

## REGRESSION

To generate a regression equation, specify the dependent variable (here, ach100) and the predictor (here, consis). The second line requests descriptive statistics, and the third line requests the default statistics on the regression equation.

```
regression
  /desc
  /stats
  /dep ach100
  /enter consis .
```

## Regression

### Descriptive Statistics

|                        | Mean   | Std. Deviation | N   |
|------------------------|--------|----------------|-----|
| Achievement, 100 cases | .37929 | 8.7445E-02     | 106 |
| Consistency (R)        | .88592 | 6.5811E-02     | 106 |

The first part of the output (above) shows you the sample size, mean, and standard deviation of the dependent and predictor variables.

The second part of the output (below) shows you the correlation between the predictor and dependent variables.

### Correlations

|                     |                        | Achievement, 100 cases | Consistency (R) |
|---------------------|------------------------|------------------------|-----------------|
| Pearson Correlation | Achievement, 100 cases | 1.000                  | .518            |
|                     | Consistency (R)        | .518                   | 1.000           |

### Variables Entered/Removed<sup>b</sup>

| Model | Variables Entered            | Variables Removed | Method |
|-------|------------------------------|-------------------|--------|
| 1     | Consistency (R) <sup>a</sup> | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: Achievement, 100 cases

The third part of the output (above) shows you what variable was entered as the predictor (here, consistency).

The fourth part of the output (below) shows you the coefficient of determination (R Squared) for the regression equation, or the percentage of variance in the dependent variable accounted for by the predictor.

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .518 <sup>a</sup> | .269     | .262              | 7.5143E-02                 |

a. Predictors: (Constant), Consistency (R)

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | .216           | 1   | .216        | 38.195 | .000 <sup>a</sup> |
|       | Residual   | .587           | 104 | 5.646E-03   |        |                   |
|       | Total      | .803           | 105 |             |        |                   |

a. Predictors: (Constant), Consistency (R)

b. Dependent Variable: Achievement, 100 cases

*The fifth part of the output (above) gives you a p value for the regression equation (labeled "Sig."). In this case, the equation predicts at far above chance levels, as  $p < .001$ .*

*The sixth and final part of the output (below) shows you the regression equation itself. Using the B (unstandardized) coefficients, you can write the regression equation. In this case, it would be:*

$$\text{Predicted accuracy} = .689 * \text{Consistency} - .231$$

**Coefficients<sup>a</sup>**

| Model |                 | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|-----------------|-----------------------------|------------|---------------------------|--------|------|
|       |                 | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)      | -.231                       | .099       |                           | -2.332 | .022 |
|       | Consistency (R) | .689                        | .111       | .518                      | 6.180  | .000 |

a. Dependent Variable: Achievement, 100 cases