

CHAPTER OVERVIEW

4: Comparing Associations Between Two Variables

Hello everyone, and welcome to the fourth chapter of the University of Southern Queensland's online, open access textbook on statistics for research students. The aim of this chapter is to discuss associations between variables. As we have seen, there are various formulas that allow us to determine if variables are statistically associated, and such formulas produce a *test statistic*.

Such test statistics are produced by showing how the variables of interest change together across different cases of paired responses. For instance, say we measured reading ability and test performance for 100 students. According to this design, each of the 100 students would produce paired variables for reading ability and test performance. A test statistic will reflect to what extent reading ability and test performance change together for each student, and the test statistic reflects this change across all 100 student cases.

Therefore, if the two variables – reading ability and test performance change together or covary, we would have a significant test statistic, which would reflect the aggregated change across the 100 pairs of responses.

These ideas will be explored in more depth within this chapter.

There are some slides that appear via links within Chapter Four. Please look for these as you review the current chapter.

[4.1: Examining Relationships](#)

[4.2: Correlation Assumptions, Interpretation, and Write Up](#)

[4.3: Chapter Four Self-Test](#)

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