on the Higher Education Readiness Component (HERC) standard for college-readiness. The HERC was mandated under the Texas Assessment of Knowledge and Skills by Senate Bill 103. Under this legislation, a performance standard to identify college-readiness was required. The HERC standard is on the Texas Assessment of Knowledge and Skills scale score system, was established by Texas Higher Education Coordinating Board, and the Texas Education Agency (2006) is responsible for implementing and facilitating the assessment with fidelity.

College-readiness is defined by the Texas Education Agency (2014) as the following: To be considered college-ready as defined by this indicator, a graduate must have met or exceeded the college-ready criteria on the TAKS exit-level test, or the SAT

test, or the ACT test. Readers are directed to Table 1 in Barnes and Slate (2011) for the breakdown of the specific scores to be deemed college-ready in Texas.

Economically disadvantaged is defined as students who are eligible for free or reduced lunch by the Texas Education Agency (2014). The United States Department of Agriculture (2015, July) outlined the eligibility requirements for acquiring free or reduced lunch.

The family-size income levels prescribed annually by the Secretary of Agriculture for determining eligibility for free and reduced price meals and free milk. The free guidelines are at or below 130 percent of the federal poverty guidelines. The reduced price guidelines are between 130 and at or below 185 percent of the Federal poverty guidelines. (p. 10)

The students whose data were analyzed herein were students determined to have a Learning Disability. Learning Disabled is generally defined as various processing disorders which affects a person's language acquisition, retention, organization, planning, reasoning, or understanding of skills (Learning Disabilities Association of America, 2016; Merriam-Webster, 2016).

The Texas Education Agency (2015a) defines Learning Disabled students as:

(B) A student with a Learning Disability is one who: (i) has been determined through a variety of assessment tools and strategies to meet the criteria for a specific Learning Disability as stated in 34 CFR, §300.8(c)(10), in accordance with the provisions in 34 CFR, §§300.307-300.311; and (ii) does not achieve adequately for the student's age or meet state-approved grade-level standards in oral expression, listening comprehension, written expression, basic reading skill,

reading fluency skills, reading comprehension, mathematics calculation, or mathematics problem solving when provided appropriate instruction, as indicated by performance on multiple measures such as in-class tests; grade average over time (e.g. six weeks, semester); norm- or criterion-referenced tests; statewide assessments; or a process based on the student's response to scientific, research-based intervention; and (I) does not make sufficient progress when provided a process based on the student's response to scientific, research-based intervention (as defined in 20 USC, §7801(37)), as indicated by the student's performance relative to the performance of the student's peers on repeated, curriculum-based assessments of achievement at reasonable intervals, reflecting student progress during classroom instruction; or (II) exhibits a pattern of strengths and weaknesses in performance, achievement, or both relative to age, grade-level standards, or intellectual ability, as indicated by significant variance among specific areas of cognitive function, such as working memory and verbal comprehension, or between specific areas of cognitive function and academic achievement (p. 7).

Results

To determine whether differences were present in reading, mathematics, and both subjects college-readiness rates (i.e., met standard or did not meet standard) by economic status (i.e., Not Economically Disadvantaged or Economically Disadvantaged) for Texas high school students who were Learning Disabled, Pearson chi-square statistics were calculated. Frequency data were present for the college-readiness variables and economic status; therefore, this procedure is viewed as the appropriate statistical

procedure (Field, 2009; Slate & Rojas-LeBouef, 2011). When both variables are nominal, chi-squares are the statistical procedure of choice. The available sample size per cell was more than five, therefore, the assumptions were met for using the Pearson chi-square procedure. Results will now be discussed in order of the research questions by school year.

Research Question One

In the first research question the focus was on whether differences were present in reading college-readiness by economic status for students who were Learning Disabled for the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 413 students who had a Learning Disability and who were not economically disadvantaged and 506 students who had a Learning Disability and who were economically disadvantaged ($N = 919$). With respect to the research question, the Pearson chi-square procedure revealed a statistically significant difference in reading college-readiness rates by economic status of students who had a Learning Disability, $\chi^2(1) = 53.52, p < .001$, Cramer's V of .24, small effect size (Cohen, 1988). Of the students who had a Learning Disability and who were not economically disadvantaged, 15% met the HERC Reading standard compared to 2% of students who had a Learning Disability and who were economically disadvantaged. Table 3.1 contains the frequencies and percentages for reading college-readiness rates by economic status of students who were Learning Disabled.

Insert Table 3.1 about here

With respect to the 2009-2010 school year, a statistically significant difference was not yielded in the reading college-readiness rates by economic status of students with a Learning Disability. No student who was Learning Disabled in this school year, regardless of economic status, met the HERC Reading standard. Frequencies and percentages for reading college-readiness rates by economic status are located in Table 3.1.

Concerning the 2010-2011 school year, a statistically significant difference in reading college-readiness rates was not present, $\chi^2(1) = 0.69, p = .41$. Readers should note that less than 10% of students who were Learning Disabled met the HERC Reading standard. Only 8.3% of students with a Learning Disability and who were not economically disadvantaged met the HERC Reading standard compared to 6.7% of students with a Learning Disability who were economically disadvantaged met this reading college-readiness standard.

Research Question Two

The focus for the second research question was on whether differences were present in mathematics college-readiness by economic status for students who were Learning Disabled for the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 314 students who had a Learning Disability and who were not economically disadvantaged and 421 students who had a Learning Disability and who were economically disadvantaged ($N = 735$). With respect to the

research question, the Pearson chi-square procedure revealed a statistically significant difference in mathematics college-readiness rates by economic status of students who had a Learning Disability, $\chi^2(1) = 18.48, p < .001$, Cramer's V of .16, small effect size (Cohen, 1988). Almost 10% of students who had a Learning Disability and who were not economically disadvantaged met the HERC Mathematics standard compared to slightly over 2% of students who had a Learning Disability and who were economically disadvantaged. Table 3.2 contains the frequencies and percentages for mathematics college-readiness rates by economic status of students who were Learning Disabled.

Insert Table 3.2 about here

The 2009-2010 school year did not yield a statistically significant difference in the mathematics college-readiness rates by economic status of students with a Learning Disability, $\chi^2(1) = 1.40, p = .24$. Only one student who was Learning Disabled in this school year met the HERC Mathematics standard. Readers are directed to Table 3.2 for frequencies and percentages for mathematics college-readiness rates by economic status.

Regarding the 2010-2011 school year, a statistically significant difference in mathematics college-readiness rates was not present, $\chi^2(1) = 0.11, p = .74$. Less than 7% of students with a Learning Disability and who were not economically disadvantaged met the HERC Mathematics standard compared a similar percentage of students with a Learning Disability who were economically disadvantaged met the mathematics college-readiness standard.

Research Question Three

The third research question was on whether differences were present in both subjects college-readiness by economic status for students who were Learning Disabled for the 2008-2009 through the 2010-2011 school years. For the 2008-2009 school year, the sample size was 192 students who had a Learning Disability and who were not economically disadvantaged and 236 students who had a Learning Disability and who were economically disadvantaged ($N = 428$). Pearson chi-square procedure revealed a statistically significant difference in both subjects college-readiness rates by economic status of students who had a Learning Disability, $\chi^2(1) = 10.02, p = .002$, Cramer's V of .15, small effect size (Cohen, 1988). Slightly over 4% of students who had a Learning Disability and who were not economically disadvantaged met the both subjects college-readiness standard compared to no students who had a Learning Disability and who were economically disadvantaged met the both subjects college-readiness standard. Readers are directed to Table 3.3 for frequencies and percentages of college-readiness rates in both subjects by economic status of students who were Learning Disabled.

 Insert Table 3.3 about here

No student with a Learning Disability met the both subjects college-readiness standard in the 2009-2010 school year. Table 3.3 contains the frequencies and percentages for both subjects college-readiness rates by economic status for students with a Learning Disability. Regarding the 2010-2011 school year, a statistically significant difference in both subjects college-readiness rates was not yielded, $\chi^2(1) = 1.23, p = .27$.

Less than 2% of students with a Learning Disability and who were economically disadvantaged met the both subjects HERC standard compared to no students with a Learning Disability who were not economically disadvantaged and who met this college-readiness standard.

Discussion

Differences in college-readiness rates in reading, mathematics, and both subjects were analyzed by economic status for students who were Learning Disabled in this research study. Individual student level data were obtained from the Texas Education Agency Public Education Information Management System data for the 2008-2009 through the 2010-2011 school years. For the 2008-2009 and 2010-2011 school years, students who were not economically disadvantaged had a higher met standard college-readiness rate than students who were economically disadvantaged. No students who were Learning Disabled in the 2009-2010 school year were college-ready in reading. Readers should note the very low reading college-readiness rates for students who were Learning Disabled. Reading college-readiness rates by economic status for students who were Learning Disabled are presented in Figure 3.1.

Insert Figure 3.1 about here

Mathematics college-readiness rates for students who had a Learning Disability fluctuated for the three years analyzed in this investigation. Of note, in the 2008-2009 and 2009-2010 school years, students who were not economically disadvantaged had better performance on the mathematics college-readiness standard than students who

were economically disadvantaged. In the 2010-2011 school year, students who were economically disadvantaged had a slightly higher mathematics college-readiness rate than students who were not economically disadvantaged. Depicted in Figure 3.2 are the mathematics college-readiness rates by economic status for students who were Learning Disabled.

Insert Figure 3.2 about here

Students with a Learning Disability had extremely low to nonexistent college-readiness percentages in both subjects. College-readiness in both subjects fluctuated within the three years of study. Present in Figure 3.3 are both subjects college-readiness rates by economic status for students who were Learning Disabled.

Insert Figure 3.3 about here

Implications for Policy and Practice

With the extremely low college-readiness rates for students who were Learning Disabled, policymakers and educational leaders are strongly encouraged to consider the results of this study. Home visits have been effective in promoting academic achievement in students by deepening the understanding of student's life experiences and building trust between educators, parents, and students (Stetson, Stetson, Sinclair, & Nix, 2012). Home visits are one procedure that can be implemented in high poverty schools to begin to close the gap for students who live in poverty and have a Learning Disability.

Upper and middle class families have educational experiences with their children through vacations, summer camps, and reading at home (Lareau, 2002). These activities tend to be less available to students who live in poverty. Educational leaders and teachers can create environments in the school setting to allow all students to gain these educational experiences. Students who live in poverty would learn 21st century skills through these experiences such as communication, reading, and world knowledge.

Recommendations for Future Research

Students who are Learning Disabled receive support in many types of classroom environments (i.e., resource classroom environment, co-teach classroom environment, in class support environment, or regular classroom environment), a recommendation for future research is on investigating the effectiveness of each type of learning environment on the college-readiness of students who are Learning Disabled. Another recommendation for a future research study is to investigate whether differences are present in college-readiness rates of students who are Learning Disabled by the age in which they were diagnosed. That is, do students who are determined to be Learning Disabled in the early elementary grades have different college-readiness skills than do students who are diagnosed in middle or high school grades? Another recommendation for future research is to analyze college-readiness rates by specific type of student learning disability. In this journal-ready dissertation, college-readiness rates were analyzed for students with a diagnosis of Learning Disability and not for specific types of learning disabilities. As such, given the different types of learning disabilities, a more nuanced approach is encouraged than was conducted in this journal-ready dissertation.

Conclusion

In this investigation, the extent to which differences were present in college-readiness rates by economic status of Texas high school students who had a Learning Disability was addressed. Statewide data were obtained from the Texas Education Agency Public Education Information Management System for the 2008-2009, 2009-2010, and 2010-2011 school years. Inferential statistical analyses were conducted to determine the degree to which college-readiness rates in reading, mathematics, and in both subjects differed by student economic status for students who had a Learning Disability. College-readiness rates in reading, mathematics, and in both subjects for students who were Learning Disabled were extremely low. Students who were Learning Disabled and who were not economically disadvantaged had higher college-readiness rates in most cases. In the 2010-2011 school year, students who were economically disadvantaged had slightly higher college-readiness rates than students who were not economically disadvantaged in mathematics and both subjects.

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Table 3.1

Frequencies and Percentages of the HERC Reading Met Standard by Economic Status for Students who Were Learning Disabled for the 2008-2009, 2009-2010, and 2010-2011 School Years

	Met Standard	Met Standard	Met Standard
Economic Status	2008-2009	2009-2010	2010-2011
Not Economically Disadvantaged	(n = 62) 15.0%	(n = 0) 0%	(n = 20) 8.3%
Economically Disadvantaged	(n = 10) 2.0%	(n = 0) 0%	(n = 50) 6.7%

Table 3.2

Frequencies and Percentages of the HERC Mathematics Met Standard by Economic Status for Students who Were Learning Disabled for the 2008-2009, 2009-2010, and 2010-2011 School Years

	Met Standard	Met Standard	Met Standard
Economic Status	2008-2009	2009-2010	2010-2011
Not Economically Disadvantaged	(n = 29) 9.2%	(n = 1) 0.1%	(n = 12) 6.8%
Economically Disadvantaged	(n = 9) 2.1%	(n = 0) 0%	(n = 48) 7.5%

Table 3.3

Frequencies and Percentages of the HERC Both Subjects Met Standard by Economic Status for Students who Were Learning Disabled for the 2008-2009, 2009-2010, and 2010-2011 School Years

	Met Standard	Met Standard	Met Standard
Economic Status	2008-2009	2009-2010	2010-2011
Not Economically Disadvantaged	(n = 8) 4.2%	(n = 0) 0%	(n = 0) 0%
Economically Disadvantaged	(n = 0) 0%	(n = 0) 0%	(n = 7) 1.5%

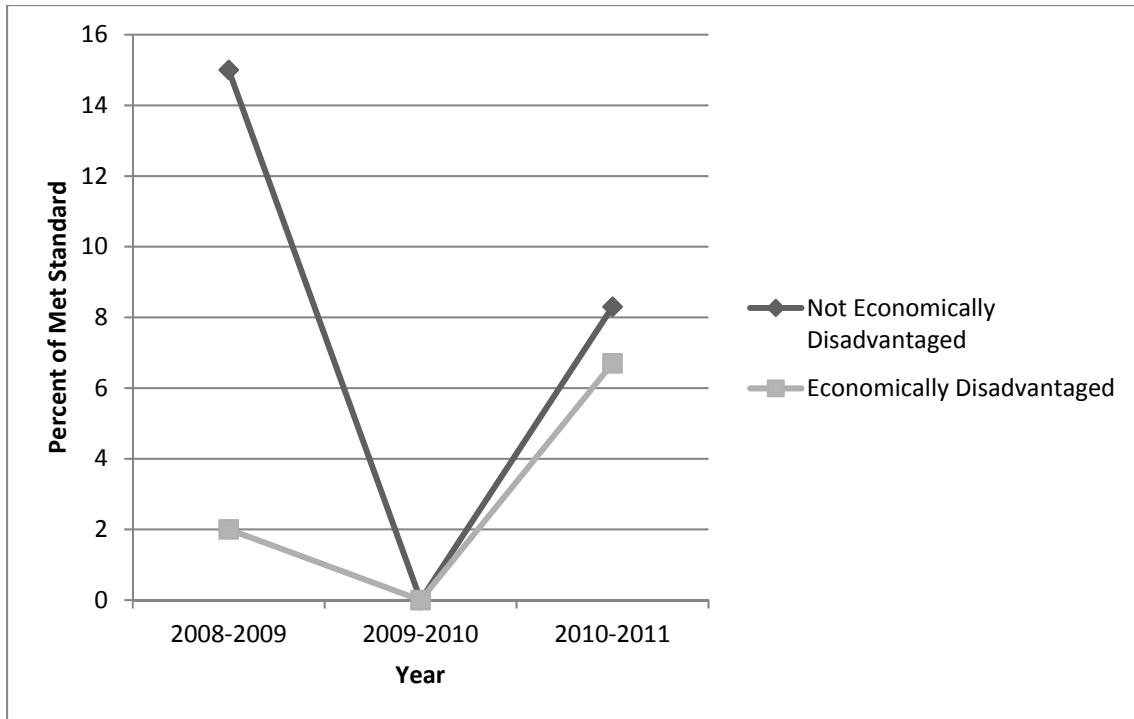


Figure 3.1. A 3-year trend of college-readiness rates in reading by economic status for students who were Learning Disabled in Texas.

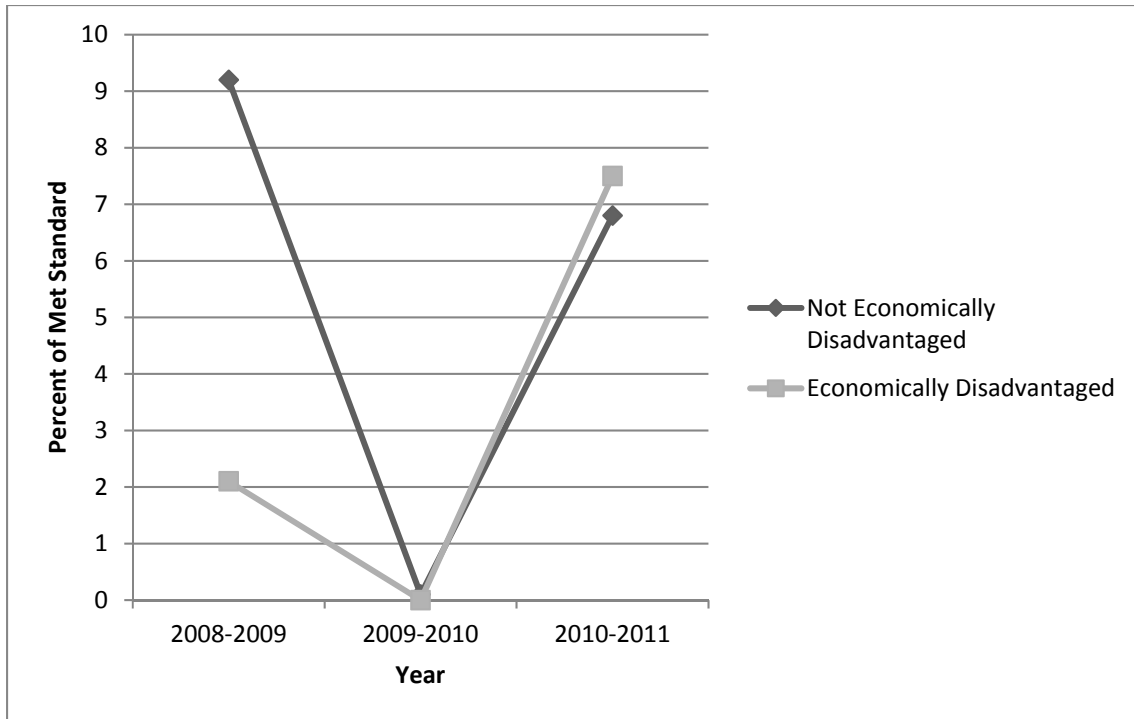


Figure 3.2. A 3-year trend of college-readiness rates in mathematics by economic status for students who were Learning Disabled in Texas.

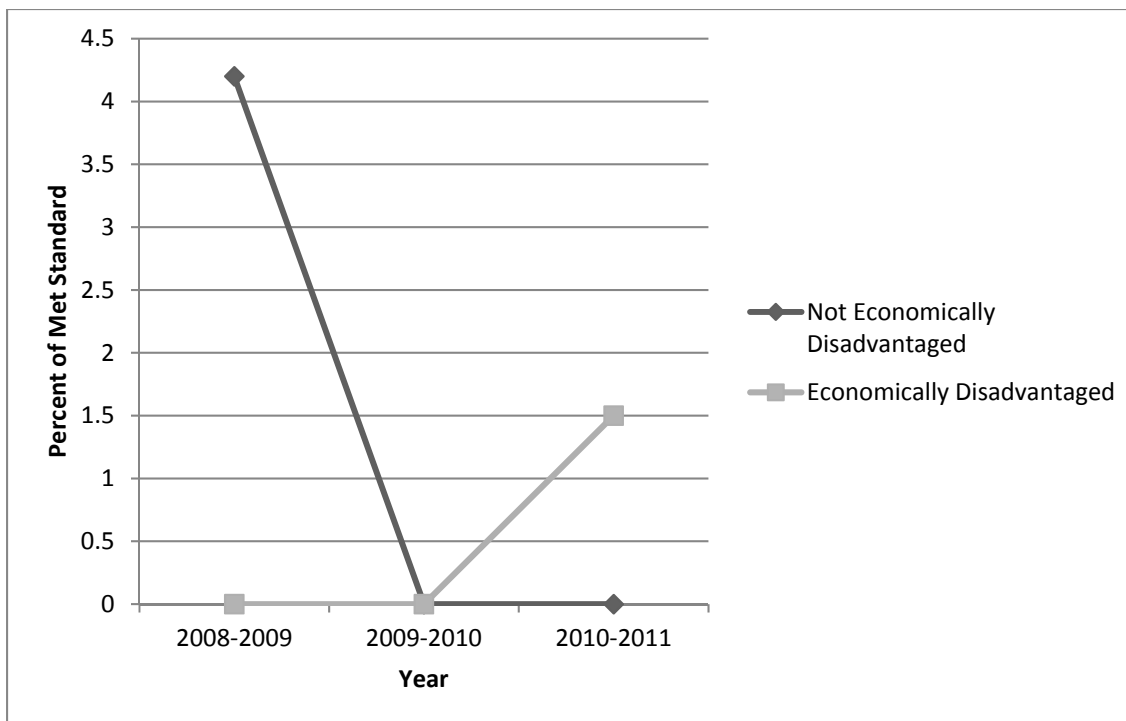


Figure 3.3. A 3-year trend of college-readiness rates in both subjects by economic status for students who were Learning Disabled in Texas.

CHAPTER IV

DIFFERENCES IN COLLEGE-READINESS RATES BY ECONOMIC STATUS OF
TEXAS HIGH SCHOOL STUDENTS WHO WERE LABELED EMOTIONALLY
DISTURBED

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

Analyzed in this investigation was on the extent to which differences were present in college-readiness rates in reading, mathematics, and both subjects by economic status for students who were Emotionally Disturbed in Texas public high schools in the 2008-2009 through the 2010-2011 school years. Three years of statewide data were obtained from the Texas Education Agency Public Education Information Management System on all high school students who were diagnosed as being Emotionally Disturbed. No student with an Emotional Disturbance, regardless of their economic status, met the college-readiness rates in reading, mathematics, and both subjects for the 2008-2009 through the 2010-2011 school years. Implications of these results are discussed and recommendations for future research are made.

Keywords: Special education, Emotionally Disturbed, College-readiness, Economic status

DIFFERENCES IN COLLEGE-READINESS RATES BY ECONOMIC STATUS OF
TEXAS HIGH SCHOOL STUDENTS WHO WERE LABELED EMOTIONALLY
DISTURBED

Public schools, in 1975, were required by Public Law 94-142 (Individuals with Disabilities Education Act) to provide all students with disabilities free access to education. The act was amended by Congress in 1986, 1990, and then again in 2004 to increase postsecondary enrollment for students with disabilities. Of specific interest to this article are the 6.3% of special education students ages 6-21 who were in the Emotionally Disturbed category. This 6.3% translates to 358,686 students nationally in the 2012-2013 school year who were determined to be Emotionally Disturbed (Center for Public Education, 2016). In Texas, the state of interest for this study, students who were labeled Emotionally Disturbed accounted for 5.8% of the special education population, or about 25,663 students (Texas Education Agency, 2016).

Students who are Emotionally Disturbed achieve at lower rates than their peers (Bradley, Henderson, & Monfore, 2004; Nelson, Benner, Lane, & Smith, 2004; Wagner & Cameto, 2004). Temple-Harvey and Vannest (2012) measured the performance of students who were Emotionally Disturbed on a statewide mathematics assessment and noted only 34% of students in the investigation met the proficiency standard. Carr-George, Vannest, Willson, and Davis (2009) examined participation and performance rates of students who were Emotionally Disturbed and documented in the 2006-2007 school year, only 56% of students who were Emotionally Disturbed participated in the Texas Assessment of Knowledge and Skills Reading assessment. Of those students who

were Emotionally Disturbed and took the assessment, only 44% met the proficiency standard.

Wagner, Kutash, Duchnowski, Epstein, and Sumi (2005) used data from the Special Education Elementary Longitudinal Study and the National Longitudinal Transition Study-2 to determine whether trends were present in the performance of students who were Emotionally Disturbed. When comparing retention rates, students who were Emotionally Disturbed represented a little over one fifth of the special education population retained in elementary and middle school and slightly over one third of high school students. Students who were Emotionally Disturbed accounted for about one half of the special education population in elementary and middle school to have been suspended or expelled and almost three fourths of the special education population in high school (Wagner et al., 2005). The effect of discipline consequences on students with disabilities was investigated by Allman and Slate (2013). Specific to this investigation, students who were Emotionally Disturbed and who were assigned a discipline consequence had statistically significantly lower academic achievement than did those students who were Emotionally Disturbed but who did not receive a discipline consequence (Allman & Slate, 2013).

Researchers (e.g., Barnes & Slate, 2010, 2011; Barnes, Slate, & Rojas-LeBouef, 2010; Chandler, Slate, Moore, & Barnes, 2014) have documented that students graduate high school without the skills necessary to be successful in postsecondary settings. College-readiness, as noted in Barnes and Slate (2011), in the State of Texas, are specific indicators to the following standardized assessments: (a) Texas Assessment of Knowledge and Skills, (b) Scholastic Aptitude Test, and (c) American College Test.

Unfortunately, almost 60 years of federal legislation efforts to improve the college-readiness of high school graduates beginning with the National Defense Education Act in 1958 to the newest piece of legislation, Every Student Success Act in 2016, have created environments of high-stakes testing. Barnes and Slate (2013) coined the term, a one-size-fits-all college-readiness agenda. Instead of focusing on academic preparation for postsecondary education, teachers are forced to focus on test preparation due to this shift to high-stakes testing (Barnes & Slate, 2013). Texas legislators have taken steps to ensure students are college-ready and is a national leader (Jobs for the Future, 2009), with respect to an emphasis on students being college-ready. House Bill 1, 2006, was passed to raise college-readiness rates and has resulted in consistent efforts to align curricula with college expectations (Jobs for the Future, 2009).

With respect to the college-readiness of students enrolled in Texas schools, Moore et al. (2010) analyzed college-readiness rates in the 2006-2007 school year. Statistically significant differences were present in students' college-readiness rates in reading, in mathematics, and in both subjects. Less than 50% of students in Texas were determined to be college-ready in reading and in mathematics. Less than one third of Texas graduating high school students were college-ready in both subjects (Moore et al., 2010).

With respect to college-readiness of special education students, Holden and Slate (2016) analyzed college-readiness rates as function of high school size. Of importance to this investigation were the alarmingly low college-readiness rates of students who were enrolled in special education (Holden & Slate, 2016). Percentages of students who were in special education and who were college-ready in reading were 17.60%, in mathematics were 24.19%, and in both subjects, only 9.78% (Holden & Slate, 2016).

Also, focused upon in this investigation are students who live in poverty. An individual's socioeconomic status is directly related to access and attainment of a postsecondary degree (Cabrera & La Nasa, 2001; Newman, Wagner, Cameto, & Knokey, 2009; Wagner & Blackorby, 2002). Reardon (2013, April) contended income is a better predictor of success than race. The achievement gap for students living in poverty has grown between 30 and 40% since the 1970's (Reardon, 2011). Unfortunately, students with disabilities are more likely to grow up in poverty than are students without disabilities (Emerson & Hatton, 2007, 2009).

Students with disabilities who live in poverty have greater disadvantages than their peers when it comes to gaining access to postsecondary education (Newman et al., 2011). The academic preparation and expectation of postsecondary attendance of students with disabilities who live in poverty are low level and become barriers for success (Newman et al., 2011). Other factors for student success and progress to postsecondary degree attainment are rigor of the curriculum, teacher expectation, teacher preparation and experience, and parent participation (Somers & Piliawsky, 2004). Students living in poverty and having a disability have a higher probability of attending a school in which these factors are not present.

Student data were examined by Lee and Slate (2014) to determine the degree to which student economic status was related to reading and mathematics performance. They analyzed data on Texas Grade 11 students in the 2011-2012 school year who took the Texas Assessment of Knowledge and Skills (TAKS) Reading and Mathematics tests. Analyzed were the Met Standard, Commended Performance, and college-readiness performance in reading and in mathematics. Students who were economically

disadvantaged had about a 20% lower Commended Performance and college-readiness rates on the TAKS Reading and Mathematics assessments than those students who were not economically disadvantaged (Lee & Slate, 2014).

Statement of the Problem

Individuals with disabilities are quickly becoming one of the fastest growing groups in the United States (Brault, 2008). At 51%, students who were Emotionally Disturbed had the highest dropout rate of any special education disability category (United States Department of Education, 2002). A worker with only a high school degree will earn 84% less than a graduate from a 4-year university in their lifetime (Carnevale, Rose, & Cheah, 2011) on average, will earn \$21,000 less per year than a worker with a bachelor's degree (Paredes, 2013). It is projected by the year 2020, in Texas, 59% of jobs will require some sort of postsecondary training, yet currently only 31% of the population has an Associate's degree or higher (Paredes, 2013).

Purpose of the Study

The purpose of this study was to determine the degree to which differences were present in the reading college-readiness rates as a function of economic status for students who were Emotionally Disturbed. The second purpose for this study was to determine the extent to which differences were present in mathematics college-readiness rates as a function of economic status for students who were Emotionally Disturbed. The third purpose of this study was to determine the degree to which differences were present in both subjects' college-readiness rates as a function of economic status for students who were Emotionally Disturbed. Finally, the fourth purpose of this empirical statewide

investigation was to ascertain whether trends were present in the performance of students who were Emotionally Disturbed across the three years of school data analyzed herein.

Significance of the Study

Extensive research exists on college-readiness, on students who were Emotionally Disturbed, and on students in poverty; however, research is limited on all three variables simultaneously. This empirical investigation begins to add to the research on these specific students. The results from this investigation may have practical implications for school systems to enact change and improve the college-readiness skills of students who are Emotionally Disturbed and who are enrolled in special education, specifically those individuals in poverty. Improving the college-readiness of these students could positively affect the students' economic status.

Research Questions

The following research questions were addressed in this empirical investigation: (a) What is the difference in reading college-readiness rates as a function of economic status for students who were Emotionally Disturbed?; (b) What is the difference in mathematics college-readiness rates as a function of economic status for students who were Emotionally Disturbed?; (c) What is the difference in both college-readiness rates as a function of economic status for students who were Emotionally Disturbed?; and (d) What trend is present in the reading, mathematics, and both subjects college-readiness rates as a function of economic status for students who were Emotionally Disturbed? The first three research questions were repeated for the 2008-2009, 2009-2010, and 2010-2011 school years. The fourth research question consisted of examining the results

across the three school years for each of the three college-readiness rates. Therefore, a total of 12 research questions constituted this research investigation.

Method

Research Design

This nonexperimental quantitative study constituted a causal comparative design because the college-readiness rates in reading, mathematics, and in both subjects had already occurred (Creswell, 2014). Archival data were used to examine the degree to which reading, mathematics, and both subjects college-readiness rates differed by economic status for students who were Emotionally Disturbed in Texas high schools in the 2008-2009, 2009-2010, and 2010-2011 school years. The independent variable in this investigation was economic status (i.e., economically disadvantaged or not economically disadvantaged) and the dependent variables were college-readiness rates in reading, in mathematics, and in both subjects. The sample of students whose data were analyzed in this empirical multiyear investigation were students who were Emotionally Disturbed.

Participants and Instrumentation

A request was made for archival data from the Texas Education Agency Public Education Information Management System and obtained for the 2008-2009, 2009-2010, and 2010-2011 school years for Grade 11 and Grade 12 students who were Emotionally Disturbed and who completed the Texas Assessment of Knowledge and Skills Exit-Level exam. These data included: (a) grade span configuration of each high school campus, (b) student special education enrollment status, (c) reading college-readiness rates, (d) mathematics college-readiness rates, (e) both subjects' college-readiness rates, and (f)

economic status. Data were only utilized from students who were enrolled in traditionally configured high schools. Therefore, excluded from this investigation were: (a) charter schools, (b) alternative education campuses, and (c) high schools that do not have a grade span configuration of Grades 9-12.

Examined in this study were college-readiness rates for students who were Emotionally Disturbed. Participants in this investigation were evaluated on their performance on the Higher Education Readiness Component (HERC) standard for college-readiness. Senate Bill 103 mandated a performance standard to identify college-readiness. The HERC was mandated under the Texas Assessment of Knowledge and Skills and established by Texas Higher Education Coordinating Board. The Texas Education Agency is responsible for implementing and facilitating the assessment with fidelity (Texas Education Agency, 2006).

College-readiness is defined by the Texas Education Agency (2014) as the following: To be considered college-ready as defined by this indicator, a graduate must have met or exceeded the college-ready criteria on the TAKS exit-level test, or the SAT test, or the ACT test. Readers are directed to Table 1 in Barnes and Slate (2011) for the breakdown of the specific scores to be deemed college-ready in Texas.

Participants in this investigation were high school students who were determined to meet the criteria for Emotionally Disturbed. The Texas Education Agency (2015, p. 5) defines a student to be Emotionally Disturbed, “is one who has been determined to meet the criteria for Emotional Disturbance as stated in 34 CFR, §300.8(c)(4). The written report of evaluation must include specific recommendations for behavioral supports and

interventions” (p. 5). For further clarification, 34 CFR, §300.8(c)(4) is defined by United States Department of Education (2016) as the following:

Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

(C) Inappropriate types of behavior or feelings under normal circumstances.

(D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.

Participants in this investigation were separated into two groups by their economic status: economically disadvantaged or not economically disadvantaged.

Economically disadvantaged was defined as students who are eligible for free or reduced lunch by the Texas Education Agency. The United States Department of Agriculture (2015, July) outlined the eligibility requirements for acquiring free or reduced lunch.

The family-size income levels prescribed annually by the Secretary of Agriculture for determining eligibility for free and reduced price meals and free milk. The free guidelines are at or below 130 percent of the federal poverty guidelines. The reduced price guidelines are between 130 and at or below 185 percent of the Federal poverty guidelines. (p. 10)

Results

Pearson chi-square statistics were calculated to determine whether differences were present in reading, mathematics, and both subjects college-readiness rates (i.e., met standard or did not meet standard) by economic status for Texas high school students who were diagnosed with an Emotional Disturbance. This procedure is viewed as the appropriate statistical procedure (Field, 2009; Slate & Rojas-LeBouef, 2011), both variables are nominal; therefore, chi-squares are the statistical procedure of choice. The available sample size per cell was more than five; therefore, the assumptions were met for using the Pearson chi-square procedure. Results will now be discussed in order of the research questions by school year.

Research Question One

In the first research question, the focus was on whether differences were present in reading college-readiness rates by economic status for students who were Emotionally Disturbed for the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 45 students who were Emotionally Disturbed and who were not economically disadvantaged and 51 students who were Emotionally Disturbed and who were economically disadvantaged ($N = 96$). With respect to reading college-readiness, not a single student who was Emotionally Disturbed, regardless of economic status, met the college-readiness standard in reading. Regarding the 2009-2010 school year, again not a single student with an Emotional Disturbance, regardless of economic status, met the reading college-readiness standard. Concerning the 2010-2011 school year, similar to the first two school years, not a single student with an Emotional

Disturbance, regardless of economic status, met the reading college-readiness rate in this year.

Research Question Two

The focus for the second research question was on whether differences were present in mathematics college-readiness rates by economic status for students who were Emotionally Disturbed for the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 27 students who were Emotionally Disturbed and who were not economically disadvantaged and 38 students who were Emotionally Disturbed and who were economically disadvantaged ($N = 65$). With respect to mathematics college-readiness, not a single student who was Emotionally Disturbed, regardless of economic status, met the mathematics college-readiness standard. Concerning the 2009-2010 school year, out of 310 students with an Emotional Disturbance, not a single student, regardless of economic status, met the college-readiness standard in mathematics. In the 2010-2011 school year, similar to the first two school years, not a single student with an Emotional Disturbance, regardless of economic status, met the mathematics college-readiness rate in this year.

Research Question Three

The third research question the focus was on whether differences were present in both subjects college-readiness rates by economic status for students who were Emotionally Disturbed for the 2008-2009 through the 2010-2011 school years. The sample size for the 2008-2009 school year was 7 students had an Emotional Disturbance and who were not economically disadvantaged and 8 students who had Emotional Disturbance and who were economically disadvantaged ($N = 15$). Regardless of

economic status, no student who was Emotionally Disturbed met the college-readiness standard in both subjects. Concerning the 2009-2010 school year, data were present on more students with an Emotional Disturbance on the both subjects college-readiness assessment. Out of 223 students with an Emotional Disturbance, not a single student, regardless of economic status, met the college-readiness standard in both subjects. In the 2010-2011 school year, similar to the first two school years, no student with an Emotional Disturbance, regardless of economic status, met the both subjects college-readiness rate in this year.

Discussion

Analyzed in this study were college-readiness rates in reading, mathematics, and both subjects by economic status for students with an Emotional Disturbance. Obtained from the Texas Education Agency Public Education Information Management System were individual student level data for the 2008-2009 through the 2010-2011 school years. For the 2008-2009 and 2010-2011 school years, students with an Emotional Disturbance, regardless of economic status, did not meet the college-readiness standard in reading, mathematics, or both subjects.

Implications for Policy and Practice

Students who were Emotionally Disturbed did not meet the college-readiness standard in reading, mathematics, and in both subject for the three years in this investigation. Educational leaders, policymakers, legislators, and other stakeholders should be concerned by these results. The sample of students in this multiyear investigation consisted of students who had the intellectual capacity to acquire the academic skills to be college ready. As such, implications exist to revise current policy

and practice regarding instructional practices for students who are Emotionally Disturbed.

Students who were Emotionally Disturbed would appear to require different instructional approaches than are currently used. A systematic student-centered focus on curriculum and instructional practices could result in successful attainment of knowledge for the learner (Allbritten, Mainzer, & Zieger, 2004). Another implication for practice is to increase the development and implementation of professional development for teachers to raise college-readiness (Conley, 2007). Lastly, educators can offer tutorial sessions for students before and after school for reteaching and enrichment for students who were Emotionally Disturbed.

Recommendations for Future Research

In this investigation, no students who had an Emotional Disturbance met the college-readiness standard in 2008-2009 through the 2010-2011 school years. Results from this multiyear investigation were starkly in contrast to the results of the George, Vannest, Willson, and Davis (2009) study in which they examined the performance of students who were Emotionally Disturbed on the Texas Assessment of Knowledge and Skills Reading Assessment. They documented in the 2006-2007 school year, 44% met the proficiency standard. Further analysis of academic achievement of students who were Emotionally Disturbed students is necessary by examining the percent of students who met each standard and those students who were Emotionally Disturbed who received a commended performance rating for the 2008-2009 through the 2010-2011 school years.

Research exist on the effects of discipline consequences on academic achievement for students who were Emotionally Disturbed; however, further research is necessary on

the effects on college-readiness of time out of class due to behavioral interventions for students who have an Emotional Disturbance. Lastly, another recommendation for a future research is to analyze whether differences are present in college-readiness rates of students who were Emotionally Disturbed by the age in which they were diagnosed. That is, do students who are determined to be Emotionally Disturbed in the early elementary grades have different college-readiness skills than do students who are diagnosed in middle or high school grades?

Research now exists on the college-readiness skills of Texas high school students who were Emotionally Disturbed. Extending this research study to other states is encouraged so that the generalizability of the results from this investigation may be determined. Along with extending this research investigation to other states, another recommendation for future research is to continue this research study with other special education disability groups. Lastly, following students over time could help to determine which intervention techniques increase college-readiness would lead policymakers to making research based decisions on appropriate intervention techniques for student with an Emotional Disturbance.

Conclusion

In this investigation, the extent to which differences were present in college-readiness rates by economic status of Texas high school students with an Emotional Disturbance was addressed. Data were obtained from the Texas Education Agency Public Education Information Management System for the 2008-2009, 2009-2010, and 2010-2011 school years. In this multiyear investigation, not a single student who was Emotionally Disturbed met the college-readiness standard in reading, mathematics, and in

both subjects. Given the importance of postsecondary education, cause for concern is present for this group of students and their economic future.

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CHAPTER V

DISCUSSION

The purpose of this journal-ready dissertation was to examine the extent to which college-readiness rates of Texas high school graduates differed by disability category and by economic status for students who qualified for special education services. The first purpose was to analyze the degree to which differences were present in college-readiness rates by disability category of Texas high school graduates who qualified for special education services. A second purpose was to determine the extent to which differences were present in college-readiness rates by economic status of Texas high school graduates who were determined to be Learning Disabled. Finally, a third purpose was to examine the degree to which differences were present in college-readiness rates by economic status of Texas high school graduates who were determined to be Emotionally Disturbed. Each of these three research studies involved an analysis of three years of Texas statewide data. As such, the extent to which consistencies were present in the college-readiness rates of these groups of students was ascertained.

In this chapter, a summary of the results of each of the three articles previously discussed will be provided. Implications for policy and for practice will then be presented. Finally, recommendations for future research will be provided.

Study One

In this investigation, differences in reading, mathematics, and both subjects college-readiness rates by disability category for students in special education were analyzed using Texas Education Agency Public Education Information Management System data for the 2008-2009 through the 2010-2011 school years. Inferential statistical

analyses yielded only one statistically significant difference in reading for the four groups of students in special education. No statistically significant differences were yielded in mathematics and both subjects college-readiness rates for the four groups of students in special education. Readers are directed to Table 2.4 for effect sizes.

For the three school years of data analyzed, students who were Learning Disabled had the highest college-readiness rates followed by students who were diagnosed with an Other Health Impairment. For every year in this investigation, not a single student who was diagnosed with a Speech or Language Impairment or an Emotional Disturbance were college-ready in reading. Reading college-readiness rates for special education students by disability category are depicted in Figure 2.1.

For all three school years of data analyzed, not a single student who was diagnosed with either a Speech or Language Impairment or as Emotionally Disturbed were college-ready in mathematics. Students who were Learning Disabled had the highest college-readiness rates in reading, mathematics, and both subjects, followed closely by students who were diagnosed with Other Health Impairment. Readers should note, however, the extremely low college-readiness rates that were present for the four groups of students. Depicted in Figure 2.2 are the mathematics college-readiness rates for special education students by disability category.

No student in the four special education categories in the 2009-2010 school year was college-ready in both subjects. Students in all four disability groups had extremely low to nonexistent college-readiness percentages in reading, mathematics, and in both subjects. Depicted in Figure 2.3 are both subjects college-readiness rates for special education students by disability category.

Study Two

Differences in college-readiness rates in reading, mathematics, and both subjects were analyzed by economic status for students who were Learning Disabled. Individual student level data were obtained from the Texas Education Agency Public Education Information Management System data for the 2008-2009 through the 2010-2011 school years. For the 2008-2009 and 2010-2011 school years, students who were not economically disadvantaged had a higher met standard college-readiness rate than students who were economically disadvantaged. No student who was Learning Disabled in the 2009-2010 school year was college-ready in reading. Readers should note the very low reading college-readiness rates for students who were Learning Disabled. Reading college-readiness rates by economic status for students who were Learning Disabled are presented in Figure 3.1.

Mathematics college-readiness rates for students who had a Learning Disability fluctuated for the three years analyzed in this investigation. Of note, in the 2008-2009 and 2009-2010 school years, students who were not economically disadvantaged had better performance on the mathematics college-readiness standard than students who were economically disadvantaged. In the 2010-2011 school year, students who were economically disadvantaged had a slightly higher mathematics college-readiness rate than students who were not economically disadvantaged. Depicted in Figure 3.2 are the mathematics college-readiness rates by economic status for students who were Learning Disabled.

Students with a Learning Disability had extremely low to nonexistent college-readiness percentages in both subjects. College-readiness in both subjects fluctuated

within the three years of study. Present in Figure 3.3 are both subjects college-readiness rates by economic status for students who were Learning Disabled.

Study Three

Analyzed in this study were college-readiness rates in reading, mathematics, and both subjects by economic status for students with an Emotional Disturbance. Obtained from the Texas Education Agency Public Education Information Management System were individual student level data for the 2008-2009 through the 2010-2011 school years. For the 2008-2009 and 2010-2011 school years, not a single student with an Emotional Disturbance, regardless of economic status, met the college-readiness standard in reading, mathematics, or both subjects.

Connection with Existing Literature

Congruent with the results in all three studies in this journal-ready dissertation, Holden and Slate (2016) had previously documented the presence of low college-readiness rates in reading, mathematics, and both subjects for students who were enrolled in special education. Also, similar to the results from all three studies, Chandler et al. (2014b) established only slightly over a 2 percentage point increase in reading college-readiness, no change in mathematics college-readiness, and a decrease in both subjects college-readiness over time for students who were enrolled in special education.

A strong predictor of academic achievement is a family's socioeconomic status (Cabrera & La Nasa, 2001; Horn & Kojaku, 2001; Reardon, 2011). When examining the relationship of poverty with student academic performance, Lee and Slate (2014) determined students who were economically disadvantaged had a 20% lower college-readiness and Commended Performance rate than those students who were not

economically disadvantaged. In this journal-ready dissertation, for students who were Emotionally Disturbed, college-readiness was not present regardless of economic status and for students who were Learning Disabled, college-readiness varied by economic status.

Implications for Policy and Practice

In the three studies in this journal-ready dissertation, students who were enrolled in special education in this investigation had alarmingly low college-readiness rates. The results may be reflective of Brault's (2011) argument that students with disabilities may require different approaches to their education. It is clear, with these results, another review of the way students with disabilities are being instructed is needed. Policymakers and educational leaders are encouraged to examine the instructional practices of students who are enrolled in special education, specifically instructional practices related to preparing these students for postsecondary education. It is evident that educators and families need support to raise the level of academic achievement and college-readiness. Professional development for educators on differentiating in the classroom, co-teaching models, and disability categories is needed. Administrators need to call into action curriculum departments to ensure student needs are being met within the curriculum that is distributed throughout the district. Legislators need to ensure school districts are meeting the needs of all of the students.

Home visits have been effective in promoting academic achievement in students by deepening the understanding of student's life experiences and building trust between educators, parents, and students (Stetson, Stetson, Sinclair, & Nix, 2012). Home visits are one procedure that can be implemented in high poverty schools to begin to close the

gap for students who live in poverty and have a Learning Disability. Upper and middle class families have educational experiences with their children through vacations, summer camps, and reading at home (Lareau, 2002). These activities tend to be less available to students who live in poverty. Administrators and teachers can create environments in the school setting to allow all students to gain these educational experiences. Students who live in poverty would learn 21st century skills through these experiences such as communication, reading, and world knowledge.

Students who were Emotionally Disturbed did not meet the college-readiness standard in reading, mathematics, and in both subject for the three years in this investigation. Policymakers and educational leaders should be concerned by these results. Students who were Emotionally Disturbed obviously require a different approach. A systematic student-centered focus on curriculum and instructional practices could result in successful attainment of knowledge for the learner (Allbritten, Mainzer, & Zieger, 2004). Another implication for practice is to increase the development and implementation of professional development to raise college-readiness (Conley, 2007). Lastly, educators can offer tutorials sessions for students before and after school for reteaching and extra learning for students who were Emotionally Disturbed.

Recommendations for Future Research

With the negative relationship between high school completion and students who were retained or received a suspension or expulsion (Cortiella & Horowitz, 2014), future research studies should be conducted on the college-readiness of students who were enrolled in special education by disability category. Another recommendation for future research is to extend this study to other states to determine the degree to which results

from the three studies are generalizable to other states. Research studies on the types of accommodations and modifications utilized for students and the effectiveness of each by disability category should be conducted to determine which types are the most effective.

Students who are Learning Disabled receive support in many types of classroom environments (i.e., resource classroom environment, co-teach classroom environment, in class support environment, or regular classroom environment), a recommendation for future research is on investigating the effectiveness of each type of learning environment on the college-readiness of students who were Learning Disabled. Another recommendation for a future research study is to investigate whether differences are present in college-readiness rates of students who were Learning Disabled by the age in which they were diagnosed. That is, do students who are determined to be Learning Disabled in the early elementary grades have different college-readiness skills than do students who are diagnosed in middle or high school grades? Another recommendation for future research is to analyze college-readiness rates by specific type of student learning disability. In this journal-ready dissertation, college-readiness rates were analyzed for students with a diagnosis of Learning Disability and not for specific types of learning disabilities. As such, given the different types of learning disabilities, a more nuanced approach is encouraged than was conducted in this journal-ready dissertation.

Research exist on the effects of discipline consequences on academic achievement for students who were Emotionally Disturbed; however, further research is necessary on the effects on college-readiness of time out of class due to behavioral interventions for students who have an Emotional Disturbance. Lastly, another recommendation for a future research study is to analyze whether differences are present in college-readiness

rates of students who were Emotionally Disturbed by the age in which they were diagnosed. That is, do students who are determined to be Emotionally Disturbed in the early elementary grades have different college-readiness skills than do students who are diagnosed in middle or high school grades?

Conclusion

The purpose of this journal-ready dissertation was to examine the extent to which differences were present by disability category and economic status for students who were enrolled in special education. Inferential statistical analyses revealed that the college-readiness rates of students in the four disability groups were extremely low. Students with Learning Disabilities had the highest reading and mathematics and reading college-readiness rates, of the four groups of students whose data were analyzed in this investigation. In the 2009-2010 school year, only two students met the mathematics college-readiness standard. No students met the reading or the both subjects college-readiness standards.

Students who were Learning Disabled and who were not economically disadvantaged had higher college-readiness rates in most cases. In the 2010-2011 school year, students who were economically disadvantaged had slightly higher college-readiness rates than students who were not economically disadvantaged in mathematics and both subjects. For the third empirical investigation, no student who had an Emotional Disturbance, regardless of their economic status, was college-ready in reading, mathematics, and both subjects..

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APPENDIX



Institutional Review Board
Office of Research and Sponsored Programs
903 Bowers Blvd, Huntsville, TX 77341-2448
Phone: 936.294.4875
Fax: 936.294.3622
irb@shsu.edu
www.shsu.edu/~rgs_www/irb/

DATE: September 2, 2016

TO: Catherine Holden [Faculty Sponsor: Dr. John Slate]

FROM: Sam Houston State University (SHSU) IRB

PROJECT TITLE: *Differences in College-Readiness Rates for Students Who Were Enrolled in Special Education in Texas: A Multiyear, Statewide Investigation [T/D]*

PROTOCOL #: 2016-08-31223

SUBMISSION TYPE: INITIAL REVIEW

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: September 2, 2016

REVIEW CATEGORY: Category 4—research involving existing, publicly available data usually has little, if any, associated risk, particularly if subject identifiers are removed from the data or specimens.

Thank you for your submission of Initial Review materials for this project. The Sam Houston State University (SHSU) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

*** What should investigators do when considering changes to an exempt study that could make it nonexempt?**

It is the PI's responsibility to consult with the IRB whenever questions arise about whether planned changes to an exempt study might make that study nonexempt human subjects research. In this case, please make available sufficient information to the IRB so it can make a correct determination.

If you have any questions, please contact the IRB Office at 936-294-4875 or irb@shsu.edu. Please include your project title and protocol number in all correspondence with this committee.

Sincerely,

Donna Desforges
IRB Chair, PHSC
PHSC-IRB

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Sam Houston State University IRB's records

VITA**Catherine Holden*****Educational History***

Doctorate of Education – Educational Leadership, December, 2016

Sam Houston State University, Huntsville, TX

Dissertation: Differences in College-Readiness Rates for Students who Were Enrolled in Special Education in Texas: A Multiyear, Statewide Investigation

Master of Education – Administration, May 2010

Sam Houston State University, Huntsville, TX

Thesis: Effect of Pelvic Tilt on Biomechanical Behavior of Plantar Flexor

Bachelor of Science – Academic Studies, Mathematics, May, 2004

Sam Houston State University, Huntsville, TX

Professional Experience

District Development Specialist, Spring ISD, 2013-present

Teacher, Family Leader, Lead Teacher, Head Cheer Coach, Spring ISD, 2004-2013

Recognitions

Reaching for Excellence, Spring ISD, 2015

Scholarly Research Activity***Publications***

Holden, C., & Slate, J. R. (2016). Differences in college-readiness rates as a function of school size for students who were enrolled in special education. *Journal of Basic and Applied Research International*, 14(2), 158-163. Retrieved from <http://www.ikpress.org/issue/681>

Presentations

Holden, C. (2015, October). *Differences in college-readiness rates as a function of school size for students who were enrolled in special education*. Paper presented at Texas Council of Professors of Educational Administration, Austin, TX.