

## REVIEW

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RASINGER, Sebastian M. (2008): *Quantitative Research in Linguistics. An introduction.* (Research Methods in Linguistics), London/New York: Continuum, 230 p.

The quantitative analysis of data has become a necessity in recent years in many areas of modern linguistics. Many students and researchers who lack training in this skill when they start out are often forced to resort to statistics handbooks to attain some understanding of, and learn to employ, statistical methods. Sebastian M. Rasinger's book is a clear, well-illustrated introduction to quantitative methods in linguistic research. It provides students, undergraduates and researchers who are not statistics experts with the basics of questionnaire construction, data description, and analysis for linguistic research. Sebastian Rasinger is a Senior Lecturer in Applied Linguistics at Anglia Ruskin University. His areas of interest include second language acquisition, research methodology and multilingualism (*Bengali-English in East London: A Study in Urban Multilingualism*, 2007).

The book consists of nine chapters grouped into two main parts, preceded by a brief introductory chapter (Ch. 1) in which the author explains his reasons for writing the and what it aims to do: "it provides its readers with hands-on practical advice on quantitative research in general and statistical methods in particular". Every chapter includes graphs, figures and exercises which illustrate and clarify the concepts involved. The closing chapter (Ch. 10, *Appendices and Solutions*) lists useful Excel commands, statistical significance tables and a key to the exercises that occur throughout the rest of the book.

The first part (Ch. 2-4, pp. 9-83) outlines the principles of quantitative research and the design and development of questionnaires. The first chapter in this section (Ch. 2., *Quantitative Research: Some Basic Issues*) discusses the difference between qualitative and quantitative data and between deductive and inductive research

procedures. The chapter also explains the concepts of reliability and validity, and the relationship between laws, theories and hypotheses. The next chapter (Ch. 3, *Research Design and Sampling*) is about research design and sampling. Several sampling methods are described and discussed, focusing on those commonly used in linguistic research. The chapter also touches on the ethical issues involved in the acquisition of data, such as the researcher's responsibility and respect for informants' privacy. The final chapter of the first part of the book (Ch. 4, *Questionnaire Design and Coding*) concentrates on the design and coding of questionnaires: the uses of open and closed questions, formulation of choices, arrangement and ordering of questions, and the codification of answers.

The chapters in the second part (Ch. 5-10, pp. 87-230) directly address the subject announced in the title of the book. Explanations of applied statistic functions are in each case followed by illustrative examples and exercises that are simple for readers to apply. Ch. 5 (*A First Glimpse at Data*) is an introduction to basic, easy-to-understand statistical procedures: sums, absolute frequency, relative frequency, ratio, classes and cumulative frequencies. The chapter also discusses suggestions about how to use tables, graphs and charts to visualize results effectively. Ch. 6 (*Data Properly - Central Location and Dispersion*) presents essential tools of statistical analysis which help to describe and understand trends and patterns in the behaviour of data: median, mode, measures of dispersion variance (standard deviation and z-scores) and normal distribution.

Subsequent chapters explain the basis for more complex kinds of statistical analysis that are mostly useful for studying relations between variables. Ch. 7 (*Analysing Data - A Few Steps Further*) begins with a very brief outline of probability theory. This is followed by a discussion of how relations between variables are measured (chi-square tests, Pearson correlation, partial correlation, causality, significance, simple and multiple regression and correlation and reliability). Statistical tests are the subject of the next two chapters. Ch. 8 (*Testing Hypotheses*) explains several types of tests used in hypothesis testing, taking chi-squared tests as an example. The next chapter (Ch. 9, *Analysing Dodgy Data: When Things Are Not Quite Normal*) looks at tests that are used to analyse data that present an abnormal distribution: the Spearman correlation test, Kendall's tau (p. 200), the Wilcoxon signed-rank test (pp.

200-3) and the Mann-Whitney U test. For each kind of test discussed, illustrative examples and exercises are provided.

There are not many faults to be found with Rasinger's manual, but a few changes would render it even more useful and attractive. One concerns the data used to exemplify explanations. Rasinger's source for these data is provided by works on language teaching, an area in which the author specialises, and variational sociolinguistics (Labov, Wolfram, Trudgill and Newport). Readers would doubtless appreciate the inclusion of examples from other disciplines to which quantitative linguistics can be applied effectively such as dialectology, corpus linguistics, onomastics, stylistics, etc. Secondly, one wonders why for statistical analysis the author resorts to a commercial programme (Excel) which is certainly widely used but has its limitations, as indeed is acknowledged in the book itself, including a rather awkward formulation syntax and the fact that the programme has to be bought. There was an easy option, R, a widely known open source programme that is fully adequate and does a much better job than Excel at analysing linguistic data (nominal data doesn't need to be recoded into numbers). Nonetheless, it is to this very useful book's credit that it is faithful to its title and the author's stated purpose in the introduction. Of all the beginner's manuals on quantitative methods for linguists, this is doubtless one of the most highly recommendable and effective.