**Chapter 11**

**ANCOVA**

The Therapies.csv file quantifies the success rates of clinical psychologists within a health authority. The therapy each psychologist uses has been categorized as cognitive-behavioral (CBT), humanistic or psychodynamic. The types of case examined in the study are eating disorders, depression, and personality disorders. Also measured is the average input time. (This study is a fictional one, as usual, based on the Iris data set.)

We are interested in whether or not the average time taken to treat the disorders is influenced by the different types of therapy (assuming, for example, that less time is typically required when CBT is used). Let us assume that researchers consider eating disorders in particular to be a cause of confusion, and would like to have the 'Eating' data taken into consideration as a potential cause of noise.

Check the assumptions before reporting the results but for simplicity, report the results 'as is' even though some assumptions may be violated. No data transformation will be conducted.

State the null and alternative hypotheses:

What do the assumption results show?

What do the ANCOVA results show?

What is the result of a post-hoc test to identify significant differences among therapies?