**Chapter 11**

**ANCOVA**

The Injuries.csv file quantifies injuries sustained by young adults in different hospitals. The injuries have been categorized according to the source of the injury: occupational, traffic and street violence. Measures include the injury type – arm/leg, feet/back, head/neck – and the amount of training provided. (This study is a fictional one, based on the Iris data set.)

We are interested in whether or not the average time taken to treat the injuries is influenced by the different sources of injuries (assuming, for example, that less time is required to treat occupational injuries). Let us assume that researchers consider limb injuries in particular to be a cause of confusion, and would like to have the 'ArmLeg' 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 sources of injury?