

Health Science Statistics using R and R Commander by Robin Beaumont

Chapter 24 Comparing several independent categories: Contingency tables

Learning Outcomes

*** = more advanced outcomes**

Learning outcome	Tick box
Be able to describe and give examples of multinomial variables	q
Be able to describe a contingency table and why it is so named	q
Be able to describe the purpose of the chi-squared test for a contingency table and how this relates to a statistical model	q
Be able to give examples of the appropriate use of the chi-squared test for a contingency table	q
Be able to describe how the chi-squared value is constructed and why it is never negative	q
Be able to explain why residual analysis is important	q
Be able to select the appropriate R Commander menu option/dialog box options to run a chi-squared test for a contingency table using raw data	q
Be able to select the appropriate R Commander menu option/dialog box options to run a chi-squared test for a contingency table using counts	q
Be able to interpret a set of results including; observed table, "expected counts table", components of the chi-squared statistic (residuals), chi-squared statistic and p-value (repeat of learning outcome from chapter 23)	q
Be identify when expected counts fall below 5 and appropriately modify the chi-squared test	q
*Be able to create R code using either the <i>chisq.test()</i> or <i>prop.test()</i> functions to carry out the chi-squared test for a two way table using counts and raw data	q
*Be able to create an extended association plot using the <i>assoc()</i> function in the <i>vcd</i> package (developed in later chapters)	q
*Be able to write up a set of results in the appropriate style	q