Regression

(Note that some aspects of this output have been rearranged for the sake of presentation!)

Descriptives

	N	Mean	SD	SE
Outcome2	4	6.000	2.449	1.225
Outcome1	4	2.000	2.449	1.225

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.

Model Summary - Outcome2

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	2.449
M_1	0.500	0.250	-0.125	2.598

Note. M_1 includes Outcome1

These 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.

"R" is a function of the covariance and the standard deviations of both variables:

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

$$R^2 = 0.500^2 = 0.250$$

Coefficients

Model		Unstandardized	Standard Error	Standardized	t
M_0	(Intercept)	6.000	1.225		4.899
M_1	(Intercept)	5.000	1.785		2.801
	Outcome1	0.500	0.612	0.500	0.816

The "Unstandardized" Regression Coefficients are also a function of the Covariance and the descriptive statistics:

$$B_1 = \frac{COV}{(SD_X)^2} = \frac{3.000}{(2.449)^2} = 0.500$$

$$B_0 = M_Y - (B_1)(M_X) = 6.000 - (0.500)(2.000) = 5.000$$

The "Standardized" Regression Coefficient for the predictor can be similarly determined:

$$\beta_1 = B_1\left(\frac{SD_X}{SD_Y}\right) = 0.500\left(\frac{2.449}{2.449}\right) = 0.500$$