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| Descrizione fisica | 1 online resource (xiv, 269 pages) : digital, PDF file(s) |
| Collana | European Association of Methodology series |
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| Soggetti | Research - Methodology Data sets |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Introduction (Van de Schoot and Miocevic) List of Symbols Part I: Bayesian solutions 1. Introduction to Bayesian statistics (Miocevic, Levy, and van de Schoot) 2. The role of exchangeability in sequential updating of findings from small studies and the challenges of identifying exchangeable data sets (Miocevic, Levy, and Savord) 3. A tutorial on using the WAMBS checklist to avoid the misuse of Bayesian statistics (van de Schoot, Veen, Smeets, Winter, and Depaoli) 4. The importance of collaboration in Bayesian analyses with small samples (Veen and Egberts) 5. A tutorial on Bayesian penalized regression with shrinkage priors for small sample sizes (van Erp) Part II: n=1 6. One by one: the design and analysis of replicated randomized single-case experiments (Onghena) 7. Single-case experimental designs in clinical intervention research (Maric and van der Werff) 8. How to improve the estimation of a specific examinee's (n=1) math ability when test data are limited (Lek and Arts) 9. Combining evidence over multiple individual analyses (Klaassen) 10. Going multivariate in clinical trial studies: a Bayesian framework for multiple binary outcomes (Kavelaars) Part III: Complex hypotheses and models 11. An introduction to restriktor: evaluating |

informative hypotheses for linear models (VanbrabantandRosseel) 12. Testing replication with small samples: applications to ANOVA (Zondervan-Zwijnenburgand Rijshouwer) 13. Small sample meta-analyses: exploring heterogeneity using MetaForest (van Lissa) 14. Item parcels as indicators: why, when, and how to use them in small sample research(Rioux, Sticklely, Odejimi,and Little) 15. Small samples in multilevel modeling(Hoxand McNeish) 16. Small sample solutions for structural equation modeling(Rosseel) 17. SEM with small samples: two-step modeling and factor score regression versus Bayesian estimation with informative priors (Smidand Rosseel) 18. Important yet unheeded: some small sample issues that are often overlooked(Hox) Index

Sommario/riassunto

Researchers often have difficulties collecting enough data to test their hypotheses, either because target groups are small or hard to access, or because data collection entails prohibitive costs. Such obstacles may result in data sets that are too small for the complexity of the statistical model needed to answer the research question. This uniquebook provides guidelines and tools for implementing solutions to issues that arise in small sample research. Each chapterillustrates statistical methods that allow researchers to apply the optimal statistical model for their research question when the sample is too small. Thisessential book will enable social and behavioral science researchers to test their hypotheses even when the statistical model required for answering their research question is too complex for the sample sizes they can collect. The statistical models in the book range from the estimation of a population mean to models with latent variables and nested observations, and solutions include both classical and Bayesian methods. All proposed solutions are described in steps researchers can implement with their own data and are accompanied with annotated syntax in R. The methods described in this book will be useful for researchers across the social and behavioral sciences, ranging from medical sciences and epidemiology to psychology, marketing, and economics.
