**Chapter 11**

**ANCOVA**

The Sentence.csv file examines differences between prisoners from three different offending categories: white collar, theft and violence. The length of sentence is one scale. The others are the extents of religiosity, literacy and family conflict. (This study is a fictional one, as usual, based on the Iris data set.)

We are interested here in whether or not length of sentence tends to differ according to the type of conviction. Let us assume that the researchers consider that religiosity is considered to be a cause of confusion, and we would like to have the 'Religiosity' scale 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 conviction categories?