

Handbook of research methods in industrial and organizational psychology. Edited by Steven G Rogelberg. Malden (MA): Blackwell Publishers Ltd, 2002:520 p. Price USD 129.95. ISBN 0-631-22259-6 (hardback).

The value of any scientific study largely depends on the appropriateness and quality of the methods used. In this light, Blackwell's intention of publishing a series looking at the practical and theoretical interpretations and implications of research methods for subdisciplines in psychology is to be applauded. According to Blackwell Publishers, the series aims to provide psychology researchers with a "definitive research-based reference work for each of their own specific subject area". The current handbook is the first in this series. Although it is primarily geared towards industrial and organizational psychologists, many of the topics addressed will be found relevant by researchers in related disciplines (eg, health psychology, occupational medicine) as well.

The 23 chapters of this handbook cover key topics in industrial and organizational psychology, and they are written by leading researchers. (It is suggestive to see that there is not even one European among the 44 contributors — was it just a matter of convenience to invite only authors from the United States, or is the absence of European researchers an adequate reflection of the European contribution to the development of industrial and organizational methodology?) The book consists of five parts. The first deals with the foundations and underlying methodological philosophy of research in industrial and organizational psychology, including chapters on the history of research methods in industrial and organizational psychology, ethical issues, validity and reliability, qualitative approaches, and power analysis. The value of Aguinis & Henle's chapter on ethics in research in the field of industrial and organizational psychology is somewhat limited because it almost exclusively draws on the ethics code of the American Psychological Association (APA); one might feel that this chapter is largely of local interest. That conclusion is a bit too hasty, however, since the ethics codes of psychological associations elsewhere often resemble that of the APA.

In my opinion the most valuable chapter in part 1 is Stone-Romero's chapter on the relative validity and usefulness of various empirical research designs. The basic question addressed in this chapter is which design best suits for answering a particular research question. Stone-Romero shows quite convincingly that the bias against laboratory research among many industrial and organizational psychologists is unwarranted. This is not

to say that the other chapters are uninteresting or boring. For example, it is surprising to see (in Austin et al's chapter on the history of research methods) that the use of the old-fashioned regression analysis has been, and still is, increasing across time, at the cost of correlational analyses and — gasp! — high-tech structural equation modeling.

Part 2 addresses data collection procedures and approaches. Seven chapters deal with such issues as survey research, collecting qualitative data, meta-analysis, computational modeling, cross-cultural research and collection, and the analysis of multilevel data. Especially the issue of data collection via the internet seems to have tickled the editor's fancy; Rogelberg devotes no less than two chapters to collecting data using the worldwide web. Although these chapters may direct one's attention to the, as yet, unsuspected possibilities of the internet, I fear that these two chapters will be outdated relatively soon because using the internet (or its follow-up) will become a standard data collection strategy within the next 3 years or so. The other chapters in this section are rather basic — but reliable and accessible — introductions to various important approaches to data collection.

The third part of the book deals with the analysis of quantitative data. Issues that are addressed include handling outliers and "influential cases", coping with missing data, classical and modern (item-response) test theory, dealing with method variance and method bias, measurement models in confirmatory factor analysis, the general linear model and its applications (including regression analysis and analysis of variance), longitudinal modeling (including latent growth models), the analysis of "neural networks", and catastrophe analysis. Most of these chapters provide good, reliable, and accessible introductions to well-used and important techniques for analyzing quantitative data. The exception to this general rule is the chapter on catastrophe analysis. Even after reading this chapter several times, I could not discover how this type of analysis could possibly illuminate our understanding of psychological phenomena. A well-chosen psychological example (not misty phrases about computer programmers who have developed "a program that taught itself to play checkers by using neural networks") would have been very useful here.

A considerably more interesting chapter in this part is Conway's careful and considerate discussion of method variance and method bias in industrial and organizational psychology. According to Conway, in many circumstances, 30–40% of the common variance of

concepts may be due to method variance. This claim seems to support the standard recommendation in industrial and organizational (and health) psychology that researchers should collect data drawing on multiple (and preferably independent) sources, in order to prevent inflated correlations. However, Conway argues quite convincingly that this strategy may lead to an underestimation of the correlation between concepts measured using different instruments, because each method comes with its own (unshared) method variance. Thus probably the best strategy is to measure concepts using multiple strategies. This approach would provide insight into the degree to which common method variance constitutes a problem, and it shows what the upper and lower boundary for the associations between particular sets of concepts could be.

The fourth and final part of this book consists of two chapters. The first of these presents an update on Michael Campion's *Article Review Checklist*, which was previously published in *Personnel Psychology*. This list is a detailed, 11-page inventory of issues that reviewers should consider when reviewing a manuscript. Of course, the authors of manuscripts should also consider this checklist carefully, as it presents valuable information regarding the criteria their manuscript should meet in order to stand a reasonable chance of acceptance. The criteria listed in this checklist are general enough to be of interest outside industrial and organizational psychology. The concluding chapter presents eight "challenges" for industrial and organizational psychology. It can be summarized as "use the best methods available, but do not let sophisticated statistical methods be the sole

reason to conduct a particular study — theory should come first" — which sounds reasonable.

As stated earlier, this handbook is intended as a "definitive research-based reference work". Does it live up to the expectations raised by such rather pompous language? Granted, this book covers many, many issues in industrial and organizational psychology and beyond. Naturally, it does not cover all techniques and issues that would have deserved attention (eg, the analysis of survival data is not discussed at all; the same applies to the analysis of categorical data). However, given the space limitations that are always present, the choice of topics that are addressed seems reasonably balanced — many of the most important techniques and issues are discussed thoroughly and in a readable fashion. Especially the latter is a boon; it is not exactly easy to discuss methodological issues in an understandable way. All in all, the publisher's claim seems only slightly overstated; this handbook may not be the definitive reference work (no work ever is), but it will certainly find its way into our university libraries, and I am confident that even seasoned researchers in industrial and organizational psychology who think they have seen it all will be inspired by it.

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