Correlations

(Additional analyses have been added for the sake of completeness!)

Descriptives

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	Outcome1	Outcome2
N	4	4
Missing	0	0
Mean	2.000	6.000
Standard deviation	2.449	2.449

These statistics were obtained using the "Descriptives" command described on the previous page of this guide. Note that they are calculated separately for each variable.

Correlation Matrix

Correlation Matrix

		Outcome1	Outcome2
Outcome1	Pearson's r	—	0.500
	p-value	—	0.500
Outcome2	Pearson's r		—
	p-value		—

This quadrant represents the relationship between the two variables.

The calculations are dependent on the Covariance ("COV"), which is not determinable from the summary statistics provided, but rather the data. Therefore, the calculations for it are not shown here.

"Pearson's r" is a function of the covariance and the standard deviations of both variables:

$$r = \frac{COV}{(SD_X)(SD_Y)} = \frac{3.000}{(2.45)(2.45)} = 0.500$$

Though the statistic is not shown, *t* provides the standardized statistic for testing whether the correlation differs from zero:

$$t = \frac{r}{\sqrt{(1-r^2)/(N-2)}} = \frac{.500}{\sqrt{(1-.500^2)/(4-2)}} = 0.816$$

The *t* statistic follows a non-normal (studentized or *t*) distribution that depends on degrees of freedom. Here, *df* = *N* – 2 = 4 – 2 = 2. A *t* with 4 *df* that equals .816 has a two-tailed probability (*p*) of .500, which is not a statistically significant finding.

These variables represent the relationship between each variable and itself. Because variables are perfectly correlated with themselves (*r* = 1.0), these quadrants provide no useful information.