

Research Methods 2

Week 10: Exercise Sheet 1

Question 1.

Retention index	Response	Retention index	Response
35.7	+	-10.0	-
23.1	+	-44.8	-
92.3	+	-10.7	-
26.7	+	-55.6	-
62.5	+	38.9	-
52.3	+	28.6	-
23.5	+	-85.3	-
116.0	+	-28.6	-
-33.3	+	32.1	-
45.5	+	7.1	-
17.2	+	-11.1	-
12.9	-	-38.2	-
6.7	-		

The data above are the retention indices for technetium given by Takeuchi et al. (*Int. J. Oncology*, 2002, **20**, 53-58). Type the data into two columns in Minitab, one for the retention indices and one to indicate if the patient responded (+) or not (-). Perform an unpaired *t*-test to compare the mean retention index between the patients who did and did not respond.

Question 2

{this question anticipates ideas discussed in the next document}

Column 1	Column 2	Column 3
100	110	90
80	60	80
180	160	160
60	80	110
210	200	280
130	80	60
80	90	200
80	60	60
120	80	80
250	280	80

These data will be explained in the next study document. However for the moment it will suffice to type the three columns of data into Minitab in exactly the way they are shown above. (note: these data will also be needed in the next exercise sheet)

Perform an unpaired *t*-test to compare columns 1 and 2 (you will need to select the **Samples in different columns** button, as the data are now in different columns, as opposed to a single column and a column indicating group membership).

Repeat the test, comparing columns 1 and 3. What do you observe? {note: column 3 is simply a rearrangement of the values in column 2}

End of Exercise Sheet 1