

Metsämuuronen, J. (2017). *Essentials of Research Methods in Human Sciences. Vol. 1: Essential Basics*. SAGE Publications, Inc.

Volume 1 is divided into six sections of elementary basics of research methods. The first Section, *Basics of Methodology in Human Sciences*, describes the research process as a whole: how to select the topic, plan the study, acquire the literature and critically review it, create and edit the research question, assess the validity and reliability of the measurement instrument, select the analysis method and discuss the results. Additionally, there are advanced materials for systematic literature review. This Section is a very easy introduction to the world of research.

The second Section, *Basics of Test Theory and Test Construction*, substantially deepens the themes of evaluating the validity and reliability of the measurement instrument and the study as a whole. This section covers parts of the item writing, classical test theory (validity and reliability, as well as the theory of true scores), the modern test theory (IRT modeling), and it gives the hints of item banking and the processes of preparing large test batteries. This section may be demanding for a novice reader. The challenge is that the test theory is difficult to open without some mathematical part – and this usually requires some formulae.

The third Section, *Basics of Qualitative Research*, keeps following where the first section ended: what to do with the data, which is either already collected or just planned to collect with qualitative methods. Though the Section is not too broad from the number of page viewpoint, several strategies for qualitative inquiries are introduced and compared, basic concepts are explained and several methods for analyzing the qualitative data are shown. This Section is again very simple for the novice reader.

The fourth Section, *Basics of Futures Studies*, is linked quite tightly with the section of qualitative research: many of the methods in the futures studies are based on the qualitative approach. Of course, mathematical methods are introduced – thus the location between the qualitative and quantitative approaches in the Volume. The reader is led to the thinking in the futures studies, that is, into the “non-sure” world, where the research object, that is, futures, paradoxically does *not* exist. However, most developed countries and front companies are using these methods to keep their place in the leading position of the business. Compared with the other Sections, this Section includes much of the readings from the Finnish writers – the Finns are very active in Futures thinking.

The fifth Section, *Basics of Statistical Description*, leads the reader smoothly into the simple basics of statistics, such as frequencies, percentages, averages, deviations, as well as somewhat more advanced methods, such as the cross-tabulation, correlations and comparison of two means. Some formulae are introduced, but basic school mathematics is enough to handle the calculations;

there is no need for high-level mathematical acrobatics. Some techniques – like statistical testing – are taken as advanced material and as introductory manner; the statistical testing will be mainly handled in Section VI. Some exotic correlations are also introduced as advanced material.

The sixth Section, *Basics of Statistical Inference*, focuses on the basic concepts of generalizing the results from the sample to the population. These concepts include such as population, probability, testing hypothesis, test statistics, confidence interval, effect size and meta-analysis. The reader is familiarized with the different distributions that are used in statistical inference – such as Normal-, Standardized Normal-, t-, χ^2 -, and F-distribution – and how to use them in the statistical inference. The p-value and significance will become familiar and the rationale behind the decision of rejecting the null hypothesis. Though there are some formulae and mathematics on the Section, the text is attempted to keep as simple as possible. Asymmetric confidence intervals and Confidence intervals of the effect sizes are introduced as advanced material.