British Journal of Mathematical and Statistical Psychology (2006), 59, 471–474

The British Psychological Society

www.bpsjournals.co.uk

Book reviews

A handbook of research methods for clinical and health psychology

By Jeremy Miles and Paul Gilbert
Oxford University Press UK. 2005. £29.95, ISBN 0-19-852756-X

This book is very useful. All chapters are brief enough to keep the attention of the person who is not a natural researcher, or is put off by the more stolid volumes. Often, gaining access to clinical samples and obtaining ethical permission comprises the *really* difficult part of a research study, and by contrast, the analysis is fairly enjoyable and, if planned properly, even straightforward. This book has four chapters on this vital 'setting-up' phase and states all those things most books of this kind seem to omit in their rush to get to the sums. It is good to see such emphasis placed on matters of ethics, sampling and getting the questions you want to answer with the study clear before you start collecting data. Stephen Hawking was told by his publishers that for every formula he put into his book, *A Brief History of Time*, he would halve his sales. The current volume is not without formulae, but they are mostly easy, and you can see what they mean and their relevance. Most chapters contain solid examples of research problems in the clinical or the health area with model solutions, including worked statistics. I liked the back-of-envelope explanations of statistical methods used in medicine, for example, proportional hazard models, logistic regression for categorical information and even the dreaded 'qualitative methods' sections, which eschew the science-knocking that often blights such approaches. This book will be a useful asset to clinical psychology and medical libraries throughout the land, and deservedly so – it is nice to have a book on research methods that neither talks down to you nor goes over the heads of 90% of the anticipated market.

VINCENT EGAN (Department of Psychology, Glasgow Caledonian University, Cowcaddens Road, Glasgow, Scotland G4 0BA (e-mail: V.Egan@gcal.ac.uk))

Recent developments on structural equation models: Theory and applications

Edited by Kees van Montfort, Johan Oud and Albert Satorra
Klumer Academic Publishers. 2004. £76.00 (hbk), ISBN 1402019572

The chapters in this book are from the Proceedings of the 23rd Biennial Conference of the Society for Multivariate Analysis in the Behavioural Sciences (SMABS 2004). This conference is now held under the auspices of the European Association of Methodology (EAM). The presentations from the most recent SMABS 2004 are now available from the web site of the EAM. In keeping with many of these conference presentations, this book centres on the ever-diversifying area that is often referred to as structural equation modelling (SEM). There was a time when SEM meant the combination of confirmatory factor analysis and its related measurement models with regression analysis. This is evidently no longer the case. The generic term of SEM has now been appended, in

DOI:10.1348/000711006X147931

some circles, to a highly diverse range of statistical techniques, including multi-level modelling, latent growth models and mixture modelling.

A considerable amount of this book is given over to models that deal with the analysis of change. In part, this reflects the enormous developments that have been seen in this area. The book, as its subtitle suggests, is divided into two parts: theory and applications. A perceived advantage of the SEM approach, for many, is that seemingly very diverse statistical models can be integrated within one system. From reading this book, it is not altogether clear how a number of these models could be analysed within the current SEM software. A number of chapters clearly indicate how this might be done; with others, this information is available if one looks at other publications by the same individuals. However, with the web sites of the software developers, discussion groups and sites maintained by individuals and organizations, much of the work presented in this book is accessible to researchers. This process could have been made somewhat easier by some of the contributors.

The book contains chapters on statistical power with small samples, the analysis of panel data, the modelling of preferences using the Thurstonian model, reliability, longitudinal analysis using a component analysis approach, least squares optimal scaling of partially observed linear systems, multi-level modelling and latent differential equation modelling with multivariate multi-occasion indicators. Then, a number of applied topics are presented relating to causal modelling, bipolarity of mood-states and development of a short form of the Eysenck Personality Profiler, followed by four chapters on different aspects of the analysis of change.

Much of psychology is about change. Indeed, the process of experimentation often centres on change. The repeated-measures ANOVA model has served this purpose well, at least within the controlled confines of laboratory research. Its applicability to randomized trials and development process is more questionable. Awareness of these limitations has led to much of the work reported in this book. For those interested in the analysis of change, there is much in this book that is likely to be new and of interest. However, the title may be seen by many as rather over-ambitious, given the restrictive range of material present. Nevertheless, it is a book which I am glad came across my desk.

BRENDAN BUNTING (University of Ulster, Magee campus, Londonderry BT48 7JL (e-mail: bp.bunting@ulster.ac.uk))

Regression analysis for categorical moderators

By Herman Aguinis

Guilford Press. 2004. £24.50 (hbk), ISBN 1-57230-969-5

This book presents a comprehensive and readily accessible treatment of multiple regression with categorical moderators (MMR-C). Although most of its contents can be gleaned from the ever-expanding ranks of multiple-regression books, the author does provide a useful service in integrating scattered facts and simplifying unnecessarily convoluted presentations. The chapters on homogeneity of error variance, power and evaluation of significance are particularly informative and constitute the high points of the volume. A possible weakness, but one that many newcomers to MMR-C may welcome, is the book's highly practical focus. I found this tedious at times, especially in the coverage of elementary issues, such as setting up SPSS files for MMR-C analysis.

Chapters 1–3 offer a basic introduction to MMR-C, presenting information which anyone contemplating purchasing such a book should already be familiar with. Considerable space could have been saved and allocated to more complex topics by condensing these three chapters into one.

Chapter 4 presents an outstanding discussion of the (familiar from ANOVA) assumption of homogeneity of variance. The author describes meticulously the assumption itself as well as its impact on Type I and II error rates. Rules of thumb, derived from Monte Carlo simulations, provide helpful guidance, although one must always be wary of mechanically applying such rules. Detecting and remedying violations of the homogeneity assumption are the central topics of this

DOI:10.1348/000711006X147940