Charter Schools: The 65% Instructional Expenditure Ratio and College-Readiness[*]

Don P. Schulte

John R. Slate

Abstract

We investigated for all of the charter school districts (n = 192) in the State of Texas for the 2008-2009 school year the relationship between the 65% instructional expenditures ratio mandate and college-readiness rates in reading, math, and in both subjects for all high school students and then separately for African American, Hispanic, and White students. After determining that statistically significant relationships were present between instructional expenditures and college-readiness rates in reading, math, and in both subjects for all students, three groups of charter schools were created, based upon their instructional expenditures (i.e., less than 60% instructional expenditures, 60 to 64.99% instructional expenditures, and 65% instructional expenditures and higher). Statistically significant differences were yielded among these groups in students' college-ready rates in reading, math, and in both subject areas. School districts in the lowest group of instructional expenditures had the lowest percentages of students whose scores were college-ready in reading, math, and in both subject areas. As instructional expenditures increased, the student college-ready rates increased as well. Findings were consistent across the four groups of students whose scores were analyzed. Implications of these findings and suggestions for further research are discussed.

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2 Sumario en espanol

Investigamos para todos los distritos chárter de la escuela (N = 192) en el Estado de Tejas para el 2008-2009 año escolar la relación entre el 65% de mandato instruccional de proporción de gastos y tasas de colegial-prontitud en leer, las matemáticas, y en ambos sujetos para todos los estudiantes de colegio secundario y entonces separadamente para norteamericano africano, para hispano, y para estudiantes Blancos. Después de determinar que las relaciones estadísticamente significativas fueron presentes entre tasas instruccionales de gastos y colegial-prontitud en leer, las matemáticas, y en ambos sujetos para todos los estudiantes, tres grupos de escuelas chárter fueron creados, se basaron sobre sus gastos instruccionales (es decir, menos de 60% de gastos instruccionales, 60 a 64,99% de gastos instruccionales, y a 65% de gastos instruccionales y más alto). Las diferencias estadísticamente significativas fueron rendidas entre estos grupos en tasas colegio-listo de estudiantes en leer, las matemáticas, y en ambas áreas sujetas. Eduque distritos en el grupo más bajo de gastos instruccionales tuvieron los porcentajes más bajos de estudiantes cuyas cuentas estuvieron colegio-listo en leer, las matemáticas, y en ambas áreas sujetas. Como gastos instruccionales aumentaron, el estudiante las tasas colegio-listo aumentaron también. Las conclusiones fueron consecuentes a través de los cuatro grupos de estudiantes cuyas cuentas fueron analizadas. Las implicaciones de estas conclusiones y sugerencias para la investigación adicional son discutidas.

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3 Introduction and Literature Review

If the prevailing issues in schooling were examined that were present 20 years ago, charter schools, mandated instructional expenditure ratios, and pervasive concerns over college readiness would not be on any major top-ten list. Over the course of the past two decades, however, these reform initiatives have come to appear brightly in the center of the education world's radar screen. And these areas are not solitary blips, but are rather interconnected points, drawn together by increasingly rigorous accountability systems. This research project represents an examination of these converging issues. As such, the purpose of this study was to ascertain whether charter school district instructional expenditures were related with college-ready rates in English language arts, math, and in both subjects.

Hope was present among many opponents of charter schools that President Obama would eliminate or slow the pace of this choice initiative, which has been strongly supported by Republicans. His first major opportunity came in the reauthorization of the Elementary and Secondary Act, more commonly known as the No Child Left Behind Act. However, as the debate progressed, it became abundantly clear where the current administration stood on the question of charter schools.

In March of 2010, the President issued his blueprint for revising ESEA. In reference to alternative school settings and choice, the Obama Administration pronounced, "We will support the expansion of high-performing public charter schools and other autonomous public schools, and support local communities as they expand public school choice options for students within and across school districts" (U.S. Department of Education, 2010, p.6). This pronouncement is hardly an expected plank in a mainstream Democratic Party platform. Charter schools are quickly gaining bipartisan support.

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[1] http://www.ncpeapublications.org

The President seized the opportunity to put muscle behind his charter school expansion objectives by earmarking substantial allocations from the financial stimulus package for awards to states that encourage this option, among other federal priorities. Hutton (2009) observed, "His 2010 budget proposes $268 million for charter schools, a step on the path of doubling charter school funding in four years" (p. 22). Beyond this specific allocation to stimulate the growth of charters, the administration provided an even larger budget with the intention of promoting choice. "The U.S. Department of Education's desire, if not passion, to promote charter schools as a major strategy for raising student achievement was clearly evident in its proposed requirements for states to compete for $4.35 billion in Race to the Top grants (RTTT) (Resnick, 2010, p. 8).

These increased appropriations will undoubtedly fuel the further growth of charter schools, which have grown significantly in number over the past 20 years throughout the United States. The first charter was inaugurated in St. Paul, Minnesota in 1992 (Georgiou, 2005). "During the 2004-2005 school year, 3,400 schools were open across 40 states and the District of Columbia, enrolling almost a million students" (Georgiou, 2005, p. 1). Just four years later, in 2009, "More than 1.4 million students...attend(ed) over 4,600 public charter schools in 40 states and the District of Columbia" (http://www.publiccharters.org/node/981, April 28, 2010). With the presence of 98,793 public schools (The Center for Education Reform, 2008), the percentage of charter schools in relation to the total number of public schools is approximately 4.6%.

Charter schools take various forms, making a common, universally accepted definition problematic. For instance, in Texas, statutes allow for three types of charters, including "home-rule school district charters, campus charters, and open-enrollment charters" (Walsh, Kemerer, & Maniotis, 2005, p. 18). However, one definition offered by the Education Commission of the States (2010) does provide a good understanding of the concept.

Charter Schools are semiautonomous public schools, founded by educators, parents, community groups or private organizations that operate under a written contract with a state, district or other entity. This contract, or charter, details how the school will be organized and managed, what students will be taught and expected to achieve...Many charter schools enjoy... freedom from rules and regulations... (http://www.ecs.org/html/issue.asp?i April 29, 2010)

Whereas President Obama highlights the free market value and accountability benefits of charters, other proponents cite additional advantages. "Many families choose a charter school because of its innovative curriculum, others because of its focus on academic achievement, and ...it offers a promising alternative to an underperforming traditional public school" (http://www.publiccharters.org/aboutschools/benefits, April 28, 2010). "Proponents for school choice have been excited about the expansion of options charter schools provide" (Brimley & Garfield, 2008, p. 261).

Critics are present in this era of free school choice. Resnick (2010) suggested that President Obama's aggressive promotion of charter schools was softened slightly when Department of Education officials encountered research studies in which academic results from these settings have been mixed. Hutton (2009) contended that evidence exists that charters tend to under serve children with special challenges, such as those students with disabilities and English language learners. Additionally, evidence is present that school choice options may work to re-segregate schools (Teske & Schneider, 2001). "...in an already highly stratified American public school system, not a theoretical one with schools thoroughly mixed by parental income, education, and race, the issue is whether choice would significantly worsen segregation and stratification" (Teske & Schneider, 2001, p. 614).

As policymakers deliberate on the elements of the reauthorization of the No Child Left Behind Act, such as provisions that support the expansion of charters, states and school districts continue to grapple with another reform effort - the 65% educational instructional expenditure rule. This recommendation, also known as the "65 Cent Solution", was first "pitched by an organization called 'First Class Education' and financed by the founder of Overstock.com" (Baker, Green, & Richards, 2008, p. 419). Proponents of this rule encourage school districts to devote a minimum of 65% of their budgets to the instructional function. Three primary reasons for school systems to adopt this standard have been articulated, including: "(1) More money goes to the classroom without increasing taxes; (2) Districts become more accountable about how they spend their money, with less going to 'wasteful' administrative expenses; and (3) Student performance improves..." (Darden, 2006, p. 1).

It is informative to examine one state's experience with this rule. Texas Governor Rick Perry embraced the First Class Education 65% solution by enacting a 2005 executive order directing compliance with this threshold in all school districts (House Research Organization, 2006). The Commissioner of Education was charged with implementing a three year phase-in of this financial standard. During the span of four years, school systems in Texas attempted to meet this requirement, although many of these school districts' personnel questioned the logic of the rule.

This mandate realized its demise in the form of legislation authored by Texas State Representative Rob Eissler. This lawmaker proposed the repeal of the rule because he believed that, "There are better ways to measure instructional priorities...Why don't we look at the schools districts that are doing the best and see how they're spending the money?" (As cited in Embry, 2009). Eissler was so convinced that the 65% rule was bad public policy that he met personally with Governor Perry to argue for its proposed repeal (Rob Eissler, personal communication, February, 12, 2010). This legislator commented that the Governor appeared receptive to his concerns. The Texas Legislature responded favorably to this lawmaker's proposition by taking action to eliminate the mandate in 2009 (Rob Eissler, personal communication, February, 12, 2010).

Rob Eissler was not the only opponent of this spending directive. Texas' Center of Public Policy Priorities (CPPP) also claimed that it was misguided public policy. "Many services not defined as 'instructional' play an important role in promoting student achievement" (Center of Public Policy Priorities, 2005, p. 3). This policy center pointed to other school functions that contributed to academic achievement, but were conspicuously absent from the proposed instructional expenditure calculation. The CPPP further raised the issue of the unintended consequences of enactment of this rule. "Unanticipated expenditures, such as renovating classrooms after a flood, would have to balanced by spending twice as many dollars ...on instruction-whether needed or not" (Center of Public Policy Priorities, 2005, p. 3).

Equity and adequacy also surface as issues associated with the 65% rule. Even though court cases and legislation have worked to remedy disparities between rich and poor school districts, gaps persist. Helvey (2006) asserted "...under-funded schools and districts would not have the same capacity to generate adequate instructional funds by reallocating non-instructional funds into the classroom" (p. 94). The CPPP maintained that a better solution would be for Texas to "strengthen the accuracy of dropout counts and directly measuring the performance gap between students from low-income families and all other students" (Center for Public Policy Priorities, 2005, p. 3).

Beyond these major criticisms of the 65% rule, namely the unintended negative effects, exclusion of other important educational functions, and an escalation of inequity, a bottom line query does exist. Darden (2006) offered focus to the ongoing debate when he contended that the "key question (concerning the 65% rule) is this: Is there a direct connection between the percentage of money spent on 'classroom instruction' and academic results?" (p. 2).

Standard & Poor's (2005) conducted one of the most comprehensive studies of this mandate. Student achievement results were examined in nine states that had enacted the rule, including Arizona, Colorado, Florida, Kansas, Kentucky, Louisiana, Minnesota, Ohio and Texas. Researchers attempted to determine if a relationship was present between instructional expenditures at this level and student performance. The results revealed "no significant positive correlation between the percentage of funds that districts spend on instruction and the percentage of students who score proficient or higher on state reading and math test tests" (Standard & Poor's, 2005, p. 2).

Another study, conducted in North Carolina, lends support to Standard & Poor's (2005) findings regarding instructional expenditures and student performance. This research preceded the 65% rule, but is noteworthy here because the relationship between instructional spending and test results was explored. Okpala, Okpala, and Smith (2001) documented "...that instructional supplies expenditures per pupil...were not significantly significant in explaining mathematics test scores" (p. 110). Furthermore, these researchers determined that "the percentage of students in free/reduced-price lunch programs was related negatively to students' academic performance in mathematics" (p. 110).

LeFevre (2008) authored the comprehensive *Report Card on American Education: A State-By-State Analysis*. After examining correlations between inputs and results in all 50 states, a major conclusion was that "...differences in educational inputs measured in this study (pupil-teacher ratios, per pupil expenditures,

teacher salaries, and funds received from the federal government) taken together do not explain differences in student achievement" (LeFevre, 2008, p. 132). Although LeFevre did not address the 65% rule specifically, his findings do bolster the argument that money does not necessarily make a difference when it comes to academic performance.

However, Schulte and Slate (2010) documented the presence of academic benefits to the 65% level of instructional expenditures. The goal of their Texas study was to determine if instructional expenditures correlated with college-ready rates in English language arts (ELA), math, and in both subjects. "Our findings are consistent with those researchers who have documented that money does indeed make a positive difference in student performance as indicated by college-ready rates, particularly when districts dedicate higher sums to instructional functions" (Schulte & Slate, 2010, p. 17). They also reported that these higher instructional expenditure levels were particularly beneficial to minority classifications, including Hispanic and African-American students.

Statistically significant positive differences were also documented by Jones and Slate (2010) in relation to instructional expenditures and student achievement in Texas. Data for all districts in the state were downloaded from the Texas Academic Excellence Indicator System (AEIS). Jones and Slate (2010) maintained, "…we documented the presence of statistically significant differences between schools that maintain a 60% or higher instructional expenditure ratio in their student performance on…the Texas Assessment of Knowledge and Skills" (p. 13). In light of their findings, these authors did suggest "that a better benchmark may exist at the 60% level" (Jones & Slate, 2010, p. 13).

The Southwest Educational Development Laboratory (SEDL) performed a far reaching study to determine the relationship between instructionally related expenditures and student performance. This work came before the 65% debate, but certainly has relevance due to the nature of inquiry and scope of the project. Data on spending and achievement were analyzed from Arkansas, Louisiana, New Mexico, and Texas. "A general pattern emerged where higher (student) performance was associated with higher spending for instruction, core expenditures, and number of teachers and with lower spending for general administration and number of administrative staff" (Pan, Rudo, Schneider, & Smith-Hansen, 2003, p. 2).

Helvey (2006) contributed to this research domain by distinguishing between different instructional expenditure ratios and their respective impacts. This researcher reported the presence of positive results when analyzing the Texas ratio, but no statistically significant differences when examining narrower measures. "This study utilized a linear regression model to analyze the relationship between student performance outcomes in reading and math (criterion) and three different measures of instructional expenditure allocations (predicator)" (Helvey, 2006, p. 87).

One of the measures considered by Helvey (2006) was the Texas Instructional Expenditure Ratio (TIER), which incorporates more functions into the instructional expenditure calculation than the less inclusive standard advocated by a national group. Helvey (2006) determined that the Texas ratio had a positive relationship to performance on the Texas Assessment of Knowledge and Skills (TAKS). However, a narrower ratio, the National Center for Education Statistics Instructional Expenditure Ratio (NIER), which did not include a number of the budget functions considered by Texas officials, did not have a statistically significant positive relationship with academic performance (Helvey, 2006).

Another reform measure was implemented in Texas during the same year the 65% rule was adopted. Responding to national concerns regarding the readiness of students for the university, the Texas Legislature passed House Bill 1 in 2005 intended "to increase the number of students who are college and career ready when they graduate school" (Educational Policy Improvement Center, 2009, p. iii). College readiness is defined "…as the level of preparation a student needs to enroll and succeed – without remediation – in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program" (Conley, 2007, p. 5).

"Seventy percent of all non-graduates (in Texas) were members of minority racial and ethnic groups…Fewer than 60 percent of black and Hispanic students graduate with a diploma, compared to three quarters of whites and Asians" (Swanson, 2006, p. 1). Graduate rates are clearly indicative of college readiness. The literature further reveals that those minority students who do manage to graduate from high school are disproportionately ill-prepared for the demands of college. "The proportion (of minority students) that is academically

prepared for higher education is even smaller (compared to Whites) among Black and Hispanic students (20% and 16% respectively)" (Long & Riley, 2007, p. 41). Further compounding the problem is the demographic reality that many of these ethnic groups are concentrated in property-poor school systems (Cardenas, 1997). These districts may not have the financial capacity to meet instructional expenditure standards (Helvey, 2006).

As previously noted, charters often are not subject to the same limitations as their traditional public school counterparts, including compliance with various state rules. However, they are held to account for their performance in various evaluative domains. "In exchange for autonomy, charter schools are supposed to be held accountable for achieving the goals they set forth in their charter. Given the public's investment..., the level of accountability is both political and an education concern (Hubbard & Kulkarni, 2009, p. 177).

The intersecting paths of the growing charter school movement, the 65% rule, and college readiness have made their way to the Texas accountability system. A major report card employed in this state is the Texas Academic Excellence Indicator System, which is used to chronicle the progress of districts and individual schools on an array of performance measures, including adherence to the 65% rule, college readiness rates, and charter school progress. We utilized this data base to ascertain whether charter school district instructional expenditures were related with college-ready rates in English language arts (ELA), math, and in both subjects. The data were further examined by subgroups, including Hispanics, African-Americans, Limited English Proficient (LEP), at-risk, and economically disadvantaged.

4 Purpose of the Study

Our purposes in conducting this study were: (a) to ascertain whether charter school district instructional expenditures were related with college-ready rates in English language arts (ELA); (b) to determine whether charter school district instructional expenditures were related with college-ready rates in math; and (c) to ascertain whether charter school district instructional expenditures were related with college-ready rates in both subject areas. In addition to determining the extent to which relationships were present, we also wanted to ascertain whether statistically significant differences were present between groups of charter schools based upon their instructional expenditures.Given the increased national focus on charter schools, college-readiness, and school finance, we believe it is critical to determine the extent to which students graduating from charter schools are college-ready and the extent to which school dollars are related with student-preparedness for college.

5 Research Questions

The following research questions were investigated in this study:

a. What is the relationship between instructional expenditure ratios and college-ready rates in ELA for all students?;

b. What is the relationship between instructional expenditure ratios and college-ready rates in math for all students?;

c. What is the relationship between instructional expenditure ratios and college-ready rates in both subjects for all students?;

d. What is the difference in college-ready rates in ELA as a function of instructional expenditure ratios?;

e. What is the difference in college-ready rates in math as a function of instructional expenditure ratios? and

f. What is the difference in college-ready rates in both subject areas as a function of instructional expenditure ratios?

6 Method

6.1 Participants

Data from all Texas charter school districts for the most recent school year, 2008-2009, were analyzed in this study. A total of 192 charter school districts provided information regarding their instructional expenditures ratio. Unfortunately, the number of charter schools that provided information concerning their students' college-ready rates in ELA, in math, and in both subject areas for the 2008-2009 school year was limited. A total of 72 charter school districts provided college-readiness rates in ELA, 67 charter schools provided math college-readiness rates, and only 57 charter schools provided the college-readiness rates of their students in both subject areas.

6.2 Instrumentation

For the 2008-2009 school year, archival data were acquired on all Texas charter school districts. Through accessing and downloading files from the Texas Education Agency (TEA) Academic Excellence Indicator System (AEIS), data that were reported by each charter school district were obtained. In particular, we downloaded data on the instructional expenditure ratio, the college-ready rates for all students in ELA, math, and in both subjects; this same information by ethnic membership; and this same information for students by programmatic label (e.g., economically disadvantaged). College-ready rates are reported to the state by each school district and/or calculated by the Texas Education Agency. As such, traditional reliability and validity score estimates are not germane to the variables analyzed in this study. Any errors that affect score reliability and validity are assumed to be minimal.

The Texas Education Agency provides the following information concerning charter schools in Texas:

6.2.1

To further promote local initiative, the 1995 revision of the Texas Education Code established a new type of public school, known as a charter school. Charter schools are subject to fewer state laws than other public schools with the idea of ensuring fiscal and academic accountability without undue regulation of instructional methods or pedagogical innovation. Like school districts, charter schools are monitored and accredited under the statewide testing and accountability system.

According to the Texas Education Code, the purposes of charter schools are to:

1. improve student learning;
2. increase the choice of learning opportunities within the public school system;
3. create professional opportunities that will attract new teachers to the public school system;
4. establish a new form of accountability for public schools; and
5. encourage different and innovative learning methods. http://www.tea.state.tx.us/Charters.aspx

The dependent variable of instructional expenditure ratio was defined by the Texas Education Agency as:

6.2.2

"This measure, required by TEC 44.0071, indicates the percentage of the district's total actual expenditures for the 2006-07 fiscal year that were used to fund direct instructional activities. The instructional expenditure ratio is a district-level only measure, and is calculated as follows: expenditures reported in function codes 11, 12, 13, 31 and object codes 6112 through 6499 *divided by* expenditures reported in function codes 11-52, 92,and 95 and object codes 6112 through 6499" http://ritter.tea.state.tx.us/perfreport/aeis/2008/glossary.html

6.3 Procedures

After accessing the Texas Education Agency's Academic Excellence Indicator System website, connection to each AEIS data file of interest (i.e., school district, financial, and college-readiness) occurred. Data from

each data file were downloaded as .dat files and then merged using the Statistical Package for the Social Sciences-Version 15. Prior to conducting statistical procedures, the underlying assumptions (e.g., normality of data) were checked. Even though some of the skewness and kurtosis values exhibited a departure from normality (i.e., +/- 3, Onwuegbuzie & Daniel, 2002), we decided to use parametric statistical procedures because of their robustness.

7 Results

7.1 Research Questions Regarding Relationships

Prior to conducting correlational procedures, scatterplots were conducted and viewed, providing evidence of a linear relationship. Moreover, checks were conducted to ascertain whether the data for instructional expenditures and college-readiness rates were normally distributed. With almost all of the standardized skewness coefficients and standardized kurtosis coefficients being within the normal range (Onwuegbuzie & Daniel, 2001), the decision was made to use a parametric correlational procedure, the Pearson r.

Concerning the first research question on whether charter school district instructional expenditures were related with college-ready rates in English Language Arts, a statistically significant relationship was present, $r(71) = .41$, $p < .001$, for all students. A similar relationship was yielded between instructional expenditures and college-ready rates in math, $r(67) = .36$, $p = .003$, for all students. For college-ready rates in both subjects, the relationship was also commensurate, $r(57) = .38$, $p = .004$, for all students. Readers are referred to Table 1 for the relationships of instructional expenditures with student college-ready rates. The effect size for all three statistically significant relationships was moderate (Cohen, 1988). The percent of variance in college-readiness rates accounted for my instructional expenditures ranged from a low of 13% to a high of 17%.

Concerning college-ready rates for African American students at Texas charter schools, the relationship of instructional expenditures was not statistically significant for English Language Arts $r(26) = .24$, $p = .24$, for Math, $r(22) = .34$, $p = .12$, and for both subjects, t for English Language Arts $r(15) = .21$, $p = .46$. Readers should note that the sample sizes for African American college-ready rates were low, with only 15 charter schools having reported college-readiness rates in math for African American students.

Regarding Hispanic student college-ready rates at Texas charter schools, the relationship of instructional expenditures was statistically significant for English Language Arts $r(41) = .46$, $p = .002$, for Math, $r(39) = .33$, $p = .04$, but not for both subjects, $r(30) = .28$, $p = .14$. The effect sizes for the ELA and math college-ready rates results were both moderate (Cohen, 1988). Concerning White student college-ready rates at Texas charter schools, the relationship of instructional expenditures was not statistically significant for English Language Arts $r(40) = .13$, $p = .43$, for Math, $r(41) = -.003$, $p = .99$, and for both subjects, $r(36) = .12$, $p = .47$.

Following the determination of relationships of instructional expenditures with college-ready rates for persons by ethnic membership, we ascertained the relationships of instructional expenditures with college-ready rates for persons by programmatic label. For students designated as being economically disadvantaged, instructional expenditures was statistically significantly related to college-ready rates in English Language Arts $r(48) = .40$, $p = .005$, and in Math, $r(46) = .34$, $p = .02$, but not for both subjects, $r(36) = .24$, $p = .16$. Instructional expenditures accounted for 16% of the variance in ELA college-ready rates and 12% of the variance in Math college-ready rates for students designated as being economically disadvantaged.

Concerning students with a label of being at-risk, instructional expenditures was statistically significant related to college-ready rates in English Language Arts $r(59) = .27$, $p = .04$, but not in Math, $r(55) = .19$, $p = .17$, nor in both subjects, $r(41) = .19$, $p = .23$. Instructional expenditures accounted for 7% of the variance in ELA college-ready rates for students labeled as being at-risk. Relationships between instructional expenditures and college-ready rates for students designated as being Limited English Proficient (LEP) could not be calculated due to an insufficient sample size of charter schools providing college-ready rates for students with LEP. This same situation was present for students enrolled in special education in charter schools.

Relationship of Instructional Expenditures to College-Ready Rates in ELA, Math, and in Both Subjects for the 2008-2009 School Year for Texas Charter Schools

Student Group / Both Subjects	Instructional Expenditures Ratio ELA	Math
By Ethnic Membership		
All Students .38*	.41*	.36*
African American .21	.24	.34
Hispanic .28	.46	.33
White .12	.13	-.003
By Programmatic Label		
Economically Disadvantaged .24	.40*	.34*
At-Risk .19	.27*	.19
Limited English Proficient –	–	–
Special Education –	–	–

Table 1

Note. No charter schools reported college-readiness rates for students with a label of Limited English Proficient or for students enrolled in Special Education.

7.2 Research Questions Regarding Differences

After conducting the correlational procedures to address the relationship research questions, we next conducted a frequency distribution of the charter school district instructional expenditures. Following this frequency distribution, three groups were created: school districts that had less than a 60% instructional expenditures ratio; school districts whose instructional expenditures ratio was between 60 and 64.99%; and those school districts whose instructional expenditures ratio met the 65% mandate. The numbers of school districts in these three groups were 47, 11, and 13 respectively. Frequency distributions were performed by ethnic group as well as for overall college-readiness rates. Unfortunately, the number of charter schools that reported African American student college readiness rates was a total of 22 schools. Similarly, only

41 charter school districts provided information on Hispanic student college-readiness rates. Therefore, the research questions concerning differences could only be addressed for all students.

7.3 All Students

Due to losses in sample size when multivariate statistical procedures were utilized, separate univariate analysis of variance (ANOVA) procedures were conducted to determine whether statistically significant differences were present among these three groups of charter schools in their college-readiness rates in ELA/Reading, Math, and in both subjects. A statistically significant difference was yielded for ELA college-ready rates, $F(2, 68) = 5.67$, $p = .005$, $n^2 = .14$, and for math college-ready rates, $F(2, 64) = 3.34$, $p = .042$, $n^2 = .09$. Effect sizes for these statistically significant results were large and moderate, respectively (Cohen, 1988).

Bonferroni post hoc procedures revealed that for the college-ready ELA rates, charter school districts that were under 60% of the instructional expenditures ratio mandate had statistically significantly lower college-ready rates in ELA than the other two groups of charter school districts. For the math scores, charter school districts in the less than 60% instructional expenditures ratio group had statistically significantly lower college-ready rates in math than the school districts that met the 60-64.99% instructional expenditures ratio mandate but not the 65% and above instructional expenditures ratio group of charter schools. No other differences were present for the college-readiness rates in math. Readers are referred to Table 2 for the descriptive statistics for these analyses.

A separate ANOVA was conducted to determine whether a statistically significant difference was present in college-ready rates in both subjects among the three instructional expenditures groups. The ANOVA yielded a statistically significant difference, $F(2, 54) = 3.98$, $p = .024$, $n^2 = .13$, a near-large effect (Cohen, 1988). Bonferroni post hocs revealed that the charter school districts in the less than 60% instructional expenditures ratio group had statistically significantly lower college-ready rates in both subjects than the other two instructional expenditures groups. As the instructional expenditures increased, the college-ready rates in both subject areas increased for this sample of charter schools.

Descriptive Statistics for College-Ready Rates in Reading, Math, and in Both Subjects by Instructional Expenditure Ratios Group for All Charter School Students

College-Ready Rate by School District Group	n	M	SD
ELA/Reading			
65% and Above Instructional Expenditures	13	50.69	22.17
60 to 64.99% Instructional Expenditures	11	48.00	26.49
Below 60% Instructional Expenditures	47	32.79	17.33
Math			
65% and Above Instructional Expenditures	13	43.08	19.56
60 to 64.99% Instructional Expenditures	11	49.09	26.56
Below 60% Instructional Expenditures	43	32.42	20.12
Both Subjects			
65% and Above Instructional Expenditures	12	35.17	19.29
60 to 64.99% Instructional Expenditures	10	37.10	26.95
Below 60% Instructional Expenditures	35	21.69	15.71

Table 2

8 Discussion

Researchers have revealed mixed results concerning questions about the relationship between instructional expenditures and student performance. Some researchers have provided support to the contention that money does make a difference in this regard (Helvey, 2006; Jones & Slate, 2010; Pan et al., 2003; Schulte & Slate, 2010). Other queries have yielded different results (Helvey, 2006; LeFevre, 2008; Okpala et al., 2001). Helvey (2006) commented that the answer to this research question depended on the calculation applied to determine spending in the instructional function. In this study, our purpose was to ascertain whether charter school district instructional expenditures were related with college-ready rates in English language arts, math, and in both subjects. Data were further examined by subgroups, including Hispanics, African-Americans, at-risk, Limited English Proficient, and economically disadvantaged.

Regarding the first, second, and third research questions on whether charter school district instructional expenditures were related with college-ready rates in English Language Arts, math, and in both subjects, statistically significant relationships were present for all students. Our results were consistent with Schulte and Slate (2010). However, they differed in that they examined data on students enrolled in public, non-charter schools. They determined that, "In terms of all students, Scheffe' post hocs revealed that the school district in the less than 60% instructional expenditures ratio group had statistically significant lower college-ready rates in both subjects..." (Schulte & Slate, 2010, p. 17). Their results were also congruent with other researchers who demonstrated that money does indeed make a difference in terms of the academic performance of students (Helvey, 2006; Jones & Slate, 2010; Pan et al., 2003; Schulte & Slate, 2010).

However, when data on ethnic subgroups were analyzed, different findings emerged. Regarding college-ready rates for African American and White students at Texas charter schools, the relationship of instructional expenditures was not statistically significant for English Language Arts, math, and for both subjects. In respect to Hispanic student college-ready rates at Texas charter schools, the relationship of instructional expenditures was statistically significant for English Language Arts, math, but not for both subjects.

Readers might question how charter school district instructional expenditures had a statistically significant relationship with college-ready rates in all categories for all students whereas African American students and White students had no statistically significant relationships in these three categories and no relationship was present for Hispanics in both subjects. The answer to this question involves the apparent limitations of the Academic Excellence Indicator System database. For the category of all students, everyone's scores are included regardless of ethnic membership. With sample sizes varying by ethnic membership per school and the Texas Education Agency not providing information for ethnic groups when the number of students at a school is small, but being able to report the all students' data, these discrepancies occur. The sample size for all students is substantially larger than the sample size for any specific ethnic group because some schools have low ethnic enrollment. In addition, when all members of an ethnic group pass or all fail, the Texas Education Agency does not permit the reporting of their data. Facilitating more open access to the Public Education Information Management System, which is an additional data resource in Texas beyond the AEIS, would be helpful.

The relationships between instructional expenditures and college-ready rates for students designated as being Limited English Proficient or special education could not be determined due to the fact that no charter schools provided college-ready rates for these students. We noted previously that the sample sizes for African American college-ready rates were low, with only 15 charter schools having reported college-readiness rates in math for African American students. Although the data limitations noted above should be considered, the inadequacy of the sample sizes in these instances may lend support to those individuals who have suggested that charter schools under serve certain populations and may lead to re-segregation Hutton, 2009; Teske & Schneider, 2001).

We were, however, able to ascertain the relationships of instructional expenditures with college-ready rates for persons categorized under two programmatic labels: economically disadvantaged and at-risk. Schulte and Slate (2010) recommended that "A future (research) project may involve directly analyzing the impact different levels of instructional funds have on economically disadvantaged learners" (p. 20). For students designated as being economically disadvantaged, instructional expenditures was statistically significant re-

lated to college-ready rates in English Language Arts and in math, but not for both subjects. Concerning students with a label of being at-risk, instructional expenditures was statistically significant related to college-ready rates in English Language Arts, but not in Math, nor in both subjects. Okpala et al. (2001) demonstrated that "the percentage of students in free/reduced-price lunch programs was related negatively to students' academic performance in mathematics" (p. 110). Our findings are more encouraging regarding math performance of economically disadvantaged students.

The charter school movement has gained strong bipartisan support since President Obama was elected (Hutton, 2009; Resnick, 2010; U.S. Department of Education, 2010). This federal policy is likely to increase in the number of charters, which have been increasing substantially since the early 1990s (Georgiou, 2005; National Alliance for Public Charter Schools, 2009; The Center for Education Reform, 2010). Proponents of this movement contend that this choice option will improve academic performance, increase accountability, offer more innovative curricula and provide an alternative to poorly achieving traditional public schools (National Alliance for Public Charter Schools, 2010; U.S. Department of Education, 2010). Opponents argue that student performance benefits may be overstated and that charters may lead to re-segregation and to the under serving of educationally disadvantaged and special needs populations (Hutton, 2009; Resnick, 2006; Teske & Schneider, 2001).

Our analysis of instructional expenditures and student performance for all students attending charter schools in Texas reveals a positive relationship. This finding may support those persons who call for the expansion of this initiative. However, as stated, data limitations prevented our conclusive evaluation of certain subgroups, such as students with LEP and students enrolled in special education. And results for other categories, including Hispanic, African-American, Whites, at-risk and economically disadvantaged, were mixed in terms of positive and negative correlations. Further research is needed in this area utilizing more fruitful data bases, such as the PEIMS, especially in light of the research that shows significant college readiness disparities between Whites and minority groups (Long & Riley, 2007; Swanson, 2006). It should also be noted here that other studies involving non-charter public schools revealed a positive relationship between instructional spending and achievement in Texas (Helvey, 2006; Jones & Slate, 2010; Schulte & Slate, 2010). These results prompt further research questions: "What are the differences between charters and traditional public schools in terms of instructional expenditures and college readiness rates?" "Does the uniqueness of the charter school play any role in this finding?"

The fourth, fifth, and sixth research questions were intended to determine the difference in college-ready rates in ELA, math and in both subjects, respectively, as a function of instructional expenditure ratios. After establishing that statistically significant correlations were present between instructional expenditures and college-readiness rates in reading, math, and in both subjects for all students, three groups of charter schools were created, based upon their instructional expenditures (i.e., less than 60% instructional expenditures, 60 to 64.99% instructional expenditures, and 65% instructional expenditures and higher), statistically significant differences were yielded among these groups in students' college-ready rates in reading, math, and in both subject areas. We documented school districts in the lowest group of instructional expenditures had the lowest percentages of students whose scores were college-ready in reading, math, and in both subject areas. As instructional expenditures increased, the student college-ready rates increased as well. Findings were consistent across the four groups of students whose scores were analyzed.

The results of our research may inform the ideal range of instructional expenditures required for high student performance. Jones and Slate (2010) suggested "...that a better benchmark mark may exist at the 60% level" (p. 13). However, other researchers examining the 65% benchmark stated, "Our research indicates that the 65% or higher instructional expenditures level produces better results in terms of college-ready rates for all ethnic groups..." (Schulte & Slate, 2010, p. 18). Findings of this study in relation to these research questions were congruent with the results of Schulte and Slate (2010).

This ideal range discussion reveals that the study of instructional expenditures and student achievement is not simple science. Many variables need to be considered in any analysis of this nature. The question in this case is: "At what expenditure level is student achievement most impacted?" Another relevant query is: "How do different calculations of instructional expenditures impact academic achievement?"

In an effort to answer the second question, Helvey (2006) explored different models of the 65% rule and

determined the substantial differences were present between them in terms of student performance. Comparing the National Center for Education Statistics Instructional Expenditure Ratio to the Texas Instructional Expenditure Ratio, Helvey (2006) demonstrated that the former did not yield a statistically significant relationship, whereas the latter did show a positive impact. The Texas Instructional Expenditure Ratio includes more budget functions in the ratio calculation than does the National Center for Education Statistics Instructional Expenditure Ratio, which demonstrates apparent sensitivity to criticisms that narrower measures may not account for many educational services that contribute to the academic success of students, but are not defined as "instructional" (Center for Public Policy Priorities, 2005, p. 3). Therefore, researchers must consider such variables as different levels of expenditures around the 65% threshold, the budget function inclusiveness of the calculation, appropriate information systems from which to collect desired data and other factors when conducting future studies.

The 65% rule has certainly not been universally embraced and accepted. It has been criticized because it fails to account for the unique characteristics of various school systems, it may not consider important district budget functions (depending on the calculation formula) that do actually promote student success, and it is not sensitive to the financial capacity of low-wealth districts (Center for Public Policy Priorities, 2005; Helvey, 2006). Others claim that better methods exist by which to promote optimal learning and research is not conclusive in terms of the academic benefits of the 65% solution (Embry, 2009; Okpala et al., 2001; Standard & Poor's, 2005). We interpret our findings as meaning that there value exists to certain levels of instructional expenditures as they relate to college readiness rates for all students attending charter schools. Thus, during future deliberations on the 65% rule, policymakers may consider not "throwing the baby out with the bathwater".

Finally, even with the repeal of this spending mandate in Texas, other locations continue to be subject to this policy. In addition, research that explores the relationship between expenditures and academic achievement, in this case the college readiness of charter school students, shines informative light to guide all schools systems, including Texas districts, as they deliberate on budgets and related policy. Beyond traditional school systems, individuals and organizations that contemplate forming charter schools or that may already lead these campuses might benefit from this study. As college readiness concerns escalate (Educational Policy Improvement Center, 2009; Long & Riley, 2007; Swanson, 2006) and the charter movement grows (Georgiou, 2005; National Alliance for Public Charter Schools, 2009; The Center for Education Reform, 2010), this line of inquiry becomes more important. Moreover, relatively little research is present in which the relationship between targeted spending on certain functions and indicators of academic performance other than test results, such as college readiness rates, have been examined. The extant literature is also limited in terms of how these variables apply to optional school settings.

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