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Review of Systematic Review Methods: The Science of Research Synthesis

Julia H. Littell

Bryn Mawr College, jlittell@brynmawr.edu

Brandy R. Maynard



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Review of Mark Petticrew and Helen Roberts, *Systematic Reviews in the Social Sciences*
(Blackwell, 2006)

By Julia H. Littell, Bryn Mawr College

Social science can aid in developing solutions to social problems by providing evidence on unmet needs and the processes, implementation issues, and impacts of social programmes. But as the volume and complexity of social research increase, decision makers are often confronted with conflicting evidence. Questions remain about qualities of social research that affect its credibility and its relevance for decision-making. It is widely acknowledged that a synthesis of results of multiple studies usually provides better information for policy and practice than results of a single study. Hence, a new cottage industry has emerged to review social research and distill this information for use in decision making.

Systematic approaches to reviewing research came of age in the last twenty years, although their roots are much older. Now well accepted in the fields of health care, systematic reviews are beginning to influence policy and practice in the fields of social care. Yet there are important gaps between the emerging science of research synthesis and the common practice of reviewing social science research. For example, traditional narrative reviews proliferate, despite their well-known limitations; many published meta-analyses are not based on systematic attempts to identify, retrieve, and critically assess potentially-relevant studies; and many so-called systematic reviews are only partially systematic.

The seminal texts on systematic review methods are geared toward topics in health care or are generic (intended to apply to reviews on any topic). Although the logic, methods, and

principles of systematic reviews transcend disciplines and fields of practice, it is important for social scientists and decision makers to see how these ideas and methods can be used to their best advantage in the fields of social care.

In *Systematic Reviews in the Social Sciences*, Mark Petticrew and Helen Roberts provide an accessible, entertaining, and informative look at applications of the science of research synthesis in the fields of social care. The book fills an important niche. It serves as an excellent introduction to systematic reviews and a practical guide for those who want to conduct and use them in the social sciences.

Beginning with a cogent discussion of the need for systematic reviews, the authors spell out the limitations of traditional narrative reviews, which they properly term “haphazard reviews.” They provide a history of systematic reviews in the social sciences which, while admittedly unsystematic, is rich in detail not found elsewhere. Then they carefully explicate the steps in the review process, considering the issues of problem formulation, decisions about the nature and scope of a review, strategies for locating potentially-relevant studies, approaches to assessing qualities of evidence, methods for synthesizing results across studies, exploration of potential sources of variation and bias, and strategies for successful dissemination of systematic reviews. Even the most technical information is presented in straightforward terms, with lively examples, quotations, and illustrations.

While the book offers an excellent starting point for readers just beginning to conduct systematic reviews, it also provides many practical tips and resources for seasoned reviewers. For example, Petticrew and Roberts provide a discussion of strategies for finding relevant literature that is at once conceptually sophisticated, accessible, and highly pragmatic. They describe the search process in terms of its sensitivity and specificity (i.e., getting “the right stuff”

and avoiding “the wrong stuff”). They include useful examples of keyword strings and filters, extensive lists of potentially-relevant databases and registers, and many sources of unpublished and fugitive (gray) literature. They even provide tips on translating non-English language papers.

Throughout the book, the authors take an ecumenical approach, acknowledging different models and diverse approaches to systematic reviews. Their balanced view is appealing and constructive. They resist narrow hierarchies of evidence, in favor of a broader conceptualization of study quality that emphasizes the fit between study methods and purpose. Several schemes for evaluating specific study designs are provided, yet the reader is cautioned about the limitations of study-quality checklists and scales. The threats-to-validity approach is mentioned, but more could be said about potential applications of this approach and its tenet that validity is a property of the inferences that can be drawn from a study, not a property of methods (Shadish, Cook, & Campbell, 2002). Reviewers may need additional examples of study quality assessment methods, and Petticrew and Roberts provide plenty of references that lead readers to these examples.

The authors’ knowledge of relevant literature is broad and deep, and their ability to share this knowledge with readers is impressive. They communicate the potential utility and limitations of systematic reviews with considerable enthusiasm and care. Serious readers will find a wealth of information in the references provided at the end of each chapter. In short, the book is very well-conceived, well-written, and carefully documented.

Systematic Reviews in the Social Sciences succeeds on many levels: as an introduction for the casual observer, a practical how-to guide for beginners, and a set of valuable resources for experienced reviewers. The book can be used to teach the logic, principles, and practices of research synthesis to the next generation of social scientists. It demystifies the systematic review

process, which should help decision makers critically assess, understand, and use systematic reviews.

The book is, of course, not the final word on this topic. The science of research synthesis is still developing. Readers should stay tuned to this literature as new approaches emerge and debates about review methodologies unfold.

Reference

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for general causal inference*. Boston: Houghton Mifflin.