

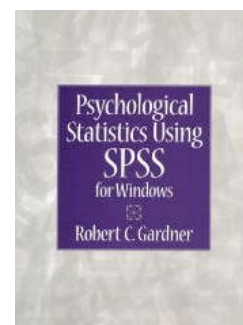
**Book Review:**

**Psychological Statistics  
Using SPSS for Windows**

by Robert C. Gardner (2001)

ISBN: 013028324

New York: McGraw-Hill



This is a fine statistical manual for people attempting psychological research with little or no background in quantitative analyses. Clearly designed for novice quantitative researchers, this informative and humorous text starts with a basic introduction to statistics and ends with a discussion on factor analysis.

This 307 page text consists of eleven chapters - plus appendix references, an author index, and a subject index. Each chapter starts off with a table of topics for quick reference that gives readers a good overview of what each chapter covers. Designed to give psychology students a textbook that demonstrates how to work with SPSS, this text helps them comprehend and interpret the output and go through basic calculation procedures (p. ix). One thing that makes this work so concise, clear-cut and easy-to-follow is that when lengthy explanations are required to elucidate a point, readers are referred to other sources.

Aspiring researchers must not only understand statistics to conduct to quantitative research, but also understand how to manipulate of the statistical software and interpret the analysis. Gardner appreciates these hurdles and provides instructions which are progressive and coherent.

Each topic begins with a summary of the historical background relating to the construction of a particular analysis. This is provided to give an understanding how analytic procedures are interrelated and have evolved over time (p. x). Too many novice researchers think of these as sudden occurrences. The text provides an explanation of an analysis' components demonstrating its' purpose and explaining what the particular examination is intended to reveal.

The *t*-test analysis chapter (pp. 40 - 57), as an example, begins with Gosset's contention of probable error of mean sampling with *Z* scores and his avocation for the *t*-test instead. Illustrating Gosset's analysis by comparing a normal distribution with a *t*-distribution clearly shows the importance of his argument. The reader is then given seven steps to follow to conduct *t*-tests with SPSS. Much of the chapter is concerned

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with the interpretation of  $t$ -test scores, possible complications that could arise and various applications of the analysis.

Figures, tables and formulae are relevant and comprehensive. Each are clearly explained and incorporated into the text. Examples for the different varieties of analyses are provided so readers can work backwards and if stumped employ Gardner's examples to interpret their own calculations. This is quite helpful because SPSS is a powerful statistical software and users are given such a wide choice of analyses to select. The range of options available can be somewhat intimidating or overwhelming.

Gardner writes in a simple straightforward manner, though the information conveyed in the text is sometimes dense. He reveals a profound knowledge of the subject as shown in this paragraph:

Generally, when a significant  $F$ -ratio is obtained, researcher is interested in making comparisons of means. In a two-factor analysis of variance, such comparisons can involve either main effect or interaction means. Comparisons of means make use of one of three basic statistics. Tests such as the Tukey Honest Significant Difference, the Newman-Keuls test, and Duncan's New Multiple Range test make use of a statistic that take the form of  $q$ . Tests such as the Least-Significant Difference, The Dunn Bonferroni  $t$ , and Dunnett's Comparison with a control condition are based on the  $t$ -statistic, while Scheffé's  $S$  statistic makes use of the  $F$ -ratio. (p. 146)

Gardner, like most good teachers, knows how to maintain the reader's interest. His self-effacing British humour ("quills were no longer used in those days " (p. 2)) is delightful. His background information such as  $t$ -test analysis was not generally used until after 1942 or that  $\chi^2$ -square analysis may have been used in the mid-nineteenth century is engaging.

*Psychological Statistics Using SPSS for Windows* does not pretend to be a comprehensive book on statistics. Advanced topics such as Structural Equation Modelling are not discussed. However, this book provides a foundation for novice or intermediate quantitative researchers to build on and begin the more advanced analyses. This is a well-written introductory book, by a scholar who clearly understands his subject and wants to pass on this knowledge. I highly recommend this book.

- Reviewed by Parrill L. Stribling

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