Health Science Statistics using R and R Commander by Robin Beaumont

Chapter 25 Measuring the degree to which two variables co-vary: Correlation

Learning Outcomes

* = more advanced outcomes

Learning outcome	**Tick box**
Be able to provide a definition of the term correlation	q
Be able to give examples of the appropriate and inappropriate use of correlation	q
Be able to explain the link between covariance and correlation	q
Be able to explain the link between correlation and its associated p-value and how this relates to a statistical model (rho)	q
Be able to describe a correlation matrix (numerical and graphical with scatterplots)	q
Be able to interpret a confidence interval for a correlation	q
Be able to discuss the usefulness of r squared and Cohen's d	q
Be able to apply the five common misconceptions regarding correlation to a dataset/article	q
Be able to select the appropriate R Commander menu option/dialog box options to obtain correlation values and associated p-values	q
Be able to interpret a set of results including; df, observed correlation, assumed population value (rho), confidence interval and p-value	q
*Be able to create R code using the *cor.test()* function to obtain a correlation and associated p-value	q
*Be able to create R code using the *pairs.panels()* function in the *psych* package to obtain a correlation scatterplot matrix	q
*Be able to create R code using the *cor.plot()* function in the *psych* package to obtain a correlation plot	q