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# Comparability work and the management of difference in research synthesis studies

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#### Abstract

The new imperative to be more methodologically inclusive has generated a burgeoning interest in synthesizing the findings of qualitative and quantitative studies, or mixed research synthesis. Yet, the very diversity seen to define the mixed research synthesis enterprise is also considered to defy it as it intensifies the problem of comparing the seemingly incomparable to enable the combination of the seemingly uncombinable. We propose here that the research synthesis enterprise, in general, and the mixed research synthesis enterprise, in particular, entail comparability work whereby reviewers impose similarity and difference on the studies to be reviewed. The very study diversity requiring management does not exist a priori but rather is itself an outcome of comparability work already done whereby judgments have been made about what constitutes methodological and topical diversity and uniformity. Conceiving the research synthesis process as defined by comparability work moves the backstage interpretive work of systematic review to center stage and, thereby, sets a new stage for addressing the methodological issues involved. These issues are explored by reference to the synthesis of empirical studies of antiretroviral adherence in HIV-positive women in the US.

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#### Introduction

Among the most significant recent developments in the academic and clinical enterprise known as evidence-based healthcare is the call to researchers to be more methodologically inclusive and tolerant of methodological diversity in conducting the systematic reviews at the heart of this practice.

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Contributing to this new mandate for inclusion and tolerance are: (a) criticism of evidence-based practice as itself failing to meet its own strict criterion, sustaining an overly narrow view, and even as promoting the loss, of evidence (Timmermans & Berg, 2003; Trinder, 2000; Walker, 2003; White, 2001); (b) criticism of systematic review as reproducing a discredited model of research (Hammersley, 2001); (c) heightened recognition of the inadequacies of randomized controlled trials to address many of the most pervasive health and social problems (Dixon-Woods, Agarwal, Young, Jones, & Sutton, 2004; Mays, Pope, & Popay, 2005); (d) rapid

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dissemination, and increased calls for the utilization, of qualitative research (Barbour, 2000; Greenhalgh, 2002; Sandelowski, 2004); (e) emergence of mixed methods research as a "third research paradigm" (Johnson & Onwuegbuzie, 2004, p. 14); and (f) postmodern turn toward the examination, accommodation, and celebration of difference (Morris, 2000; Rolfe, 2001).

The convergence of these events has generated a burgeoning interest in synthesizing the findings of methodologically diverse studies (Forbes & Griffiths, 2002; Harden & Thomas, 2005; Hawker, Payne, Kerr, Hardey, & Powell, 2002; Lemmer, Grellier, & Steven, 1999; Popay & Roen, 2003), or mixed research synthesis. Mixed research synthesis studies are systematic reviews of empirical qualitative, quantitative, and mixed methods studies in shared domains of research aimed at aggregating, integrating, or otherwise assembling their findings via the use of qualitative and/or quantitative methods (Sandelowski, Voils, & Barroso, 2006). Yet, the very diversity seen to define the mixed research synthesis enterprise is also considered to defy it. Mixed research synthesis projects dramatize the "heterogeneity" (Deeks, Higgins, & Altman, 2005, Section 8.7) long recognized as the central problem in research synthesis projects; they make even more challenging the task of accommodating the methodological and topical differences that together constitute the unique "personality" (Lipsey & Wilson, 2001) of the studies under review.

In this article, we address this problem of comparing the seemingly incomparable to enable the combination of the seemingly uncombinable. We propose that the research synthesis enterprise is defined by comparability work, which involves finding ways to work with or around study differences. Our purpose here is neither to provide a comprehensive overview of methodological issues per se, nor to advance specific analytical strategies to address them. Rather, our purpose is to move to center stage the backstage interpretive work at the heart of the systematic review process and, thereby, to set a new stage for addressing the methodological issues involved in efforts to synthesize empirical research findings.

#### Methodological and theoretical location

Our take on method here is as itself an object of inquiry (Law, 2004; Mol, 2002). The immediate impetus for this article were issues raised in the

course of our on-going study directed toward developing methods to combine qualitative and quantitative research findings. The body of literature we chose as the first of several "method cases" to be included in this project is composed of empirical studies of antiretroviral adherence in HIV-positive women of any race/ethnicity, class, or nationality living in the US. The key imperative determining the boundaries we set for the first phase of this project was to have a set of studies methodologically diverse enough to permit, but not so topically diverse as to preclude, fulfilling its methodological aims. Thus far, our study includes 42 reports (35 journal articles, 6 unpublished theses or dissertations, and 1 technical report), retrieved between June, 2005 and January, 2006. Of the 42 reports, 12 are reports of various types of qualitative studies; 3, of intervention studies; 1, of a mixed methods (qualitative phase followed by a pilot intervention) study; and the remainder, of various types of quantitative observational studies.

As we worked our way through several rounds of analysis of the antiretroviral adherence studies selected, we noticed that they were less methodologically diverse than they first appeared. For example, the results of several cross-sectional analyses featuring only one time point were reported from studies designated in the methods section as longitudinal. In addition, the mode of analysis and results of most of the qualitative studies were similar in content, form, and interpretive depth to those presented in several of the quantitative studies. Accordingly, we had fewer longitudinal studies and less varied qualitative studies than we thought we had. In contrast, we noticed that these studies were more topically diverse than we had anticipated. We thought it would be relatively easy to identify antiretroviral adherence studies, yet we found it difficult to distinguish "antiretroviral adherence studies" from studies of such other related topics as antiretroviral medication patterns of use or access. Our concerns that we had less methodological diversity but more topical diversity than we had wanted led us to question our very understanding of study diversity as we found ourselves regularly changing our minds about whether the studies we had selected were methodologically different enough to meet our aims, but topically similar enough to permit their findings to be combined.

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