Regression

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

Descriptive Statistics

	Mean	Std. Deviation	N
Outcome 2	6.0000	2.44949	4
Outcome 1	2.0000	2.44949	4

These values of the statistics are identical to the values that would be provided by the "Frequencies" or "Descriptives" commands. See the earlier annotated output for details of how these are computed from frequency distributions. Note that they are calculated separately for each variable.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Outcome 1[b]	.	Enter

a. Dependent Variable: Outcome 2

b. All requested variables entered.

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:

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

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

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.500[a]	.250	-.125	2.59808

a. Predictors: (Constant), Outcome 1

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:

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

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	
1	(Constant)	5.000	1.785		2.8	
	Outcome 1	.500	.612	.500	.816	.500

a. Dependent Variable: Outcome 2