The Success for All Reading Program and Effect on Student Achievement in a South Central Texas Major Suburban School District

Kathryn Korelich[1], Don Jones[2], Linda Challoo[3], Karen Sue Bradley[4] & Rebecca Davis[5]

Abstract

Any student who does not read at grade level by the completion of third grade has a greater risk of failing and dropping out of high school (Hernandez, 2011; Juel, 1988; Snow, Burns, & Griffin, 1998), and if that child is indigent, the odds of academic failure increase exponentially (Hernandez, 2011). The purpose of this quantitative study was to determine if there was a statistically significant difference in the State of Texas Assessments of Academic Readiness or STAAR reading scores of students in grades three, four and five who participated for two consecutive years in the Success for All (SFA) reading program by the end of the 2013-2014 school year. Also included were two Titles I campuses not selected for the three year SFA grant, which concluded at the end of the 2013-2014 school year. These two experimental campuses were compared to two control campuses with similar demographic characteristics who did not utilize SFA. Conducted in a south central Texas major suburban school district, this study led to the determination that the SFA reading program did not have significant effect on students' reading scores..

Key Words: STAAR, Accountability, SFA, Reading Intervention

Introduction

The watershed for inhabiting a literate society is learning to read, and these skills are the underlying layer for students to be academically successful (Whitehurst & Lonigan, 2001). Statistically, educated people make more money than uneducated people (Murdock, Cline, Zey, & Jeanity, 2014) and contribute more to society and the economy than the less educated. On the other hand, 75% of state prison inmates and 59% of federal prison inmates dropped out of high school or are classified as low literate (Pro-literacy, 2014).

The reports *Nation at Risk*, *No Child Left Behind* (NCLB) and *Race to the Top* have contributed to the pressure for public schools to increase student achievement and has become a focal point for many school districts (Korelich & Fedynich, 2013). District and campus leaders can have a profound, positive effect on student achievement (Marzano, Waters, & McNulty, 2005; Marzano & Waters, in press) and have the capacity to encompasses a reading program that is a part of the Comprehensive School Reform Movement (CSRM) or whole-school reform (McCollum, Mc Neese, Styron & Lee, 2007). According to McCollum et al. (2007), CSRM advocates that a concentrated effort to create and establish supportive and positive educationally goal oriented, whole school changes will raise student achievement more continually. Reading First, the largest and most targeted early reading initiative in the history of federal reading initiatives with the goal of every child being able to read at or above grade level by the end of the third grade, was established under the No Child Left Behind Act of 2001 (U.S. Department of Education, No Child Left Behind, 2001).

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[1] Judson ISD.
[2] Texas A&M University – Kingsville, USA.
[3] Texas A&M University – Kingsville, USA.
[4] Texas A&M University – Kingsville, USA.
[5] Texas A&M University – Kingsville, USA.

The five objectives of Reading First as outlined by NCLB included utilizing scientifically research-based reading programs in grades kindergarten through third grade and have students at or above reading grade level by third grade. Also included were provide training and any support needed for teachers; monitor students' reading progress by screening, diagnostic, and reading assessments; use effective reading instructional materials; and improve and strengthen the literacy program and reading achievement for every child (U.S. Department of Education [USDE], 2004). Beginning in 2002 through 2008, more than one billion dollars have been spent annually to support the Reading First initiative (Hess & Petrilli, 2006); however, due to a decrease in the federal budget in 2008, funds were reduced to $393 million a year (Manzo, 2008).

Slavin and Madden (2006) of Harvard University developed Success for All (SFA), a Comprehensive School Reform (CSR) reading program to address the needs of at-risk students grades pre-K to five in poverty stricken schools. The main goal of Success For All (SFA) is that all students would be promoted to grade three on time with satisfactory basic skills and build on these skills for the remainder of their elementary years. The components of this program include the use of tutors, implementation of school-wide curriculum, specific emphasis in preschool and kindergarten on the development of language, readiness and self-concept, conducting eight week assessments, providing a family support team and providing a program facilitator who assists with the entire program (Slavin & Madden, 2006).

Purpose of the Study

This study examined if there was a statistically significant difference in the State of Texas Assessments of Academic Readiness or STAAR (Texas Education Agency, 2014) reading scores of students in grades, three, four and five who participated for two or more consecutive years in the SFA reading program by the end of the 2013-2014 school year. Two Title I campuses, campus A and campus B were included which were selected for the three year SFA grant which concluded at the end of the 2013-2014 school year. These two experimental campuses were compared to two control campuses with similar demographic characteristics that had not utilized SFA referred to as campus C & campus D. This study was conducted in a south central Texas major suburban school district to determine if the if SFA reading intervention did not have a significant effect on students' reading scores. The statistical data was studied to make this determination.

Research Questions

The following research questions were used to guide this study:

1. What is the impact of the Success for All reading program on students' reading comprehension scores as measured by the 2013-2014 STAAR reading assessments in grades 3, 4 and 5?

2. What is the impact of the Success for All reading program in increasing the reading STAAR scores of students at experimental campuses A and B as compared to the controlled campuses C and D in grades three, four and five?

Research Hypotheses

The following research hypotheses were used to guide this study:

H_1: There is a statistically significant difference of the Success for All reading program students' reading comprehension scores as measured by the STAAR reading assessments in grades three, four and five.

H_2: There is a statistically significant difference between the 2013-2014 reading STAAR scores of the students at experimental campuses A and B as compared to the controlled campuses C and D after controlling for the 2012-2013 reading STAAR scores.

Research Design and Approach

For Research Question 1, the archived STAAR reading assessment scores from qualifying students were obtained (academic years 2011-2014). The 2011-2012 and 2012-2013 academic years were used as the pre-test scores and 2013-2014 academic year as the post-test scores.

This archived data was entered into the Statistical Package for Social Science (SPSS), and one-way analysis of variance (ANOVA) was applied to determine if there was a significant difference between students receiving the SFA program during 2011-2012 and 2012-2013 academic years as compared to the final academic year, 2013-2014. The 2011-2012 and 2012-2013 academic years' STAAR reading scores acted as the covariate.

For Research Question 2, a one-way analysis of covariance (ANCOVA) was used to analyze the differences among students from the experimental group and control group on the third, fourth, and fifth grade archived STAAR reading test standardized scores. To conclude if there was a statistically significant difference, a one-way analysis of covariance (ANCOVA) was conducted. The campus types were the treatments, control and SFA, 2012-2013 academic years' STAAR reading scores acted as the covariate, and the dependent variable was the 2013-2014 reading scores. Only archived data was used.

After permission was obtained from the Texas A&M University-Kingsville Institutional Research Board (IRB), the data collection process began. Also, the required Protection of Human Research Participants and Responsible Conduct of Research web-based training course through the National Institutes of Health (NIH) Office of Extramural Research was completed. The next step involved gaining permission from the school district for the release of any needed data. The researcher met with the superintendent, explained the study, and gained verbal and written permission.

As an administrative employee of the district, a data use agreement form was explained and signed by the district's testing coordinator for access to archived student data associated with this study. For both research questions, the district's testing coordinator confidentially prepared an Excel spreadsheet identifying the students from the two experimental campuses by labeling them as CA1, CA2, CA3, etc., and CB1, CB2, CB3, etc. for each student at experimental campus A and experimental campus B and disaggregated those students who attended for a minimum of two consecutive years during the time frame of 2011-2014 and provided the overall reading scaled STAAR score for each. In additions, those students from the control campuses were labeled as CC1, CC2, CC3, etc., and CD1, CD2, CD3, etc. and disaggregated those students who had been enrolled for two consecutive years during the time frame of 2011-2014 and provided the overall reading scaled STAAR score for each. No direct identifiers such as names, identification numbers, social security numbers, etc., were included in the Limited Data Set(LDS).The district's testing coordinator included the data fieldsspecifiedasfollows:3rd grade STAAR overall reading score; 4thgrade STAAR overall reading score; 5thgrade STAAR overall reading score, and Campus A, Campus B, Campus C and Campus D. All data collected will be on file for seven years by the researcher.

Population and Sample

The population included third, fourth and fifth grade students in a south central Texas large suburban school district that participated in the SFA Reading Program at two of the campuses for a minimum of two consecutive years and two campuses with similar demographic characteristics that did not utilize the SFA Reading Program. The intent of this quasi-experimental design where the individuals were purposefully assigned was to test the effect of the intervention, SFA, on an outcome, the STAAR assessment test (Creswell, 2013). The two control campuses were chosen utilizing the 2013-2014 Texas Academic Performance Report (TAPR) based on school enrollment, accountability rating and demographics. The information available on the TAPR was filtered, sorted and categorized to determine the two non- SFA campuses that had the most similar school enrollment, accountability rating, and demographics as the two SFA campuses. This was done by entering the name of the campus, student enrollment, ethnicity and the number of economically disadvantaged students to determine which two campuses qualified for the study. The student testing data files were disaggregated to identify only the students who had been enrolled for at least two consecutive years during the academic years of 2011-2012 and 2012-2013 on each of the four campuses. The characteristics of the experimental and control groups are reported in Table 1.

Results

Results for Research Question 1

Research Question 1 examined the difference in students' reading comprehension scores in grades three, four and five as measured by the STAAR reading assessments scores in grades three, four and five.

To make this determination, a one-way analysis of variance (ANOVA) with repeated measures was utilized. The 2011-2012 and 2012-2013 school years' scores were used as the STAAR pre-test scores, and the school year 2013-2014 scores were used as the post-test scores. Descriptive statistics are reported in Table 2.

Group 1 participants were 125 third, fourth and fifth grade students in a south central Texas large suburban school district who participated in the SFA Reading Program for a minimum of two consecutive years. Table 2 represents the mean and standard deviation of the STAAR pre-tests scores, 2012 and 2013, and posttest scores, 2014.

Mauchly's Test of Sphericity was used to test the assumption for equal variances of differences between all pair wise combinations of scale scores. Mauchly's Test of Sphericity showed $x^2(2) = 4.975$, $p = .083$ which indicates that the test is not significant at the 5% level; consequently, the variances of the differences between all pair wise combinations of scale score groups 2012, 2013 and 2014 are equal. The pairs were 2013-2014, 2012-2013 and 2012-2014. Mauchly's Test of Sphericity statistics are reported in Table 3.

The ANOVA Test of Within-Subjects Effect showed $F(2) = 80.79$, $p < 0.000$; therefore, the null hypothesis was rejected at the 5% significance level. The strength of the relationship between the Year treatment and scale scores as measured by a partial η^2, was extremely strong with the year accounting for 39% of the variance. This data lead to the conclusion that there is a difference in the mean scores of at least one of the combination of years. The ANOVA Tests of Within-Subjects Effects is reported in Table 4.

Because the overall F test was significant, evaluation of pair wise differences among the means of the tests between the years 2012-2013, 2013-2014 and 2012-2014, were conducted. There was a significant difference in mean scale scores between all compared years. Based on the data, the students participating in the SFA reading program improved their STAAR reading scores significantly from one year to the next for all three years; therefore, the null hypothesis was rejected. The 95% confidence intervals for the pair wise mean differences, standard errors and p-values are reported in Table 5.

Results for Research Question 2

Research Question 2 explored the impact of the Success for All program in increasing the reading STAAR scores of students at experimental campuses A and B as compared to the control campuses C and D in grades three, four and five. To conclude if there was a statistically significant difference, a one-way analysis of covariance (ANCOVA) was conducted. The campus types were the treatments, control and SFA, 2012-2013 academic years' STAAR reading scores acted as the covariate, and the dependent variable was the 2013-2014 reading scores. Descriptive statistics are reported in Table 6.

Control group participants were students in grades 3, 4 and 5 with similar demographic characteristics who did not utilize SFA program, and contained in the SFA group were students in grades, 3, 4 and 5 who did utilize SFA program for a minimum of two consecutive years. Table 6 shows the means and standard deviation for the control group and the SFA group reading scores. The Levene's Test of Equality tests for equality of variances between the SFA group scores and control group scores for 2013-2014. These variances are not significantly different at the 5% level based on the $p > .099$. Levene's Test of Equality of Error Variances is reported in Table 7.

The ANCOVA was not significant $F(1, 240) = .139$, MSE = 8364.22, $p > .709$; therefore, the null hypothesis was not rejected at the 5% significance level and concluded that the mean 2013-2014 reading scale scores are not significantly different between the Control campuses and the SFA campuses. The evidence suggests the SFA programs did not have a significant impact on the 2013-2014 reading scale scores for students at those campuses.

The strength of the relationship between the campus type and the 2013-2014 scaled reading scores were very weak as determined by a partial η^2, with the campus type accounting for less than .1% of the variance of the dependent variable and the power to detect the effect is 0.06. The ANCOVA Tests of Between –Subjects Effects is reported in Table 8.

Conclusions and Recommendations

The purpose of this study was to examine if there is a statistically significant difference in the State of Texas Assessments of Academic Readiness or STAAR (Texas Education Agency, 2014) reading scores of students in grades three, four and five who participated for at least two consecutive years in the SFA reading program by the end of the 2013-2014 school year.

Reading well during the early elementary years is vital for students' academic achievements during their subsequent education. Students not possessing sufficient reading skills by the time they enter second grade will find their achievement increasingly difficult (Juel, 1988; Snow, Burns, & Griffin, 1998). Low reading achievement during the early educational years is one of the main predictors of a student not completing his or her high school education (Lloyd, 1978; Steinberg, Blinde, & Chan, 1984). To close this gap, much research has been conducted regarding reading intervention programs at the elementary level. Success for All (SFA), created in 1998 as a non-profit organization, is the product of the Success for All Foundation that may address the need for reading intervention programs (Slavin & Madden, 2006).

Using the STAAR scaled score reading data for Research Question 1, using a one-way analysis of variance (ANOVA) with repeated measures, the results indicated that there was a statistically significant increase in STAAR reading assessment scores from the years 2012-2013, 2013-2014 and 2012-2014 for the students in the SFA reading program.

Research Question 2 tested if there was a statistically significant difference between the 2013-2014 reading STAAR scores of the students at experimental campuses A and B as compared to the control campuses C and D in grades three, four and five. The results of the one-way analysis of covariance (ANCOVA) indicated that there was not a statistically significant difference between the 2013-2014 reading STAAR scores of the students at experimental campuses A and B as compared to the control campuses C and D in grades three, four and five.

Research Question 1 focused on two Title 1 campuses that were awarded a three year SFA grant that concluded at the end of the 2013-2014 school year. A one-way analysis of variance (ANOVA) with repeated measures was used to examine if the 125 students' STAAR reading scores improved for the students in grades, three, four and five who participated for two or more consecutive years in the SFA reading program by the end of the 2013-2014 school year. Because there were three dependent samples, the students' reading scores from 2012, 2013 and 2014 that needed to be measured three different times, an ANOVA with repeated measures was an appropriate choice. The assumptions of this test included: data are continuous, each group is normally distributed, and the variances of the differences between all combinations of groups are equal.

The 2012 mean reading scale score was 1397.61; for 2013, it was 1461.41; and the 2014 reading scale score was 1525.31. Based on the data, these students' STAAR reading scores significantly improved from one year to the next for all three years or there was an improved average in reading scores over the three years 2012, 2013 and 2014 for students at the SFA campuses. Effect size was calculated to determine the strength of the results with regard to group differences or similarities among the variables in this study (Creswell, 2013) and the effect size measured by the partial eta squared was 0.394, and the power to detect the effect was 1.0, the maximum. Because of the strength of the effect size, it further solidified the conclusion of the rejection of the null hypothesis.

A one-way analysis of covariance (ANCOVA) was conducted for Research Question 2 to conclude if there was a statistically significant difference between the 2013-2014 reading STAAR scores of the students at experimental campuses A and B as compared to the control campuses C and D in grades three, four and five. The 118 students at the control campuses were chosen utilizing the 2013-2014 Texas Academic Performance Report (TAPR) based on school enrollment, accountability rating and demographics. The assumptions of this test included the dependent variable and covariate were continuous, the independent variable was categorical, observations were independent between the two groups, there were no significant outliers, the dependent variable should be normally distributed across the different groups of the independent variable, and the covariate was linearly related to the dependent variable at each level of the independent variable. There also needed to be homogeneity of variances between groups, homoscedasticity and homogeneity of regression slopes.

The results of the one-way analysis of covariance (ANCOVA) indicated that there was not a statistically significant difference between the 2013-2014 reading STAAR scores of the students at experimental campuses as compared to the control campuses in grades three, four and five. The 2011 mean reading scale score for the SFA campuses was 1397.61 as compared to 1368.75 for the control campuses. The 2012 mean reading scale score for the SFA campuses was 1461.41 as compared to 1452.91 for the control campuses. The 2014 mean reading scale score for the SFA campuses was 1525.31 as compared to 1515.73 for the control campuses.

For 2013, it was 1461.41, and the 2014 reading scale score was 1525.31.   The effect size measured by partial eta squared was 0.001, and the power to detect the effect was 0.06, with both being very small. The small difference in the mean scores more than likely contributed to this small effect size; however, this data further validates the null hypothesis cannot be rejected.

Following the analysis of this data, there was no absolute evidence to endorse the SFA reading program intervention. The lack of statistically significant differences between the SFA and control campuses warrants this conclusion. However, although the differences were not significant, it does not exclude that the students of the experiential campuses did not benefit from SFA. In addition, several variables may have affected the outcomes of the students' reading scores on the SFA campuses and the control campuses such as the sample size, student attendance and participation, different circumstances may have affected the administration of the STAAR reading assessments, and the fidelity of the implementation of the SFA reading program may have been compromised. Additional possible variables include the teacher to student ratio, classroom management, teachers' education levels, student and teacher relationship, and pedagogy.

Studies done on the impact of reading interventions are extremely important not only given the cost to the district but more importantly, the impact they will have on our children's futures. Some of the future research should include longitudinal studies on the reading STAAR assessments at all levels and effects on ethnicity, gender, English language proficiency and socio-economic status. Furthermore, the alignment of these reading interventions with state assessments should be studied.

Although differences were not significant between the SFA campuses and the control campuses, all of the campuses studied from this south central Texas major suburban school district showed reading academic gains for all three years. This finding suggests that there is an overall factor or factors influencing these gains other than the SFA program. A continuation of this study would be to follow the 125 SFA students' assessment data and compare it to a control group to examine if gains stayed the same, decreased or increased. This may lead to a better understanding not only of the SFA program but of this particular school district. Additional studies should include comparisons of teacher and leadership turnover, ethnicity, gender, English language proficiency and socio-economic status.

The importance of revealing the perceptions of SFA participants cannot be overlooked. Many quantitative studies have been done on the SFA intervention program but very few qualitative studies. The emotions, the relationships, the interactions of the participants may add insight to not only factors that increase reading comprehension but other areas as well. In addition, the participants can provide ideas and insights for improvement in SFA as well as other interventions. Also, research done with a larger sample size would increase the validity of the study. As previously stated, for Research Question 2, the effect size measured by partial eta squared was 0.001, and the power to detect the effect was 0.06, with both being very small. Perhaps, if it had been a possibility, testing a larger population sample may have increased the effect size and possibly the conclusions of this research. On the other hand, there have been a number of SFA studies with larger samples; however, the majority of these studies were conducted by the SFA Foundation. Additional studies with random, larger population samples unaffiliated with the SFA Foundation would produce increased reliability and validity of the data collected and analyzed.

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Appendix

Table 1: Characteristics of Experimental and Control Groups

	CA campus (experimental)	CB campus (experimental)	CC campus (control)	CD campus (control)
Yes/no met standard	Y	Y	Y	Y
Student enrollment	741	632	792	640
% African-American	28.5	32.5	25.9	21.7
% Hispanic	50.9	61.1	58.6	70.9
% White	14.8	5.7	6.3	6.6
% American Indian	.4	.2	.8	0
% Asian	3.4	.9	4.5	.3
% Pacific Islander	.1	.2	.3	0
% 2 or more races	1.9	1.4	3.7	.5
% Economically disadvantaged	76.5	96.2	90.3	92.7

Note. **Borrowed from the Texas Education Agency (2015) (*Texas Academic Performance Reports).*

Table 2: Descriptive Statistics for the Scale Scores for 2012, 2013, and 2014

	Mean	Std. Deviation	N
Score 2012	1397.61	114.804	125
Score 2013	1461.41	143.625	125
Score 2014	1525.31	132.791	125

Note. *p < 0.05

Table 3: Mauchly's Test of Sphericity

	Mauchly's W	Approx. Chi-Square	Df	Sig.
Year 2012, 2013, & 2014	.960	4.975	2	.083

Table 4: ANOVA Test of Within-Subjects Effects

	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Year Sphericity Assumed	1019269.701	2	509634.85	80.78	.000	.394	161.573	1.000

Table 5: Ninety-Five Percent Confidence Intervals of Pairwise Differences in Mean Changes in Reading Scores

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
2013	2012	63.800*	9.972	.000	39.600	88.000
2014	2012	127.704*	9.183	.000	105.417	149.991
2014	2013	63.904*	10.911	.000	37.425	90.383

Table 6: Descriptive Statistics for Campus Types' 2013-2014 Reading Scores

Campus Type	Mean	Std. Deviation	N
Control	1515.73	111.652	118
SFA	1525.31	132.791	125
Total	1520.66	122.823	243

Table 7: Levene's Test of Equality of Error Variances

F	df1	df2	Sig.
2.750	1	241	.099

Table 8: ANCOVA Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected model	1643254.390[a]	2	821627.195	98.231	.000	.450
Intercept	811401.280	1	811401.280	97.009	.000	.288
Campus type	1166.525	1	1166.525	.139	.709	.001
Score 2013	1637679.893	1	1637679.893	195.796	.000	.449
Error	2007412.261	240	8364.218			
Total	565564372.000	243				
Corrected total	3650666.650	242				

Table 9: Tukey's Honestly Significant Difference (HSD) Test for Ethnic Subgroup Hispanic Math Achievement

Comparisons (I)		(J)		Mean Difference (I - J)	Std. error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Level	1	Level	2	-42.59489	21.88558	.210	-98.9897	13.8000
			3	-56.43751*	21.49494	.044	-111.8257	-1.0493
			4	-56.67711*	21.56211	.044	-112.2384	-1.1158
Level	2	Level	1	42.59489	21.88558	.210	-13.8000	98.9897
			3	-13.84262	21.02737	.913	-68.0260	40.3408
			4	-14.08222	21.09603	.909	-68.4426	40.2781
Level	3	Level	1	56.43751*	21.49494	.044	1.0493	111.8257
			2	13.84262	21.02737	.913	-40.3408	68.0260
			4	-.23960	20.69048	1.000	-53.5549	53.0757
Level	4	Level	1	56.67711*	21.56211	.044	1.1158	112.2384
			2	14.08222	21.09603	.909	-40.2781	68.4426
			3	.23960	20.69048	1.000	-53.0757	53.5549

Note. *p < 0.05

Table 10: Scheffe's Post Hoc Test for Ethnic Subgroup Hispanic Math Achievement

Comparisons (I)		(J)		Mean Difference (I - J)	Std. error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Level	1	Level	2	-42.59489	21.88558	.286	-103.9632	18.7734
			3	-56.43751	21.49494	.077	-116.7104	3.8354
			4	-56.67711	21.56211	.076	-117.1384	3.7842
Level	2	Level	1	42.59489	21.88558	.286	-18.7734	103.9632
			3	-13.84262	21.02737	.933	-72.8045	45.1192
			4	-14.08222	21.09603	.931	-73.2366	45.0722
Level	3	Level	1	56.43751	21.49494	.077	-3.8354	116.7104
			2	13.84262	21.02737	.933	-45.1192	72.8045
			4	-.23960	20.69048	1.000	-58.2568	57.7776
Level	4	Level	1	56.67711	21.56211	.076	-3.7842	117.1384
			2	14.08222	21.09603	.931	-45.0722	73.2366
			3	.23960	20.69048	1.000	-57.7776	58.2568

*Note. *$p < 0.05$*

Table 11: Tukey's Honestly Significant Difference (HSD) Test for Socio Economic Subgroup Economically Disadvantaged Reading Achievement

Comparisons (I)		(J)		Mean Difference (I - J)	Std. error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Level	1	Level	2	-43.18868	19.96163	.135	-94.6353	8.2580
			3	-64.09085*	19.55080	.006	-114.4787	-13.7030
			4	-36.03099	19.74822	.263	-86.9276	14.8656
Level	2	Level	1	43.18868	19.96163	.135	-8.2580	94.6353
			3	-20.90217	19.18192	.696	-70.3393	28.5350
			4	7.15769	19.38309	.983	-42.7979	57.1133
Level	3	Level	1	64.09085*	19.55080	.006	13.7030	114.4787
			2	20.90217	19.18192	.696	-28.5350	70.3393
			4	28.05986	18.95973	.450	-20.8046	76.9244
Level	4	Level	1	36.03099	19.74822	.263	-14.8656	86.9276
			2	-7.15769	19.38309	.983	-57.1133	42.7979
			3	-28.05986	18.95973	.450	-76.9244	20.8046

*Note. *$p < 0.05$*

Table 12: Scheffe's Post Hoc Test for Socioeconomic Subgroup Economically Disadvantaged Reading Achievement

Comparisons (I)		(J)		Mean Difference (I - J)	Std. error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Level	1	Level	2	-43.18868	19.96163	.198	-99.1726	12.7952
			3	-64.09085*	19.55080	.014	-118.9225	-9.2592
			4	-36.03099	19.74822	.345	-91.4164	19.3544
Level	2	Level	1	43.18868	19.96163	.198	-12.7952	99.1726
			3	-20.90217	19.18192	.756	-74.6993	32.8950
			4	7.15769	19.38309	.987	-47.2037	61.5191
Level	3	Level	1	64.09085*	19.55080	.014	9.2592	118.9225
			2	20.90217	19.18192	.756	-32.8950	74.6993
			4	28.05986	18.95973	.534	-25.1142	81.2339
Level	4	Level	1	36.03099	19.74822	.345	-19.3544	91.4164
			2	-7.15769	19.38309	.987	-61.5191	47.2037
			3	-28.05986	18.95973	.534	-81.2339	25.1142

*Note. *$p < 0.05$*

Table 13: Tukey's Honestly Significant Difference (HSD) Test for Socio Economic Subgroup Economically Disadvantaged Math Achievement

Comparisons (I)		(J)		Mean Difference (I - J)	Std. error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Level	1	Level	2	-48.88525	21.67265	.110	-104.7407	6.9702
			3	-53.06885	21.33641	.063	-108.0577	1.9200
			4	-55.15531	21.51837	.052	-110.6131	.3025
Level	2	Level	1	48.88525	21.67265	.110	-6.9702	104.7407
			3	-4.18359	20.94432	.997	-58.1620	49.7948
			4	-6.27005	21.12966	.991	-60.7261	48.1860
Level	3	Level	1	53.06885	21.33641	.063	-1.9200	108.0577
			2	4.18359	20.94432	.997	-49.7948	58.1620
			4	-2.08646	20.78463	1.000	-55.6533	51.4803
Level	4	Level	1	55.15531	21.51837	.052	-.3025	110.6131
			2	6.27005	21.12966	.991	-48.1860	60.7261
			3	2.08646	20.78463	1.000	-51.4803	55.6533

*Note. *$p < 0.05$*

Table 14: Scheffe's Post Hoc Test for Socioeconomic Subgroup Economically Disadvantaged Math Achievement

Comparisons (I)		(J)		Mean Difference (I - J)	Std. error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Level	1	Level	2	-48.88525	21.67265	.167	-109.6667	11.8962
			3	-53.06885	21.33641	.104	-112.9073	6.7696
			4	-55.15531	21.51837	.088	-115.5041	5.1935
Level	2	Level	1	48.88525	21.67265	.167	-11.8962	109.6667
			3	-4.18359	20.94432	.998	-62.9225	54.5553
			4	-6.27005	21.12966	.993	-65.5287	52.9886
Level	3	Level	1	53.06885	21.33641	.104	-6.7696	112.9073
			2	4.18359	20.94432	.998	-54.5553	62.9225
			4	-2.08646	20.78463	1.000	-60.3775	56.2046
Level	4	Level	1	55.15531	21.51837	.088	-5.1935	115.5041
			2	6.27005	21.12966	.993	-52.9886	65.5287
			3	2.08646	20.78463	1.000	-56.2046	60.3775

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