

# **Using Meta-Ethnography to Synthesize Relevant Studies: Capturing the Bigger Picture in Dementia with Challenging Behavior within Families**

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## **Published Articles**

Feast, A., & Moniz-Cook, E. (2016). Behavioural and psychological symptoms in dementia (BPSD) and the challenges for family carers: A systematic review. *Atlas of Science*, May. Retrieved from <http://atlasofscience.org/understanding-why-behaviours-are-challenging-for-dementia-family-carers/#more-13749>.

Feast, A., Orrell, M., Charlesworth, G., Melunsky, N., Poland, F., & Moniz-Cook, E. (2016). Behavioural and psychological symptoms in dementia and the challenges for family carers: Systematic review. *British Journal of Psychiatry*, 208, 429-434. doi:10.1192/bjp.bp.114.153684.

Feast, A., Moniz-Cook, E., Stoner, C., Charlesworth, G., & Orrell, M. (2016). A systematic review of the relationship between behavioral and psychological symptoms (BPSD) and caregiver well-being. *International Psychogeriatrics*, 28, 1761-1774.

## **Abstract**

In understanding the range and depth of people's experiences, it is important to include the wide range of approaches which capture the richness within a given knowledge base. However, systematic reviews using quantitative data alone risk missing findings that can contribute to a better understanding of a research question. In response, meta-ethnography has emerged as a potentially useful method to synthesize and integrate both qualitative and quantitative data from different perspectives using qualitative methodology. In this case study, we describe how we have used meta-ethnography to better understand how families experience dementia. We address a particular issue of selecting the highest quality evidence across a range of epistemologies.

## **Learning Outcomes**

By the end of this case study students should be able to

- Understand how to synthesize quantitative and qualitative data using meta-ethnography;
- Understand the merits and problems of including too many studies in the review, and only including those which reach a certain quality threshold;
- Understand how including poor-quality studies might impact meta-ethnographical findings via the use of a sensitivity analysis.

## **Case Study**

### **Project Overview and Context**

This case study describes an in-depth approach to investigating the wide-ranging experiences and needs of family carers who support people with dementia and challenging behavior, in order to

develop relevant psychosocial interventions for these families. Although methods are well established for the systematic searching of research literature, for example, the PRISMA guidelines (Moher, Liberati, Tetzlaff, Altman, & Prisma Group, 2009), these are less well established for the systematic *synthesis* of findings, which include qualitative analyses. As mixed-methods research has expanded, there is a need to develop methodologies for the synthesis of both qualitative and quantitative data within the same review.

For example, in the field of dementia care, there is a range of behavioral changes that can occur in the person (known as Behavioural and Psychological Symptoms of Dementia, or BPSD), and some of these are distressing for family carers. We wanted to understand “what” behaviors were experienced as challenging and “why” these were distressing and difficult to manage for family carers. Through an initial meta-analysis of quantitative studies, we were able to establish an answer to the “what” question—that is, what behaviors do families find distressing or challenging (Feast, Moniz-Cook, Stoner, Charlesworth, & Orrell, 2016). However, the search strategy associated with the second question about “why” behaviors were distressing for carers led to the identification of studies that used both quantitative and qualitative findings. We therefore needed to use a method of synthesis that facilitated the integration of both qualitative and quantitative findings, where the majority of studies we extracted were qualitative (Feast & Moniz-Cook, 2016).

While choosing relevant research methods can be complex, particularly when combining different types of data and findings from studies which arise from different paradigms, we noted that there were some strengths in using a meta-ethnographic approach as defined by George Noblit and Dwight Hare (1988). Using meta-ethnography in action involves the translation of qualitative studies “into one another” (Noblit & Hare, 1988, p. 25) to develop new interpretations

and conceptual insights. This method is inductive and interpretative in nature, focusing on drawing out analogies and relationships between concepts and metaphors that may be hidden within individual studies. Findings are drawn together and synthesized, rendering the “whole as greater than the sum of the parts” and creating new insights which might inform theoretical developments in the field.

This method has emerging strengths in that syntheses have used both quantitative and qualitative findings (Barley, Murray, Waters, & Tylee, 2011; Campbell, Pound, & Morgan, 2011). Thus, meta-ethnography allowed us to synthesize all relevant data which included a family carer’s account of distressing behaviors and/or the reasons why they felt these were challenging. These findings were intended to provide us with a better understanding of family needs in order to design our intervention. This case study describes our chosen method of synthesis, namely meta-ethnography, and the strategies we employed to overcome challenges in the process of integrating study findings.

Although approaches to synthesis have now been extended from including purely quantitative studies to qualitative studies, the methods for doing so remain under-developed and under-evaluated (Dixon-Woods & Fitzpatrick, 2001; NHS Centre for Reviews and Dissemination [NHS CRD], 2001). Methods for combining and synthesizing quantitative and qualitative data remain the least developed and poorly specified. The limited studies (Barley et al., 2011; Dixon-Wood, Agarwal, Jones, Young, & Sutton, 2005) which have used meta-ethnography to synthesize quantitative and qualitative data have used similar methodology, however, certain procedures lacked clarity, which produced ambiguity. One of the ambiguous areas was the concern of including too many studies in the synthesis, and whether imposing a quality threshold to reduce the number would affect the resulting line-of-argument of the meta-

ethnography. To identify the impact of removing poor-quality studies, we conducted and discuss the use of a sensitivity analysis in our case example.

## **Research Design**

Our research aimed to systematically review the literature in order to understand why the impact of BPSD varies from carer to carer, with a view to informing how personalized interventions for family carers experiencing BPSD in dementia can be improved. We wanted to understand carer experience as widely as possible, so we extended our definition to include both BPSD and a wider notion of challenging behavior defined as “a manifestation of distress or suffering for the person with dementia, and/or of distress in the carer” ([Bird & Moniz-Cook, 2008](#)). Our plan was to include studies with both qualitative and quantitative methodologies to cover both BPSD and challenging behavior in dementia in family care settings.

Our research team consisted of clinicians and researchers with expertise in dementia and research methodology. Alexandra Feast was responsible for leading and coordinating the review. The synthesis team comprised Alexandra, Esme Moniz-Cook, Georgina Charlesworth, and Nina Melunsky, who developed the review objectives, wrote the search strategies, conducted the meta-ethnography, and wrote the manuscript. The screening and searching team consisted of Alexandra and Nina who conducted the searches, designed and compiled article eligibility and data extraction forms, and undertook the quality appraisals. Fiona Poland was responsible for advising on the meta-ethnography using methodological expertise, advising on the use of quality appraisals, and assisting in writing this manuscript. Alexandra, Esme, Georgina, and Katie Featherstone wrote the case study, with Katie providing methodological expertise. Nina and Fiona, along with Martin Orrell, commented on all drafts.

## Method in Action

Figure 1 illustrates the seven steps of Noblit and Hare's (1988) meta-ethnography and is described in more detail in the following subsections.

Figure 1.

Caption: Seven steps of Noblit and Hare's (1988) meta-ethnography.

### Getting Started

The initial process when conducting any systematic literature review is to develop a protocol, which includes definitions of key terminology, guidance surrounding the search, the selection and the synthesis. Our search terms were guided by the two definitional approaches to our topic: BPSD and challenging behavior in dementia; and the setting of our research enquiry which was family care rather than in nursing homes.

The search terms were organized into three major clusters: dementia, challenging behavior, and family carers. Some of these terms are outlined as follows:

*Dementia*—mental disorders, organic brain syndromes, aids dementia complex, dementia with Lewy bodies, vascular dementia, and Alzheimer's disease.

*Challenging behavior*—behavioral and psychological symptoms in dementia, neuropsychiatric symptoms, behavior disorders, and behavioral problems.

*Family Carers*—elder care, significant others, carers, family, daughters, and carer burden.



The synthesis team made an explicit decision not to include search terms which specified study design, or to impose an eligibility criterion which could specify the design. Thus, we chose a method which was capable of synthesizing data from different study designs.

We conducted a systematic search of six electronic databases: PsycINFO, CINAHL EBSCO (Cumulative Index to Nursing and Allied Health), MEDLINE, EMBASE, Web of Science (including Science Citation Index Expanded [SCI-EXPANDED], Conference Proceedings Citation Index-Science [CPCI-S], Social Science Citation Index [SSCI], Conference Proceedings, Citation Index-Social Science & Humanities [CPCI-SSH], and OpenGrey). Search terms were modified for each database..

In line with our definition and setting of our subject area, and our methodology associated with high-quality articles (defined initially as “peer reviewed”) that we could examine in depth, we used the following criteria to select articles.

### *Inclusion Criteria*

- Peer-reviewed original articles.
- Studies published in English only.
- Studies published between 1980 and April 2012, since the topic of care in family settings had begun to emerge in the literature in the 1980s (Aneshensel, Pearlin, Mullan, Zarit, & Whitlach, 1995), and our work was conducted in 2012.
- Family carers (not paid) supporting a relative or friend with dementia at home (not in residential care).
- The article must contain a family carer’s account of BPSD and/or reason(s) why they felt these were challenging.

## *Exclusion Criteria*

- Reviews.
- Conference proceedings, conference abstracts, theses, supplements, reports, letters, and non-peer-reviewed articles.

After searching the six electronic databases, we identified a total of 10,375 articles and exported them into a reference managing software (Endnote (n.d.) Version X5, Clarivate Analytics), where subsequently duplicates were removed. For more case examples of search strategies please refer to Aoife M. O'Brien and Conor Mc Guckin's *The Systematic Literature Review Method: Trials and Tribulations of Electronic Database Searching at Doctoral Level*.

## **Deciding What Is Relevant to the Initial Interest**

Alexandra and Nina read the titles and abstracts of all references. Of those initial references, 518 studies met the inclusion criteria and were carried forward for assessment of the full-text.

Reasons for exclusion at this stage were mainly due to the article not including people with dementia. Following the full-text assessment, 70 studies met the eligibility criteria since they included data of interest. At this stage, articles were primarily excluded if they did not provide an account explaining why behaviors were perceived as challenging. Unlike meta-analyses, which follow the PRISMA reporting guidelines, there are no guidelines for this stage of meta-synthesis.

It was during this stage that the volume of studies started to become unmanageable, so we sought advice from meta-ethnographical experts (Dr. Shaw, Dr. Pound, Dr. Malpass, and Professor Britten), whom we identified via their publications and contacted via email. Each of the experts advised that meta-ethnographic reviews do not usually consist of more than 20

studies, and that our high number of 70 studies would be likely to threaten the interpretative integrity and validity of the meta-ethnographic process.

Because of the lack of guidance on reducing the number of studies, the review team, based on the advice from the meta-ethnographical experts, discussed and agreed that a systematic solution would be to implement a quality threshold, using two quality appraisals, which would address the balance between quality and quantity, thus reducing the included number of studies to 25.

In comparison to meta-analyses of quantitative studies, quality appraisal tools such as the Levels of Evidence approach (LOE; [http://www.cebm.net/levels\\_of\\_evidence.asp#levels](http://www.cebm.net/levels_of_evidence.asp#levels)) are common. This quality appraisal tool provides guidance for reviewers to assign a LOE grade to studies according to the Oxford Centre for Evidence Based Medicine (CEBM). LoE grades range from 1 to 5 with lower numbers indicating higher quality. Randomized controlled trials (RCTs) with narrow confidence intervals and 80% or more participant follow-up are graded as Level 1 studies, and single case reports are graded as Level 5. However, this type of quality appraisal was not appropriate, as we did not wish to exclude studies based on their research design. We therefore chose quality appraisals designed for qualitative study designs, and then all types of quantitative study designs.

This decision was reflected in our revised protocol where we added additional inclusion criteria: studies of high quality with over 70% on the Critical Appraisal Skills Programme (CASP) checklist (2006) or over 75% on the Downs and Black (1998) Checklist as described by Nadia Crellin and colleagues (2014) and Vanessa Lawrence, Fossey, Ballard, Moniz-Cook, and Murray (2012). Three reviewers (Alexandra Feast, William Pearson and Charlotte Stoner)

assessed the included articles for methodological quality, and disagreements were resolved by discussion.

The first checklist was the Downs and Black Checklist consisting of 27 questions, which we used to assess the quality of quantitative studies by identifying whether the authors have reported elements of the study clearly, whether the findings of the study can be generalized to the population from which the study subjects were derived, and whether there is any evidence of bias affecting the internal validity of the study. We used quality thresholds employed in Crellin and colleagues' recent review: 75% and above were rated as high quality, 50%-74% rated as moderate quality, and lower than 50% were rated as low quality.

The second quality appraisal was the CASP checklist for evaluation of qualitative studies. This consists of 10 questions, which appraise whether the research was valid, ethical, rigorous, clear, of value to research based-literature, present policy, transferable to other populations, and helpful in identifying new areas where research is necessary. Lawrence and colleagues defined a score of 70% and above as reasonable quality, so we used the same cut-off point for inclusion in our study. This pragmatic decision to use this arbitrary cut-off was made to balance the quality and quantity in the absence of other examples or guidance to follow. The article we drew on ([Lawrence et al., 2012](#)) was co-authored by one of our team (Esme Moniz-Cook) and we were aware that at the time of publication, the then reviewers of this article requested such a cut-off point. Thresholds for poor and medium quality remained the same for all study designs. For studies with a mixed-method design, we used the CASP checklist to assess quality.

We calculated Kappa scores to measure levels of inter-rater agreement between researchers. In line with the approach taken by Rona [Campbell and colleagues \(2003\)](#), we found

that differences between assessors tended to arise because of varying interpretations of some appraisal questions, and varying understandings of the authors' work. Campbell and colleagues also remarked that the reporting of qualitative research methods was often poor, which was the root of most differences of opinion. Our meta-ethnographic review, to our knowledge, has the largest number of included studies with a range of methodologies, and is the only review to use critical appraisal to address the balance between study quality and the number of studies.

## **Reading the Studies**

It was at this stage that the synthesis process began. To facilitate the learning process, definitions of meta-ethnography terminology are provided in [Figure 2](#).

Figure 2.

Caption: Definition of first-, second- and third-order constructs (Noblit & Hare, 1998). (Adapted from the work of [Malpass et al., 2009](#) for this particular review).

During this phase, Alexandra and Nina independently carefully read and re-read the 25 studies which met the inclusion criteria. Subsequently, they extracted data concerning the characteristics of the study samples (family carer and the person with dementia), study setting, methods, and results. This information would later provide the context for the interpretations and explanation of each study, and also aid the development of the line-of-argument analysis.

Extracted data were tabulated, with direct quotes or paraphrasing used to preserve the contextual meaning of the first-order constructs wherever possible. An effort was made to ensure second-order constructs preserved the original terminology used by the authors in the article. Each first- and second-order construct was then extracted independently by Alexandra and Nina. These data

extractions were examined and discussed to ensure agreement between Alexandra and Nina and also to ensure the second-order constructs were grounded in family carer-generated data (first-order constructs), to identify any potential bias on the authors' part.

## **Determining How the Studies Are Related**

Rona Campbell and colleagues have suggested that the order of synthesising the types of evidence might affect the translation process of the synthesis, since the order in which the reviewer decides to synthesize is in itself is an initial aspect of the process of interpretation. This aspect of meta-ethnography implementation is still underdeveloped and therefore needs to be explored. However, in the absence of guidance, we decided that one way to minimize this potential impact was to organize the included studies alphabetically, regardless of their methodology, before beginning data extraction. Our method of organization consequently involved no initial process of interpretation or judgments of the quality of evidence by methodological approach, and therefore affected the translation process in a procedural manner rather than adding another level of interpretation.

Alexandra and Nina then tabulated the extracted data, with direct quotes or by using paraphrasing to preserve the contextual meaning of the first-order constructs wherever possible. An effort was made to ensure second-order constructs preserved the original terminology used by the authors in the article. Alexandra and Nina independently extracted each first- and second-order construct. The data extractions were examined and discussed throughout this process to ensure agreement between Alexandra and Nina and also to ensure the second-order constructs were grounded in family carer-generated data (first-order constructs), in order to identify any potential bias on the authors' part.

Because meta-ethnography was originally developed as a method for synthesizing qualitative data, as we expected, there were no challenges when extracting first-order constructs from the qualitative studies. However, this was not the case with the quantitative studies. Data extraction from standardized questionnaires within the quantitative studies varied in complexity, and typically this was dependent on the quantity of results presented within the articles. Specific examples of the challenges of extracting carers' responses to standardized questionnaires about BPSD in a qualitative form are presented and discussed in the following paragraphs.

It was possible to derive a first-order construct, which stated that behaviors were “challenging due to a relative no longer showing interest”, if studies reported “apathy” as measured by the Neuropsychiatric Inventory in the results table (Cummings et al., 1994), had much higher distress scores, or was the only behavior, which was reported as distressing in comparison to the other types of behavior. However, in cases where, for example, three or four behaviors were reported to elicit similar levels of distress, it was not possible to extract “BPSD are challenging” as a first-order construct. In these situations, we agreed to extract data concerning the top 5 most challenging behaviors and the reasons why, to follow a systematic process for all included studies, which in turn, also made the synthesis more manageable.

Extracting second-order constructs from quantitative and mixed-method studies was less problematic, because with these data the authors' interpretation of carers' views were all qualitative. A further challenge we encountered when including quantitative and mixed-method studies was that the methods and resulting data were typically weighted toward the structure of the questionnaire, for example, the Neuropsychiatric Inventory. Because of this, it was not possible to extract first- or second-order constructs for 6 (24%) of the included studies since they

did not offer data for synthesis that focused on identifying the underlying reasons why carers might be distressed by BPSD.

## **Translating the Studies Into One Another**

Following the extraction of the first- and second-order constructs, Noblit and Hare (1988) recommend creating a list of themes for each included study. This helps to facilitate the process of exploration, juxtaposition, and comparison. From this stage onwards, translation occurs.

Translation describes the notion that the review author no longer uses the terminology presented in the included articles, but uses their own “interpretative language” to identify themes related to the review question. This means imposing another level of interpretation, but no further conceptual development (Malpass et al., 2009). Alexandra and Nina independently identified the themes for each included study, which were used to summarize the information from the first- and second-order constructs, while taking special care to preserve the original contextual meaning of the family carers. Alexandra and Nina discussed these themes to ensure reliability, at which point any discrepancies were discussed until a resolution was achieved.

## **Synthesizing Translations**

Alexandra and Nina then independently performed reciprocal and refutational analysis to summarize shared themes across studies.

Similarly, overarching themes, known as third-order constructs, were identified and developed across the data (reciprocal synthesis), and any contradictions between studies were also explored (refutational synthesis) and explained within theme categories (differences between themes were grouped) and within each third-order construct. Conceptual maps were



created for each third-order construct to aid in the organization process, and to illustrate the relationships between the themes and theme categories.

This meant that similar themes were grouped together through the process of reciprocal synthesis, for example, “repetitive interactions” and “decline in conversation” were summarized within the theme category of “changes in communication.” These theme categories and third-order constructs were continually evolved by reciprocal synthesis using reviewer interpretation to create an overarching term which represented the sub-themes appropriately. Alexandra and Nina discussed these themes until agreement was achieved.

A line-of-argument analysis was constructed from the third-order constructs. The aim was to depict the most appropriate understanding of the reasons for variation in family caregiver responses to BPSD. The line-of-argument approach means that there is an interpretation of the relationship between themes, which further emphasizes a key concept that may be hidden within individual studies, in order to discover the whole from a set of parts (Noblit & Hare, 1988). This higher level interpretative synthesis is explanatory in nature, thus providing scope for developing new insights. In this case, our aim was to improve understandings of why there is wide variation in caregiver responses to BPSD, and to conduct a detailed study of the similarities and differences of the included studies by writing an integrated, cohesive narrative within a new interpretative context (Noblit & Hare, 1988).

The draft synthesis was presented to the entire review team, which included two research psychologists (Alexandra and Nina), an old-age psychiatrist (Martin), two clinical psychologists (Georgina and Esme), and a qualitative researcher (Fiona). Georgina, Esme, Alexandra, and Nina were especially involved in the line-of-argument. The wider review team were asked for their

critique of the synthesis. This included asking for clarification of theme identification, and the relationships between and within the third-order constructs. Thus, different team members can create different translations across the included articles, and consequently develop a different theoretical overview compared with other teams. Validation within a meta-ethnography is about demonstrating rigor through a repeatable and systematic process. This has been achieved by following Noblit and Hare's (1988) seven-stage process and having two independent team members involved in each stage of the process.

## **Expressing the Synthesis**

The aim of the final stage of the synthesis was to express it in a way that communicates the findings to its audience effectively. This is reflected by Noblit and Hare, who stated that “the worth of any synthesis is in its comprehensibility to some audience” (p. 82). We believe that we achieved this aim by publishing a high-quality paper in the *British Journal of Psychiatry* (Feast, Orrell, Charlesworth, Melunsky, Poland, & Moniz-Cook, 2016), and an accessible blog requested by the Atlas of Science (<http://atlasofscience.org/understanding-why-behaviours-are-challenging-for-dementia-family-carers/#more-13749>).

## **Additional Step in Meta-Ethnography: The Use of Sensitivity**

### **Analyses**

To discover whether the outcome of the synthesis and the line-of-argument analysis would have been different if we had included all 70 studies, even though they were of varying quality, we conducted a sensitivity analysis. All data extracted were examined, and we conducted a meta-ethnographic synthesis to encompass all 70 studies. We identified that the additional theme

categories (e.g., “carers are most critical when behaviors are perceived to be deliberate” and “carers struggle to understand and accept change in the relationship”) would have been created during reciprocal synthesis with the identified themes and sub-themes from the poor and moderate quality studies. However, the final third-order constructs (“feeling bereft,” and “misunderstandings about behavior due to perceived transgressions against social norms”) were identified solely through the synthesis of high-quality studies and would have remained the same if the wider sample of studies was included. We believe that this is because the third-order constructs still represent the information reported in the poor and moderate quality studies, and subsequently so does the resulting line of argument.

Our study, presented in this case study, supports the observation of Campbell and colleagues that weak studies in qualitative syntheses contribute minimally to any synthesis. However, the exemplar synthesis included quantitative as well as qualitative studies, and there is no established method of using a form of sensitivity analysis for this approach.

## **Lessons Learned**

The following three key areas which must be understood to conduct a meta-ethnography. Most importantly it is crucial to be aware of the potential challenges which can occur when synthesizing diverse types of data prior to starting your meta-ethnography. Furthermore, it is advantageous to use a quality appraisal for the reduction of included studies, and finally a sensitivity analysis can be employed to determine how the use of a quality appraisal can impact on the line of argument.

## **Synthesis of Qualitative and Quantitative Studies**

Prior to conducting a meta-ethnography, we urge future reviewers using this methodology to ensure that their research question can be answered by extracting first-order and second-order constructs from quantitative and mixed-method studies. We recommend carrying out a scoping search and trial data extraction to identify likely articles and assess first, how easily the data can be extracted from quantitative articles, and second, whether articles are heavily weighted toward the common assessments/questionnaires used in the included studies (such as the Neuropsychiatric Inventory). If problematic, it might be necessary to use a different methodology for the synthesis.

Few researchers have explained clearly how they have integrated quantitative evidence into a qualitative synthesis ([Dixon-Wood et al., 2005](#)). We recommend following the example of this case study, and the approach by Elizabeth Barley and colleagues, which provide guidance on how to organize the included studies prior to data extraction, and translation, how to agree on approaches to extracting data from quantitative studies in advance, and how to follow the guidance on synthesizing qualitative and quantitative findings.

## **Finding the Balance Between Quality and Quantity**

The relative importance given to study quality when including studies within any synthesis has been debated ([Dixon-Wood et al., 2005](#)), with only a small minority of researchers assessing the quality of individual studies as a precursor to a meta-ethnographic synthesis.

Despite this debated issue, during our case study we successfully employed quality appraisals to reduce the number of included studies to keep the socio-cultural context of each

study alive, which is a key recommendation made by experts in the meta-ethnographical approach.

We stress to future reviewers that if your eligibility criteria are likely to return a large amount of included studies is important to discuss with the wider review team whether you would wish to impose a quality criteria to make the synthesis more manageable. We recommend that you identify how many studies are likely to be included, consult with meta-ethnographical experts, and agree upon the use of quality appraisals with the review team when writing your protocol.

## **The Impact of Including Poor Quality Studies**

Due to our decision to impose a quality criteria (and subsequently exclude poor and medium quality studies) to manage the amount of included studies, we wanted to ascertain if including poor- and medium-quality studies would have affected the line of argument.

Sensitivity analyses are common in quantitative meta-analyses, and are used to determine if the findings are robust to the method used to obtain them. In the absence of guidance for using a sensitivity analysis in qualitative syntheses, we recommend the use of our method to identify whether your line of argument has been affected by the implementation of quality appraisals. Although it is not a standard aspect of meta-ethnography, using a sensitivity analysis as described in our case study is likely to be helpful to future reviewers who wish to determine whether the quality of included studies affects the outcomes of their review.

## **Conclusion**

Readers can use meta-ethnography to successfully synthesize qualitative and quantitative studies, as demonstrated by our case study. Its productiveness can be seen in our example, which, by synthesizing qualitative and quantitative studies, has advanced our specific understanding of the reasons underlying variation in caregiver responses to BPSD. This is evidenced by the emergence of our new conceptual insights, which uncovered the underlying caregiver belief that their relative would inevitably lose their “personhood” to dementia.

This strengthened meta-ethnographic approach can also benefit future clinicians and policy-makers in their area of interest because it allows the use of the variety of studies available to them. Dixon-Woods and colleagues note an urgent need to develop rigorous methods for synthesizing diverse evidence, since policy makers, practitioners, and the patients they serve should be able to benefit from the range of evidence available. Barley and colleagues also synthesized both qualitative and quantitative studies successfully to develop new conceptual insights.

Our review has added to the rigor of meta-ethnography methodology in systematic reviews by demonstrating how diverse forms of evidence can be synthesized in a meaningful way. Readers are now equipped with guidance on how to manage a meta-ethnography with a potentially unwieldy amount of articles to be included. Furthermore, readers have a greater knowledge of how, and can measure via the use of a sensitivity analysis whether, poorer quality studies have affected their meta-ethnographic results.

## **Exercises and Discussion Questions**

1. Explain why meta-ethnography can be an appropriate method for a systematic review.

2. In what applications would meta-ethnography be an appropriate method and why?
3. What are the benefits and challenges when synthesizing diverse forms of data? What strategies do you suggest for addressing these challenges?
4. What are the disadvantages of including studies in a systematic review regardless of quality and what would be your rationale for using a quality threshold?

## Further Reading

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