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Hancock, Gregory R. & Mueller, Ralph O. (Eds.) (2010) *The Reviewer's Guide to Quantitative Methods in the Social Sciences*. NY: Routledge.

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Academics are constantly involved in reviewing colleagues' work. As reviewers of research manuscripts, we are asked to critically evaluate research manuscripts from our field of study and to recommend whether a journal should accept each manuscript for publication, recommend that the author(s) revise and resubmit the manuscript, or reject the manuscript. The quality of the feedback we are able to provide as reviewers depends on both our knowledge of the field and our familiarity with the specific research methods employed. In addition, as researchers we are subject to having our own work reviewed and are always grateful when reviewers provide feedback that helps us improve a manuscript. Therefore,

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Review of *The Reviewer's Guide to Quantitative Methods in the Social Sciences* by Hancock, Gregory R. & Mueller, Ralph O. (Eds.). *Education Review*, 14. Retrieved [Date] from <http://www.edrev.info/reviews/rev1075.pdf>

we were eager to review *The Reviewer's Guide to Quantitative Methods in the Social Sciences*.

Before presenting our review we will provide a general description of the structure of the book.

In 31 chapters, arranged alphabetically from “Analysis of Variance: Between-Groups Designs” (Klockars, 2010) through “Research Design” (Dannels, 2010) to “Survival Analysis” (Allison, 2010), Hancock and Mueller’s (2010) edited book promises to help reviewers, who they assert “[i]n all fairness ... should not be expected to have a command of all data analysis methods used in modern research,” to “make an honest attempt to evaluate the analytical methods that are at the core of a manuscript’s intellectual contribution” (p. xiii). As researchers with broad training in quantitative methods, but who have even so sometimes had the uneasy feeling that the analyses in a manuscript are not quite right without being able to identify exactly why or how, we welcomed a book that might make it easier and more rewarding for us to review manuscripts that use methods with which we are less familiar. We also hoped that the book might help others review quantitative analyses with more confidence, so we would less often be asked to be the “quantitative experts” on a review team.

Each of the 31 chapters of the book is written by an academic or applied researcher in sociology, psychology, education, or public health, many located in academic programs focused on research methods in their discipline. Each chapter follows the same structure: A very brief (one- or two-page, but including identification of key relevant texts) overview of the method, followed by a list of 4 to 24 “desiderata” – that is, desired elements – for a reviewer to look for while reviewing a manuscript, and finally, discussion of each desideratum in turn. The chapters vary in scope, with some, such as chapters on “Factor Analysis: Exploratory and Confirmatory” (Bandalos & Finney, 2010) and “Multivariate Analysis of Variance” (Oeljnijk, 2010), focusing on specific quantitative analysis methods, and others, such as chapters on “Reliability and Validity of Instruments” (Knapp & Mueller, 2010) and “Survey Sampling, Administration, and Analysis” (Stapleton, 2010), discussing issues that

may be important for the review of studies that also use a wide range of other analysis approaches.

How better to review a book intended to help manuscript reviewers than to try applying it to some manuscripts? We reviewed three manuscripts that used quantitative research methods. The first manuscript was from an education journal based in the United States; that manuscript used multilevel modeling. The other two manuscripts were from a major Canadian journal in the field of education and used logistic regression and analysis of covariance (ANCOVA), respectively. Each of us chose one of these manuscripts to review, using the desiderata for the relevant method as our guide.

In general, we found that the desiderata made the process of the review more focused and organized. The lists of desiderata helped us easily identify areas where the author(s) had provided insufficient information or had not provided rationales to support their analytic decisions. In addition, we believe we were able to offer more comprehensive and systematic (and, we hope, useful) suggestions to the authors, and we felt more confident that we had not overlooked anything in reviewing the quantitative analyses. The explanations of the desiderata provided useful reminders, such as additional assumptions required for each statistical approach, so that we did not have to consult a statistics textbook for this information.

The desiderata reinforced what we, as quantitative researchers, pay attention to when reviewing manuscripts and reminded us of details we might have overlooked. However, we found the format of the lists of desiderata to be initially quite daunting, in part because they mix together desiderata that apply to all studies using a particular statistical approach and those that apply only in special cases. The desiderata are ordered by manuscript section (Introduction, Methods, Results, etc.). This ordering makes sense if a reviewer is checking off desiderata as she or he reads; however, we found ourselves first reading the manuscripts and then searching back through the manuscripts to see if each desiderata was adequately met. We urge the editors to consider using flowcharts in the next edition of the book to better clarify the relationships among the desiderata, or at least to make

a clearer distinction between the general and specific desiderata.

To our surprise, there was no chapter devoted to ANCOVA. The book also does not have an index (an omission that we urge the editors to address in the next edition), so we were unable to easily see if ANCOVA might be covered in another chapter. Klockars' chapter on "Analysis of Variance: Between-Groups Designs" seemed a promising place to look for a discussion of ANCOVA, as it is an extension of ANOVA. Indeed, that chapter does include a discussion of covariates, so can be applied to studies using ANCOVA, as well as those using ANOVA. However, ANCOVA is a widely used statistical approach that is worth discussing in a stand-alone chapter.

Finally, we wonder how helpful this book will be for reviewers who are less familiar with these quantitative methods. Some of the chapters used jargon that is likely to be understood only by reviewers who are already very familiar with the method. These chapters may be effective as reminders for reviewers who have used the method in the past, but are unlikely to be helpful to those who have never used the method.

Of course, to merit publication, manuscripts must do much more than describe the correct use of quantitative research methods. However, such use is essential to the quality of a manuscript. We found this book useful for conducting reviews – and believe other reviewers with experience as quantitative researchers will as well. We are less confident of its usefulness for reviewers who are unfamiliar with quantitative methods. This book might also be helpful for researchers preparing their manuscripts for publication, as it contains reminders of the important information that has to be communicated in manuscripts.

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About the Reviewers

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