Correlation Coefficient

$$r = \frac{\sum z_X z_Y}{n - 1}$$

Covariance

$$c = r s_X s_Y$$

Effect Size

- Coefficient of determination: r^2 or R^2

Spearman Correlation

$$r_s = 1 - \frac{6 \sum D^2}{n(n^2 - 1)}$$

- where
  - D is the difference between the ranks of each factor
  - n is the number of pairs of ranks

Phi Correlation

TABLE 15.10 A Matrix Displaying the Notation Used for the Phi Correlation Coefficient

		Variable X		
		X_1	X_2	
Variable Y	Y_1	a	b	A
	Y_2	c	d	B
		C	D	

$$r_{\phi} = \frac{ad - bc}{\sqrt{ABCD}}$$