

## Book Review

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**Cristina Davino and Luigi Fabbri.** *Survey Data Collection and Integration*. 2013 Berlin: Springer-Verlag, ISBN 978-3-642-21307-6, 155 pp, \$109.

As editors of the book *Survey Data Collection and Integration*, Davino and Fabbri provide a collection of papers presenting practical solutions to real problems in statistical surveys. The papers included in the book discuss survey challenges such as questionnaire design, record linkage, imputation, and calibration weighting. The papers contained in this text proceeded from discussions arising during the “Thinking about Methodology and Applications of Surveys Workshop” at the University of Macerata (Italy) in September of 2010. With only 155 pages, the book reads like a special conference issue of *JOS*. All of the papers provide a review of the related literature, highlight a statistical survey challenge, and describe a case-study solution that can be applied by practitioners and studied by academics.

In Part One of the book, Biggeri provides an introduction to statistical surveys and discusses two different frameworks used to assess the quality of statistical surveys: 1) the total quality management approach (Groves 1989; Groves and Tortora 1991); and 2) the life cycles of surveys from a quality perspective (Groves et al. 2009). Biggeri highlights critical issues, challenges, and the need for development in statistical surveys; specifically focusing on mode of data collection, questionnaire construct, sample design, estimation, respondent burden, data discrimination, and standardization. Biggeri stresses the importance of uniting the efforts of both practitioners and academics in order to not find only the optimal, but also the most practical solutions to the challenges faced by statistical surveys. The remainder of the book is authored by both university and government researchers, thus providing both the academic and practitioner perspective on survey and measurement challenges – integrating both theory and real-world solutions.

Part Two of the book highlights tools used by psychometricians to evaluate questionnaire design. Fabbri discusses how to rank items, pick the best/worst items, and compare items based on the survey procedures, the type of scale being used, respondent burden, missing data, and data collection mode. Davino and Romano provide an innovative approach for assessing multi-item subjective measurement scales. As opposed to taking a more advanced psychometric approach to assess differences among items such as structural-equation modeling or item-response theory, the authors aim to assess different subjective-scale measurement items using mixed-model ANOVA (McCulloch and Searle 2001) and multivariate methods (Mardia et al. 1979), which allow for the

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comparison of different multi-item scales while considering the information provided by each single item within a scale. While this is possible using item response theory, these methods are more familiar and easily understood by survey practitioners with little to no background in psychometric theory. Balbi and Triunfo describe statistical tools used to jointly analyze closed and open-ended questions. Lastly, Napoli and Arcidianocono explore the use of self-anchoring scales in social research in terms of measuring attitudes and opinions and constructing a self-anchoring scale; ultimately this paper provides a case study highlighting the utility and applicability of self-anchoring questions in survey research that allows the participants' opinions of their abilities to prevail over that of the researchers'. This part of the book provides a light overview of psychometric theory and demonstrates how its concepts can be used to evaluate and compare statistical survey items.

Part Three and Four of the book focus on data integration and weighting to adjust for missing data and nonresponse. Part Three discusses sampling design and error estimation in relation to small-area estimation of poverty indicators (Pratesi, Giusti, and Marchetti), nonsampling errors in household surveys (D'Alessio and Ilardi), and the process of enriching large scale surveys through data fusion (Aluja-Banet, Daunis-i-Estadella, and Chen). In Part Four, Bellisai, Fivizzani, and Sorrentino explore different methods used to integrate data across multiple business surveys in order to eliminate missing data and the use of calibration weighting to adjust for nonresponse bias after imputation is complete.

This book provides an interesting set of case studies that have integrated the work of both academics and practitioners to address the prevalent statistical survey challenges faced by survey methodologists. This book is a recommended read for practitioners interested in making use of the item assessment tools developed by psychometricians and those interested in using record linkage across multiple surveys to reduce item missingness. Just like a special issue of JOS, this book's strength lies in the integration of theory and case studies highlighting real-world specific problems currently faced by survey practitioners. Since each paper is so specifically focused, it would be recommended as a text for advanced students and/or current survey practitioners.

## References

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