



Published in final edited form as:

J Fam Nurs. 2015 February ; 21(1): 3–10. doi:10.1177/1074840714568740.

Family Synthesis Research: Possibilities and Challenges

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It is an exciting time to be a family researcher. Investigators continue to make great strides in advancing knowledge of the many ways in which family life and health intersect and in developing increasingly sophisticated methods for treating the family as the unit of unit study and analysis. Individual studies have provided valuable insights into the relationship between family variables and the health and wellbeing of individual family members and the functioning of the family as a whole, the consequences of health-related challenges for family life, and the contributions of health care professionals and systems to the wellbeing of families. As the volume of literature continues to grow, so does the challenge of determining what we do and do not know about families and health. Studies of ostensibly similar topics often are grounded in different conceptual frameworks, use different measures of the same variables, and yield conflicting results. As a result, it is much easier to critique the results of a single study than it is to draw conclusions based on findings from multiple studies. Nonetheless, science and practice are advanced by building on the collective body of knowledge, and synthesis research provides a powerful tool for furthering family science and buttressing the evidence base for family-focused interventions.

Gough, Thomas, and Oliver (2012) describe synthesis research as “a way of bringing together what is known from the research literature using explicit and accountable methods” (p. 1). Synthesis research is recognized as an important and distinct area of inquiry that encompasses multiple methodological approaches (Cooper, 2010; Sandelowski, Voils, Leeman, & Crandell, 2012; Whittemore, Chao, Jang, Minges, & Park, 2014). Recognition of its value is apparent in the publications appearing in the *Journal of Family Nursing (JFN)*. Twenty-four articles synthesizing research or theory on a health-related family topic have been published in *JFN* since 2000, and nine of the most-cited articles in the journal as of December 1, 2014 are synthesis reports (<http://jfn.sagepub.com/reports/most-cited>).

For the past five years, I have been the member of a team engaged in a large-scale synthesis of research on the intersection of family life and childhood chronic physical conditions (Family Nursing Network, November, 2011). Initially the team’s focus was on proposal development to obtain funding to support the study, but for the past three years we have had the good fortune to be supported by the National Institute of Nursing Research, the major public agency in the USA funding nursing research, to undertake a “Mixed-Methods Synthesis of Research on Childhood Chronic Conditions and Family” (R01 NR012445, 9/1

2011-6/30/2016; hereafter referred to as the Family Synthesis Study). As a result of my experience with the Family Synthesis Study, I have a heightened appreciation of the potential contribution of synthesis research for advancing family science, a healthy respect for the challenges one is likely to encounter when undertaking a synthesis study, and a newfound recognition of unique issues that this type of inquiry poses for family researchers. The following “tips” are intended to stimulate further interest in family synthesis research and provide helpful advice for launching a synthesis study and ensuring a successful outcome.

Engage an Interdisciplinary Team

Across fields of inquiry, research increasingly is a team endeavor, and synthesis research is no exception. Family synthesis research requires a team whose members have expertise in the family area of interest as well as members with expertise in the methods used to search the literature, extract relevant data, and synthesize results. Members of the Family Synthesis Study team come from multiple disciplines (Nursing, Sociology, Public Health, Biostatistics, Information Science) and include investigators with expertise in mixed-methods synthesis research (Margarete Sandelowski, Jennifer Leeman), Bayesian statistics (Jamie Crandall), knowledge translation (Jennifer Leeman), advanced search techniques (Julia Shaw-Kokot), and data-base management (Nancy Havill). I am the family research expert on the team. The expertise of each team member is critical to the project’s success, and it is important for the investigator(s) taking the lead in launching a synthesis study to engage co-investigators at the beginning of proposal development or project planning. Engaging team members from the outset of the project helps ensure that the study aims and design are “in sync”, feasible, and reflect the collective knowledge of all members of the team.

Start with a Question

This sounds like an obvious piece of advice, since all research begins with a research question or statement of aims. Nonetheless, authors of synthesis studies, sometimes state their aim(s) in terms of the synthesis approach they are using rather than the question being addressed. Statements such as “the aim of this analysis was to conduct an integrative review” are not sufficient. It is the research question that guides the inquiry; the synthesis approach is the strategy for answering the question. For example, in their systematic review of the interrelation of adult persons with diabetes and their family, Rintala, Jaatinen, Paavilainen, and Åstedt-Kurki, (2013) appropriately stated that the aim of their review was to answer the following research questions: (a) What is known about the interactions between diabetes self-management and family during the adult years?; (b) How do the family members of adult persons with diabetes experience their everyday living with diabetes?” (p. 3). These questions guided their decisions about search criteria, the determination of what results were relevant to extract from research reports, and their analysis and interpretation of data.

Conceptualize the Family Domain of Interest

Specifying the question being addressed is closely linked to delimiting the family domain of interest. Too often, investigators fail to report, or possibly consider, this important aspect of a family synthesis study (Knafl, Leeman, Crandell, & Sandelowski, 2014). Search strategies are described only in terms of publications dates and types of literature targeted for the sample and the search terms used. Family synthesis researchers also need to include an explicit discussion of how they are conceptually framing their family area of interest and the link between this conceptualization and their proposed search criteria and strategies.

Specifying the conceptual domain of interest is especially critical since family researchers address a broad array of health and family-related topics and concepts (e.g., caregiving, resilience, adaptation), many of which are conceptualized differently across studies. As a result, it is important to specify the underlying conceptualization of the family domain(s) of interest and the implications of this conceptual framing for searching the literature and making decisions about what reports fall within the target conceptual domain.

Specifying the conceptual domain of interest requires the researcher to decide what will count as a “family study” in the proposed synthesis. Will “family study” be defined in terms of certain family variables or experiences, who in the family participated in the research, or some combination of both? If the focus of the synthesis is on a particular concept, such as family resilience or adaptation, the investigator will need to include a discussion of the underlying conceptualization the target concept that guided the screening of reports for inclusion in the synthesis. For example, using meta-analysis, Martire, Lustig, Schulz, Miller, and Helgeson (2004) addressed the question: What are the benefits to patients and family members of family psychosocial interventions? Their review was based on the following conceptualization of what constituted a family psychosocial intervention: “non-medical interventions that are psychologically, socially, or behaviorally oriented and that involve a member of an adult patient’s family or both the patient and the family member” (p. 601). The conceptual domain of interest was further specified by the patient (depressive symptoms, anxiety, relationship satisfaction, physical disability, mortality) and family member (depressive symptoms, anxiety, relationship satisfaction, caregiving burden) outcomes of interest.

In the Family Synthesis Study, we used a 2-phase process to refine the conceptual domain of interest and screened studies for both their topical fit and level of relevance to the study questions being addressed. Based on our experiences, we developed a framework to guide future investigators’ delimitation of the family domain of interest (Knafl et al., 2014). Investigators often find it helpful to complete a preliminary review of the literature in the field to refine further their research question and conceptual domain of interest.

Undertake a Scoping Study

A central challenge of syntheses research is conceptualizing a research question that encompasses a broad but feasible body of literature. Scoping studies can be used to assess the volume and focus of research in the area of interest and to provide evidence of the feasibility of undertaking a full-scale review (Arksey & O’Malley, 2005; Levac, Colquhoun,

& O'Brien, 2010). The aims of the Family Synthesis Study entailed mapping the relationships among condition management, condition control, family life, and family and family member functioning. We wanted to examine these relationships across multiple chronic physical conditions to distinguish relationships and experiences that were common across conditions from those that were condition-specific. To provide evidence that there was a sufficient but manageable body of research for achieving these aims, we completed a scoping study and examined approximately 300 qualitative and quantitative reports and 35 intervention studies published between 2000 and 2010 and available through PubMed. Search criteria were based on our initial definition of family, child, and chronic physical condition. The aim of the scoping study was to examine the nature of the target sample and the family/family member variables and experiences being studied. Because of its limited focus, we were able to complete the scoping study in three months. It provided us with the evidence we needed to support the feasibility of our proposed family synthesis and resulted in an initial categorization of family variables. Once funded, we used the results of the scoping study to further delimit and narrow our conceptual domain of interest and generate a sample of research reports that was suitable for addressing our research questions and practically feasible to synthesize (Knafl et al., 2014).

Identify an Appropriate Synthesis Approach

There are multiple approaches to doing a synthesis study (Sandelowski et al., 2012; Whitemore et al., 2014), with different approaches appropriate for addressing different kinds of research questions. Whitemore and colleagues (2014) have differentiated well-established approaches (e.g., meta-analysis) from more emergent ones (e.g., mixed-methods) where methodological guidelines are less well developed. Some approaches (meta-analysis and meta-synthesis) limit the synthesis to studies using a specified design (e.g., only qualitative or only randomized clinical trials). Integrative reviews and mixed-methods reviews, on the other hand, are not limited by design, and have the potential to provide a more comprehensive overview of the state of knowledge in a particular field. Sandelowski (Sandelowski et al., 2012, 2013) has taken the lead in the development of mixed methods synthesis strategies, which, in addition to including studies with varied designs, incorporate both quantitative and qualitative analytic techniques. By becoming familiar with the different approaches to synthesis research, the investigator is better positioned to consider a broad range of possible research questions related to the family domain of interest and to select the most appropriate approach once the research question has been finalized.

Scoping studies also can contribute to selecting the most appropriate approach for addressing the research question. For example, a scoping study might reveal that the bulk of research in the field is qualitative, providing the investigator with a sound rationale for doing a meta-analysis. If no one type of design is dominant, a mixed methods approach should be considered, or an explicit rationale should be provided for limiting the type of research designs included in the synthesis. Another option would be for the investigator to refine the research question to better fit the design limitations of the target sample.

Despite variations in their purpose and strategies for synthesizing across studies, all synthesis approaches emphasize the importance of a well-thought-out research plan, and

Cooper (2010) reminds us that “if knowledge contained in research syntheses is to be trustworthy, research synthesists must be required to meet the same rigorous methodological standards that are applied to primary research” (p. 3). Familiarity with and adherence to the methodological standards of synthesis research is essential to advancing this important area of family nursing science.

In his most recent review of current trends in family nursing research, Ganong (2011) concluded that family nursing researchers need to direct more attention to the impact of natural disasters on families, the effect of health care and other policies on families, interactions among family members and the nurses with whom they interact, and genomic health care. I agree with Ganong that these are areas where much additional work is needed, but would advocate for adding synthesis research to the list.

Acknowledgments

As noted in this guest editorial, the Family Synthesis Project is a team effort, and I want to acknowledge and thank my partners in this endeavor (Jamie Crandell, Nancy Havill, Jennifer Leeman, Margarete Sandelowski, and Julia Shaw-Kokot) as well as support from the University of North Carolina School of Nursing. The study by a National Institute of Nursing Research, National Institutes of Health grant for “Mixed-Methods Synthesis of Research on Childhood Chronic Conditions and Family” (R01 NR012445, 9/1 2011—6/30 2016).

Biography

Kathleen Knafl, PhD, FAAN, is the Associate Dean for Research and Frances Hill Fox Distinguished Professor at the University of North Carolina at Chapel Hill. Her research addresses family management of childhood chronic condition and has focused on the development of the Family Management Style Framework. Development efforts have included completion of empirical studies, syntheses of the literature, and instrument development. Dr. Knafl is widely published and is recognized as an expert in family research. She serves as a consultant to the National Institutes of Health and to universities and researchers. She is on the editorial board of the *Journal of Family Nursing*, *Research in Nursing and Health*, and *Nursing Outlook*. She contributed to the founding of the International Family Nursing Association and is conference co-chair for the 12th International Family Nursing Conference to be held in Odense Denmark in August if 2015. Recent publications include:

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