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By Kathrine Mahler & John R. Slate
Sam Houston State University, United States

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Differences in College Readiness Rates in Two School Years for Students in Special Education

Kathrine Mahler [α] & John R. Slate [σ]

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I. Introduction

According to the Texas Education Agency (2015b), 442,476 students received special education services in the 2014-2015 school year. Students who receive special education services constitute 8.5% of the student population in the state of Texas. The Individuals with Disabilities Education Act (2004) mandates that students with disabilities be educated in the least restrictive environment and receive a free and appropriate education. Also stated was the expectation that students with disabilities would become college ready and would enroll in postsecondary education institutions.

Brand, Valent, and Danielson (2013) reported that students with disabilities are less likely than their peers to graduate high school and pursue postsecondary education due in part to low expectations. Also noted was that students with disabilities benefit from and are more prepared for college by learning the general curriculum with accommodations (Brand et al., 2013; Wilson, Hoffman, & McLaughlin, 2009). School districts should utilize the data they already collect to make decisions for effective learning for students with disabilities (Brand et al., 2013).

The focus for students with disabilities has shifted from independent living and social skills to postsecondary education to increase long term employment outcomes (Wilson et al., 2009). Adults with disabilities are 38% less likely to be employed between the ages of 21 and 64 than are their nondisabled peers. The median monthly income for adults with disabilities was just under 50% less than that of their nondisabled counterparts (Brault, 2012).

According to Madaus (2006), over 75% of people with a learning disability who obtained a postsecondary education were employed full time. He also stated that the majority of people with learning disabilities earned a salary commensurate with their peers who were nondisabled. Madaus (2006) discussed that 76.1% of people with learning disabilities who were employed received healthcare benefits from their employers. As such, he contended that the employment outcomes were more favorable for the adults with disabilities who attended a postsecondary institution than for those individuals who did not continue their education after high school. He also concluded that the employment outcomes were similar for adults with learning disabilities and people without disabilities.

In a study conducted by Chandler, Slate, Moore, and Barnes (2014), college readiness rates for high school graduates in Texas who were part of a special population were analyzed. They examined college readiness rates from the 2006-2007 to the 2010-2011 school years for reading, mathematics, and both subjects. In their study, reading college readiness rates for all students increased by almost 20%, whereas, scores for students who received special education services only increased by over 2%. Mathematics college readiness rates for students who received special education services did not increase over the 5-year period. College readiness rates for both subjects for all students increased by about 17%, but decreased slightly for students who received special education services. Chandler et al. (2014) concluded that scores for all students, students who were economically disadvantaged, and students who were Limited English Proficient had a greater increase in scores over the 5-year period than students who received special education services.

a) Statement of the Problem

The National Center for Education Statistics (2016b) reported that 59% of first time college students, who attended full time, graduated within six years of beginning their degrees. The National Center for

Author α σ: Sam Houston State University. e-mail: profslate@aol.com

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Education Statistics also reported that 11% of students who attend college are students with disabilities. Students with disabilities tend to be older independent students instead of students attending directly after high school (National Center for Education Statistics, 2016a). In the 2011-2012 school year, 8.9% of the dependent student population were students with disabilities. According to the Economic News Release Persons with a Disability: Labor Force Characteristics Summary (2016), in 2015, 16.88% of adults age 25 years and older with disabilities complete a bachelor's degree as compared to 35.49% of adults age 25 and older without disabilities. Of those adults with disabilities who earned bachelor's degrees, 25.3% are employed. Adults without disabilities who have earned bachelor's degrees are employed at a rate of 75.9%. Stated in the Economic News Release was that people with disabilities were more likely to work in the service industry than were people without disabilities.

b) Significance of the Study

In the 2013-2014 school year, 23,654, or 7.8% of graduates received special education services in Texas (Texas Education Agency, 2015b). Only a few research studies were located in which the college readiness rates of students who received special education services were investigated. The college readiness rates of students who received special education services were the focus of this investigation. Results from this investigation have implications for school leaders and teachers. The findings of this investigation could provide educational leaders, school administrators, and policy makers with data they could use to improve the success of students in special education.

c) Purpose of the Study

The purpose of this study was to determine the degree to which differences might be present in the reading college readiness rates of students who received special education services between the 2012-2013 and 2013-2014 school years. A second purpose was to ascertain the extent to which differences might exist in the mathematics college readiness rates of students who received special education services between the 2012-2013 and 2013-2014 school years was examined. The third purpose was to determine the degree to which differences might be present in the college readiness rates for both subjects for students who received special education services between the 2012-2013 and 2013-2014 school years.

d) Research Questions

The following research questions were investigated in this study: (a) What is the difference in the reading college-readiness rates of students who received special education services between the 2012-2013 and 2013-2014 school years? (b) What is the difference in the mathematics college-readiness rates of students who received special education services between the 2012-2013 and 2013-2014 school years? and (c) What is the difference in the college-readiness rates in both subjects for students who received special education services between the 2012-2013 and 2013-2014 school years?

II. Method

a) Participants

Participants in this study were students enrolled in traditional Texas public high schools (i.e., Grades 9 through 12) who were identified as receiving special education services in the 2012-2013 and 2013-2014 school years. Data from the Texas Academic Performance Reports for the identified school years were downloaded from the Texas Education Agency. The data analyzed for this investigation included college readiness rates for students identified as receiving special education services for 626 schools in reading, 586 schools in mathematics, and 573 schools in both subjects for each of the 2012-2013 and 2013-2014 school years.

b) Instrumentation and Procedures

Data from the Texas Academic Performance Reports for the 2012-2013 and 2013-2014 school years were obtained from the Texas Education Agency. After the data were obtained and downloaded the files were imported to the Statistical Package for Social Sciences (SPSS) software program. The files were then converted to a SPSS data file and labels were given to the relevant data utilized in this investigation. Data were reported from the schools to the Texas Education Agency, therefore minimal errors in the data are assumed to be present. For validity and reliability information related to scores, readers are directed to the Texas Education Agency website.

c) Definition of Terms

The Texas Education Agency (2015a) in the Glossary of the 2014-2015 Texas Academic Performance Report, defined college readiness as meeting or exceeding ready criteria on the TAKS exit level test, or the SAT, or the ACT test. According to the United States Department of Education Individuals with Disabilities Education Act (2004), special education is specifically designed instruction that meets the needs of students with disabilities. Special education includes instruction in the classroom, physical education, travel training, vocational training, and related services such as speech, occupational and physical therapy.

III. Results

Prior to conducting inferential statistics to determine whether a statistically significant difference was present between the college readiness rates in

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reading, mathematics, and both subjects for students receiving special education services in the 2012-2013 and 2013-2014 school years, checks were conducted to determine the extent to which the data were normally distributed. An examination of the standardized skewness coefficients (i.e., the skewness value divided by its standard error) and the standardized kurtosis coefficients (i.e., the kurtosis value divided by its standard error) revealed substantial deviations from normality. All four standardized coefficients for each research question were far outside the bounds of normality of +/-3 (Onwuegbuzie & Daniel, 2002).

The data for college readiness rates in reading, mathematics, and both subjects for students who received special education services were not normally distributed, therefore a nonparametric statistical procedure had to be utilized (Slate & Rojas-LeBouef, 2011). Accordingly, a nonparametric Wilcoxon's dependent samples *t*-test was an appropriate inferential statistical procedure to calculate when the variables (i.e., reading, mathematics, and both subjects) are related (Slate & Rojas-LeBouef, 2011). In this investigation, college readiness in reading, mathematics, and both subjects were present for the same group of students receiving special education services for the 2012-2013 and 2013-2014 school years and were at the interval/ratio level of measurement.

For the first research question, the Wilcoxon's dependent samples *t*-test yielded a statistically significant difference in reading college readiness for students who received special education services between the 2012-2013 and 2013-2014 school years, $z = 4.06$, $p < .001$. The effect size associated with this difference. Cohen's *d*, was 0.15, small (Cohen, 1988). Students who received special education services had statistically significantly higher college readiness rates, 2.20% higher, in reading in the 2013-2014 school year than the 2012-2013 school year. The reader is directed to Table 1 for the descriptive statistics for college readiness rates in reading for students who were enrolled in special education.

Table 1: Descriptive Statistics for Reading College Readiness Rates for Students Who Received Special Education Services in the 2012-2013 and 2013-2014 School Years

School Year	*n* of schools	*M*	*SD*
2012-2013	626	15.95	14.64
2013-2014	626	18.15	14.93

Regarding the second research question, the Wilcoxon's dependent samples *t*-test produced a statistically significant difference in mathematics college readiness for students who received special education services between the 2012-2013 and 2013-2014 school years, $z = -6.45$, $p < .001$. The effect size associated with this difference, Cohen's *d*, was 0.26, a small effect size (Cohen, 1988). Students who received special education services had a statistically significantly lower college readiness mathematics rate, 4.18% lower, in the 2013-2014 school year than in the 2012-2013 school year. Presented in Table 2 are the descriptive statistics for college readiness rates in mathematics for students who received special education services.

Table 2: Descriptive Statistics for Mathematics College Readiness Rates for Students Who Received Special Education Services in the 2012-2013 and 2013-2014 School Years

School Year	*n* of schools	*M*	*SD*
2012-2013	586	22.15	17.08
2013-2014	586	17.97	15.20

In regard to the third research question, the Wilcoxon's dependent samples *t*-test yielded a result that approached conventional, but did not reach the conventional level of statistical significance in both subjects college readiness for students who received special education services between the 2012-2013 and 2013-2014 school years, $z = -1.79$, $p = .07$. The effect size associated with this difference, Cohen's *d*, was 0.08, which was a less than small effect size (Cohen, 1988). Students who received special education services had a lower college readiness rate in both subjects, 0.86% lower, in the 2013-2014 school year than in the 2012-2013 school year. Readers are referred to Table 3 for the descriptive statistics for college readiness rates in both subjects for students who received special education services.

Table 3: Descriptive Statistics for College Readiness Rates in Both Subjects for Students Who Received Special Education Services in the 2012-2013 and 2013-2014 School Years

School Year	*n* of schools	*M*	*SD*
2012-2013	573	8.33	11.07
2013-2014	573	7.47	10.21

IV. Discussion

In this investigation, differences in college readiness rates between the 2012-2013 and 2013-2104 school years for students who received special education services were addressed. The college readiness areas of reading, mathematics, and both subjects were examined. Statistically significant results were present for both reading and mathematics. The results for reading reflected an increase in the percentage of college ready students from the 2012-2013 school year to the 2013-2014 school year. These results were similar to the results obtained by Chandler et al. (2014) and by Holden and Slate (2016). The percentage of students who were college ready in the

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area of mathematics decreased between the two years. The differences in college readiness rates for mathematics were greater than the results reported by Chandler et al. (2014). Similar to the results of Chandler et al. (2014), college readiness rates in both subjects between the 2012-2013 and 2013-2014 school years decreased slightly.

Though the college readiness rates in reading increased between the two school years, the increase was at a low rate and attention should be paid to the decrease in students who were college ready in mathematics. Due to the decrease in mathematics and the slight increase in reading college readiness the percentage of students who were college ready in both subjects slightly decreased over the two years. Minimal growth was present in the area of college readiness for students who receive special education services.

V. Conclusion

The Individuals with Disabilities Education Act (2004) outlined the need for students with disabilities to pursue postsecondary education options and increase college readiness. According to the Texas Education Agency (2015), the number of students who received special education services increased by approximately 7,600 students between the 2013-2014 and 2014-2015 school years. The percentage of students who were college ready was 18.15%, 17.97%, and 7.47% in reading, mathematics, and both subjects respectively. These numbers are concerning because the majority of students who receive special education services are exiting high school without the academic skills necessary to enter a postsecondary institution. Further research needs be conducted on special education services and increasing college readiness in students who receive those services as well as investigating the barriers to college readiness for students with disabilities. Further research is needed in the more current assessments utilized for college readiness.

References

1. Brand, B., Valent, A., & Danielson, L (2013). *Improving college and career readiness for students with disabilities.* Retrieved from http://www.ccrscenter.org/sites/default/files/Improving%20College%20and%20Career%20Readiness%20for%20Students%20with%20Disabilities.pdf
2. Brault, M. W. (2012). *Americans with disabilities: 2010. Household economic studies*. Washington, DC: U.S. Census Bureau. Retrieved from https://www.census.gov/prod/2012pubs/p70-131.pdf
3. Chandler, J.R., Slate, J.R., Moore, G.W., & Barnes, W. (2014). College readiness for students with special learning needs in Texas public schools. *Journal of Education and Human Development, 3*(2), 67-103.
4. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
5. 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.
6. Huck, S. W. (2007). *Reading statistics and research* (5thed.). New York, NY: Addison Wesley.
7. Individuals with Disabilities Education Act Amendments of 2004, 20 U.S.C. 1400, 118 Stat. 2647 *et seq*. (2004). Retrieved from http://idea.ed.gov/download/statute.html
8. Madaus, J.W. (2006). Employment outcomes of university graduates with learning disabilities. *Learning Disability Quarterly, 29*, 19-31.
9. National Center for Education Statistics. (2016a). *Digest of Education Statistics, 2014*(2016-006). Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=60
10. National Center for Education Statistics. (2016b). *The Condition of Education 2016* (NCES 2016-144). http://nces.ed.gov/fastfacts/display.asp?id=40
11. Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools, 9*(1), 73-90.
12. Slate, J. R., & Rojas-LeBouef, A. (2011). *Calculating basic statistical procedures in SPSS: A self-help and practical guide to preparing theses, dissertations, and manuscripts.* Ypsilanti, MI: NCPEA Press.
13. Texas Education Agency. (2015a). *Glossary for the Texas Academic Performance Report.* Retrieved from https://rptsvr1.tea.texas.gov/perfreport/tapr/2015/glossary.pdf
14. Texas Education Agency. (2015b). *Pocket edition: 2014-15 Texas public school statistics.* Retrieved from tea.texas.gov/communications/pocket-edition/
15. United States Bureau of Labor Statistics. (2016, June). *Persons with a disability: Labor force characteristics-2015. Labor Force Statistics.* Washington, DC. Retrieved from http://www.bls.gov/news.release/pdf/disabl.pdf
16. Wilson, M.G., Hoffman, A.V., & McLaughlin, M.J. (2009). Preparing youth with disabilities for college: How research can inform the transition policy. *Focus on Exceptional Children, 41*(7), 1-10.

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