INTRODUCTION TO
Research Methods and Statistics in Psychology

A practical guide for the undergraduate researcher

SECOND EDITION

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A quick guide to . . . Which test should I use?

Selecting the most appropriate test for data analysis in quantitative research can be a daunting prospect for many. Below is a quick guide to choosing statistical tests which we hope will help, along with relevant chapter and section references. Each of the procedures given here can be viewed as a separate quick guide in the Appendix at the end of this book. Guides can also be downloaded and printed off as an additional resource from our Companion Website: **www.pearsoned.co.uk/mcqueen**

Ask yourself this question:
'Who is being measured or tested – different people or the same people being measured more than once?'

1. IF different people (e.g. different groups, samples, conditions)
   AND the outcome (dependent) measure is a category variable (e.g. Y/N response on a questionnaire item)
   THEN **crosstabulation** and **chi-square**. Part 4: Chapter 9; Section 9.12. Part 5: Chapter 11; Section 11.1.

2. IF different people (e.g. different groups, samples, conditions)
   AND the outcome measure is at least interval-scaled (e.g. ratings on a questionnaire item; scores on a test; a performance measure)
   AND there are only two groups or categories being compared
   THEN **independent *t*-test** (or **Mann-Whitney *U*–test** for non-parametric data). Part 5: Chapter 10; Section 10.11 (Section 10.12 for Mann–Whitney *U* test).

3. IF different people (e.g. different groups, samples, conditions)
   AND there are three or more groups or categories being compared,
   AND the outcome measure is at least interval-scaled (e.g. ratings on a questionnaire item; scores on a test; a performance measure)
   THEN **one-way ANOVA** (or **Kruskal–Wallis test** for non-parametric data). Part 5: Chapter 10; Section 10.13 (Section 10.16 for Kruskal–Wallis test).

4. IF different people (e.g. different groups, samples, conditions)
   AND the outcome measure is at least interval-scaled (e.g. ratings on a questionnaire item; scores on a test; a performance measure)
   AND there are two or more causal factors (e.g. Gender *and* Agegroup)
   THEN **two-way ANOVA**. Part 5: Chapter 12; Section 12.1.

5. IF the same people are being measured on more than one occasion
   AND there are only two repetitions
   THEN **paired sample *t*-test** (or **Wilcoxon's sign rank test** for non-parametric data). Part 5: Chapter 10; Section 10.17 (10.18 for the Wilcoxon test).

6. IF the same people are being measured on more than one occasion
   AND there are three or more repetitions
   THEN **one-way repeated measures ANOVA**. Part 5: Chapter 10; Section 10.19.

7. IF both independent and dependent variables are interval-scaled
   AND we wish to assess the nature and magnitude of the association between two continuous variables
   THEN **bivariate correlation**. Part 5: Chapter 11; Section 11.2.

8. IF both independent and dependent variables are interval-scaled
   AND we wish to predict one variable from the other
   THEN **simple regression**. Part 5: Chapter 11; Section 11.13.

9. IF both independent and dependent variables are interval-scaled
   AND we wish to predict one variable from several predictor variables
   THEN **multiple regression**. Part 5: Chapter 12; Section 12.4.

10. IF both independent and dependent variables are interval-scaled
    AND we wish to predict one variable from another, with the effects of other continuous variables controlled for
    THEN **partial correlation**. Part 5: Chapter 12; Section 12.13.

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