Hypothesis Test for the SRCC

Spearman's Rank Correlation Coefficient calculates the strength of the correlation between the ranks of the two variables assuming that the sample it was calculated form was taken:

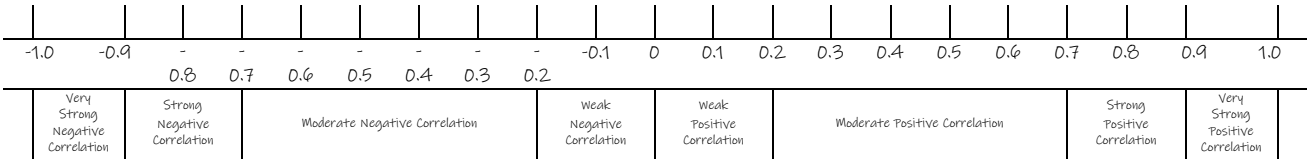
- Randomly
- Independently

If our assumptions are correct, we can infer the results to the rest of the population.

A hypothesis test on our results allows us to determine if our calculated value for the SRCC is statistically viable.

REMEMBER

- The value of the SRCC is a score between -1.0 and +1.0
- A negative value implies a negative correlation between the ranks of the two variables
- A positive value implies a positive correlation between the ranks of the two variables
- The closer the value is to zero, the weaker the correlation is



How to identify a SRCC Hypothesis Test:

✓ you are looking for a correlation between two variables
✓ the data may be non-numerical
✓ the data may already be ranked
✓ you may have been given the SRCC somewhere in the question

How to set out your answer

H_0	There is no association between A and B OR A and B are independent
H_1	There is an association between A and B There is a positive association between A and B There is a negative association between A and B OR A and B are not independent

1 if > or < 2 if ≠	tailed

5% unless otherwise stated	% significance level

Test Statistic	The value of the SRCC

Critical Value	Taken from Table 9 in the formula booklet

Test Statistic	> or <	Critical Value
Hence we	Reject (if the TS lies in the CR)	H_0
Therefore there is		