

College-Readiness Rates in Reading and Math: Are They Related?

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### Research Question

The following research question was addressed in this investigation: What is the relationship between Texas high school students' college-readiness rates in reading and in math for the 2007-2008 school year?

### Results

Prior to conducting correlational procedures, the scatterplot (present in the Appendix) was examined and was clearly suggestive of a bivariate linear relationship between the two variables. No departure from a linear relationship was evident, thereby justifying the use of a correlation coefficient. Regarding the underlying distribution of scores for college-readiness rates in reading and in math, the standardized skewness coefficients (i.e., the skewness value divided by the standard error of skewness) and the standardized kurtosis coefficients (i.e., the kurtosis value divided by the standard error of kurtosis) were calculated and yielded values that were well within the range of normality (i.e.,  $\pm 3$ , Onwuegbuzie & Daniel, 2002). Readers are directed to Table 1 for the values of these standardized coefficients. Because all four coefficients were reflective of normally distributed data, a parametric correlation procedure, specifically the Pearson's product-moment correlation coefficient, was calculated.

To determine whether a statistically significant relationship was present between Texas students' college-readiness rates in reading and math, a Pearson  $r$  was calculated. For the 2007-2008 school year, the finding was statistically significant,  $r(1371) = .69, p < .001$ , indicating the presence of a strong statistically significant positive relationship between college-readiness rates in reading and in math. Using Cohen's (1988) values, this  $r$  value was reflective of a large

relationship. Squaring this  $r$  value indicated that college-readiness rates in reading and in math overlapped 47.61%.

References

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.).

Hillsdale, NJ: Lawrence Erlbaum.

Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools*, 9(1), 73-90.

Table 1

*Standardized Skewness Coefficients and Standardized Kurtosis Coefficients for College-Readiness Rates in Reading and in Math for All Texas High School Students*

Variable	Standardized Skewness	Standardized Kurtosis
	Coefficient	Coefficient
Reading Readiness Rates	-1.63	-1.61
Math Readiness Rates	-1.39	0.18

Table 2

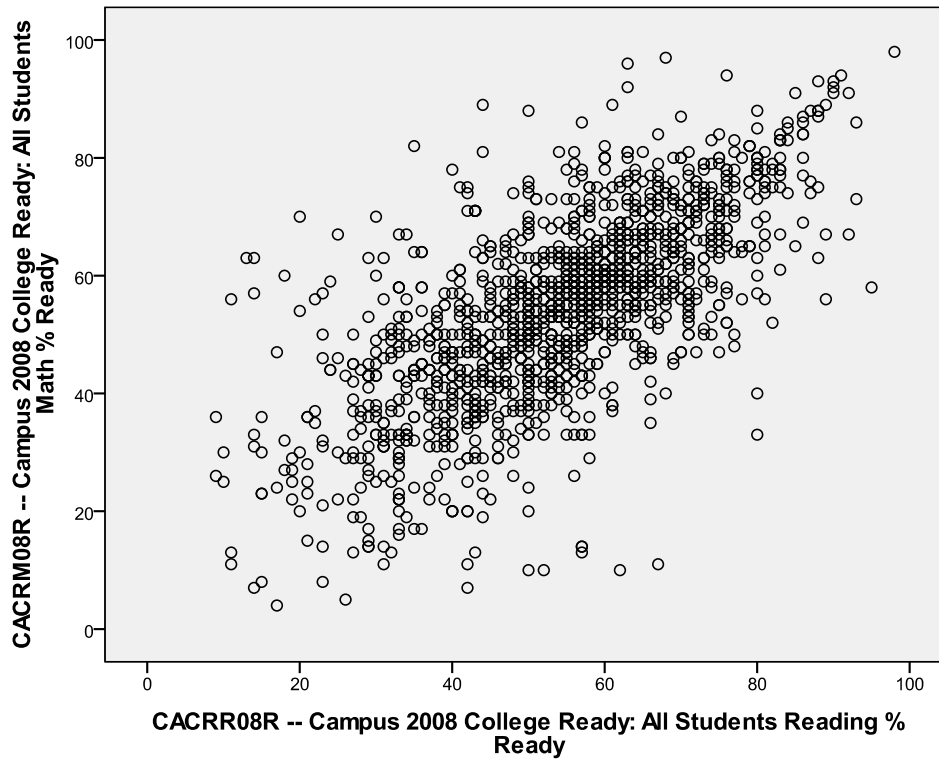
*Descriptive Statistics for College-Readiness Rates in Reading and in Math for All Texas High School Students*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Reading Readiness Rates	1377	53.91	16.09
Math Readiness Rates	1376	54.08	16.26

Appendix A

SPSS Statistical Output

Scatterplot of Reading Readiness Rates with Math Readiness Rates  
Linearity is clearly present



### Statistics

		Campus 2008 College Ready: All Students <b>Reading % Ready</b>	Campus 2008 College Ready: All Students <b>Math % Ready</b>
N	Valid	1377	1376
	Missing	581	582
Mean		53.91	54.08
Std. Deviation		16.086	16.260
Skewness		-.140	-.268
Std. Error of Skewness		.086	.166
Kurtosis		-.184	.024
Std. Error of Kurtosis		.132	.132



**Correlations**

		CACRM08R -- Campus 2008 College Ready: All Students Math % Ready	CACRR08R -- Campus 2008 College Ready: All Students Reading % Ready
CACRM08R -- Campus 2008	Pearson Correlation	1	<b>.686**</b>
College Ready: All Students	Sig. (2-tailed)		<b>.000</b>
Math % Ready	N	1376	<b>1371</b>
CACRR08R -- Campus 2008	Pearson Correlation	.686**	1
College Ready: All Students	Sig. (2-tailed)	.000	
Reading % Ready	N	1371	1377

\*\*. Correlation is significant at the 0.01 level (2-tailed).

The bolded cells are the only unique information of importance.