Lab 1 - Correlations, reliability and consistency

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Today

Estimate and interpret

- Correlations between variables
- Test-retest reliability
- Alternate/parallel test-forms
- Internal consistency
  - Cronbach's alpha
  - Single factor model
  - McDonald's omega

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Correlations between variables

$$\rho_{XY} = \frac{\mathrm{Cov}\,(X, Y)}{\sigma_X\,\sigma_Y}$$

- Correlation is a measure of the strength of the linear relationship between two variables.
- The correlation coefficient is a number between -1 and 1, where 0 indicates no linear relationship, and 1 or -1 indicates perfect a linear relationship.
- Correlations are superior to ttemphcovariances for interpreting interrelationship between two variables thanks to the standardisation procedure.