

# Qualitative Health Research

<http://qhr.sagepub.com/>

---

## **A Comparative Analysis of Three Online Appraisal Instruments' Ability to Assess Validity in Qualitative Research**

Karin Hannes, Craig Lockwood and Alan Pearson

*Qual Health Res* 2010 20: 1736 originally published online 29 July 2010

DOI: 10.1177/1049732310378656

The online version of this article can be found at:

<http://qhr.sagepub.com/content/20/12/1736>

---

Published by:



<http://www.sagepublications.com>

**Additional services and information for *Qualitative Health Research* can be found at:**

**Email Alerts:** <http://qhr.sagepub.com/cgi/alerts>

**Subscriptions:** <http://qhr.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>


**Citations:** <http://qhr.sagepub.com/content/20/12/1736.refs.html>

>> [Version of Record](#) - Nov 22, 2010

[OnlineFirst Version of Record](#) - Jul 29, 2010

[What is This?](#)

# A Comparative Analysis of Three Online Appraisal Instruments' Ability to Assess Validity in Qualitative Research

Qualitative Health Research  
20(12) 1736–1743  
© The Author(s) 2010  
Reprints and permission:  
sagepub.com/journalsPermissions.nav  
DOI: 10.1177/1049732310378656  
http://qhr.sagepub.com  


Karin Hannes,<sup>1</sup> Craig Lockwood,<sup>2</sup> and Alan Pearson<sup>2</sup>

## Abstract

The concept of validity has been a central component in critical appraisal exercises evaluating the methodological quality of quantitative studies. Reactions by qualitative researchers have been mixed in relation to whether or not validity should be applied to qualitative research and if so, what criteria should be used to distinguish high-quality articles from others. We compared three online critical appraisal instruments' ability to facilitate an assessment of validity. Many reviewers have used the critical appraisal skills program (CASP) tool to complete their critical appraisal exercise; however, CASP appears to be less sensitive to aspects of validity than the evaluation tool for qualitative studies (ETQS) and the Joanna Briggs Institute (JBI) tool. The ETQS provides detailed instructions on how to interpret criteria; however, it is the JBI tool, with its focus on congruity, that appears to be the most coherent.

## Keywords

evidence-based practice; metasynthesis; research evaluation; review; validity

Current discussions on the potential of qualitative research findings to inform complex decision-making processes in policy and practice have increased the interest in qualitative evidence synthesis (QES). There is ongoing debate on whether or not quality assessment should be part of QES and if so, what criteria should be used to distinguish high-quality studies from others. In a recent review of an article by Cohen and Crabtree (2008) we identified seven quality dimensions in existing appraisal instruments: evaluation of researcher bias, validity, reliability, importance of the research project, clarity and coherence of research reports, ethics, and the use of appropriate and rigorous methods.

There is general agreement on the inclusion of the last four criteria; however, reactions by qualitative researchers have been mixed in relation to whether or not concepts such as bias, validity, and reliability should be applied to qualitative research. The concept of validity has been a central component in critical appraisal exercises from reviewers evaluating the methodological quality of quantitative studies (Higgins, Altman, the Cochrane Statistical Methods Group [CSMG], & the Cochrane Bias Methods Group [CBMG], 2008). It is mainly focused on the detection of risk of bias; that is, the risk that a study might over- or underestimate the true intervention effect. Qualitative researchers rely—implicitly or explicitly—on a variety of

understandings of validity in their evaluation of methodological quality. Smith (1984) argued that the basic epistemological and ontological assumptions of quantitative and qualitative research are incompatible. Consequently, it is inappropriate to apply measures such as validity to qualitative research. Other researchers hold a moderate viewpoint, assuming that some studies indeed are more rigorous than others, and that concepts such as researcher bias, validity, and reliability should be part of an assessment exercise (Hannes & the Cochrane Qualitative Research Methods Group [CQRMG], 2009; Morse, Barrett, Mayan, Olson, & Spiers, 2002).

A number of researchers have proposed translations of the concept of validity to the qualitative research community, such as rigor, trustworthiness, plausibility, and credibility (Eisner, 1991; Guba & Lincoln, 1989; Lincoln & Guba, 1985). These translations have been criticized by some and welcomed by others (Sandelowski, 1986;

<sup>1</sup>Catholic University Leuven, Leuven, Belgium

<sup>2</sup>University of Adelaide, Adelaide, South Australia, Australia

## Corresponding Author:

Karin Hannes, Catholic University Leuven, Centre for Methodology of Educational Research, A. Vesaliusstraat 2, 3000 Leuven, Belgium  
Email: karin.hannes@ped.kuleuven.be

Seale, 1999). To enable reviewers to critically appraise qualitative studies, we have to move beyond a translation. Any account of validity, to be productive, should begin with an understanding of what qualitative researchers actually do to establish validity. Maxwell (1992) deconstructed the concept of validity in five types of understanding: descriptive, interpretive, and theoretical validity, generalizability (also known as external validity), and evaluative validity. According to Maxwell, validity is based on the kinds of understanding we have of the phenomena under study rather than the procedures and instruments we use to evaluate validity in positivistic approaches. Validity refers primarily to accounts identified by researchers and is therefore relative to purposes and circumstances. Our approach to quality assessment was focused on the identification of potential threats to validity. This will assist reviewers in reflecting on these threats. One approach to evaluate whether or not methodological quality has an impact on a review of qualitative studies is to conduct sensitivity analyses (Harden, 2008). Such analyses provide reviewers with objective information on the impact of methodologically sound studies versus studies that contain methodological flaws. Maxwell's critical, realistic approach to quality assessment is useful as a framework of the kinds of threats to validity that we need to consider. It can be used to think about the nature of these threats, the possible ways that specific threats might be addressed, and is particularly helpful in trying to understand the different criteria that are used in recently developed critical appraisal instruments for qualitative research.

In this article we compare three critical appraisal instruments available online on the extent to which they include criteria that can facilitate reviewers in assessing the validity of an original qualitative study. In addition, we discuss techniques reviewers could search for when evaluating validity. To complete an assessment of qualitative research, reviewers need to define what exactly they wish to evaluate. They also need to be aware of the criteria that potentially reflect methodological soundness and the techniques authors of original studies might use to establish a methodologically sound study. In the context of this study, we define *criteria* as the standards to be upheld as ideals in qualitative research, and *techniques* as the methods employed to diminish validity threats (Whittemore, Chase, & Mandle, 2001). Maxwell's framework is a central component in the comparison of criteria.

## Method

We used four inclusion criteria to select appraisal instruments for the comparison: (a) broadly applicable to different qualitative research designs; (b) used in recently

published QES (2005 to 2008); (c) available online, ready to use, and free of charge; and (d) developed and supported by an organization, institute, or consortium, or a context other than individual academic interest. The latter generally facilitates ongoing use and development of the instrument, as well as more reliable access to the instrument in the long term. The online component adds to the timely accessibility of the instruments, particularly for users who do not have access to peer-reviewed journals. In addition, online availability facilitates communication with or feedback to the developers. We used an ongoing update of a review on published QES as a basis for identification of relevant articles published between 2005 and 2008 (Dixon-Woods, Booth, & Sutton, 2007). Eighty-two articles were included in the update (Hannes & Macaitis, 2010). Strategies for critical appraisal were among the data that were extracted. In a substantial number of the QES articles, the authors did not mention an appraisal instrument. Some explicitly stated that critical appraisal was not considered, failed to specify their tool, or used a fairly general description of the critical appraisal process. Others used modified versions from colleagues or copied criteria developed by scholars in the field of health care. We explored eight potentially relevant critical appraisal instruments in the context of our inclusion criteria, and excluded five instruments because (a) they were not (or were no longer) available as an online instrument (qualsyst, critical appraisal forms 2005, British Sociological Association medical sociology group criteria), (b) they addressed etiology instead of qualitative research (Spider tool), or (c) they focused on process evaluations instead of general qualitative research (evidence for policy and practice information and coordinating center tool).

Three instruments fit our inclusion criteria: the Joanna Briggs Institute (JBI) tool, the critical appraisal skills program (CASP) tool, and the evaluation tool for qualitative studies (ETQS). All three instruments were developed in the context of systematic reviews and can be used by reviewers to assist them in assessing the quality of original research articles. We refer the reader to the original instruments available online for a more detailed description per criterion.<sup>1</sup> To facilitate comparison, we grouped the criteria used in these three instruments under 11 main headings: theoretical frameworks; appropriateness of the research design; the procedures for data collection, data analysis, and the reporting of the findings; the context of research; the impact of the investigator; believability; ethics; adequacy of the conclusions; and value/implications of the research. The locus of categorization was interpretive and iterative. We used a constant comparative method to develop headings for criteria that cut across the selected and evaluated instruments, and cross compared the criteria

used in the CASP tool and the ETQS with the criteria used in the JBI tool. This resulted in a functional consistency of headings. Whenever two or more criteria appeared under one major heading in the original instrument, we separated them to facilitate the comparison. Table 1 displays the results of the comparison.

## Results

We set out to investigate whether the instruments presented criteria that could be of assistance to reviewers in assessing the validity of original qualitative research reports. The main headings derived from the constant comparative process were used to inform us. An overview can be found in Table 2. The following paragraphs expand on this table and describe the five types of validity identified by Maxwell (1992).

### *Descriptive Validity*

Descriptive validity refers to the process of data collection and can be used to evaluate the accuracy of reporting on specific events and situations. It is mainly focused on the representation of facts (rather than interpretations). Maxwell (1992) drew on the idea that intersubjective agreement can be achieved, given the appropriate data. Descriptive validity is reflected in criteria such as “investigator impact” and “context.” The latter criterion is not addressed in the CASP tool.

### *Interpretive Validity*

Interpretive validity refers to the accuracy in portraying the inner content of a research subject. It is focused on the meaning of recorded behaviors, events, or experiences of the people engaged with them. Interpretive accounts are constructed by researchers but are grounded in the words and concepts from the participants studied. Interpretive validity is reflected in the criterion “believability,” which is addressed in the JBI tool and the ETQS.

### *Theoretical Validity*

To address theoretical validity, researchers seek to answer questions such as how a phenomenon under study manifests itself and why it does so. It is meant to contain a level of abstraction in explicitly addressing the theoretical constructions and frameworks that researchers use to apply the knowledge generated from their projects. Appraisal of theoretical validity has been moved from an interest in the accuracy of accounts to legitimacy of the application of certain concepts or theories and their appropriateness. It is partly reflected in the “theoretical

framework” criterion, with a link to the “evaluation/outcome” criterion. Both are addressed in the JBI tool and the ETQS.

### *Generalizability (External Validity)*

Researchers can reach a degree of generalizability when they use their theories to go beyond making sense of particular persons or situations studied with their theories. They also add to the external validity of their study when they show how the same process might lead to similar (or different) results in other situations or in similar situations not directly observed. Although never the main goal of qualitative research, generalization is partly reflected in criteria discussing the “value and implications of research.” It is explicitly addressed in the ETQS, is addressed to a lesser extent in the CASP tool, and is not addressed in the JBI tool.

### *Evaluative Validity*

With the concept of evaluative validity researchers seek to establish the degree to which a certain phenomenon under study is legitimate, justified, or raises questions, and involves the application of an evaluative framework to the phenomenon under study (e.g., the student was wrong to throw an eraser at the teacher). Like generalizability, evaluative validity is not as central to qualitative research as descriptive, interpretive, and theoretical validity. It has little to do with the methods used in a particular study. The majority of researchers make no particular claim to evaluate their phenomenon under study. The concept has been conceptually linked to the “outcome/evaluation” criteria addressed in the JBI tool and the ETQS.

Other criteria reported in all three of the appraisal instruments included data collection, data analysis, and reporting of the findings. Accuracy of reporting and detailed reporting on the methods used in a study can certainly be of assistance to critical appraisal (Attree & Milton, 2006). However, these criteria add little to the identification of the choices researchers have made in their descriptive and interpretive accounts, nor do they contribute to a potential justification for the rationale of a researcher. These criteria can be used to facilitate an overall judgment of the quality of an article, and are useful in reflecting on the extent to which authors have conducted their research to an acceptable standard. The criterion “appropriateness of the research design” does not particularly add to the discussion on validity, either. It does, however, have an impact on the methodological soundness of a study. Each discipline has a body of practices, procedures, and rules that guide and inform scholarly inquiry.

**Table 1.** Cross Comparison of Evaluation Criteria

Criterion	JBI Tool	CASP Tool	ETQS
Theoretical framework	There is congruity between:	Screening questions: Was there a clear statement of the aims? Is a qualitative methodology appropriate?	Provides a study overview including bibliographic details, purpose, key findings, and summary of the study Includes name of reviewer and review date, space for comments What theoretical framework guides or informs the study? In what ways is the framework reflected in the way the study was done? How do the authors locate the study within the existing knowledge base?
	The stated philosophical perspective and the research methodology		
Appropriateness of research design	The research methodology and the research question or objectives	Was the research design appropriate to address the aims of the research?	
Data collection	The research methodology and the methods used to collect data	Was the recruitment strategy appropriate to the aims of the research? Were the data collected in a way that addressed the research issue?	What data collection methods are used to obtain and record data? Is the information collected with sufficient detail and depth to provide insight into the meaning and perceptions of informants? Is the process of fieldwork adequately described?
Data analysis	The research methodology and the representation and analysis of data	Was the data analysis sufficiently rigorous?	How were data analyzed? How accurate is the description?
Findings	The research methodology and the interpretation of results	Is there a clear statement of findings?	Are the findings interpreted within the context of other studies and theory?
Context	There is a statement locating the researcher culturally		What role does the researcher adopt within the setting?
Impact of investigator	The influence of the researcher on the research, and vice versa, is clear	Has the relationship between researchers and participants been adequately considered?	Are the researcher's own position, assumptions, and possible biases outlined? Is there evidence of reflexivity? (Has the researcher reflected on his potential personal influence in the collection and analysis of data?)
Believability	Participants, and their voices, are heard		Is adequate evidence provided to support the analysis (validity and reliability)?
Ethics	The research is ethical according to current criteria, or there is evidence of ethical approval by an appropriate body	Have ethical issues been taken into consideration?	Were ethics committee approval and informed consent obtained? Have ethical issues been adequately addressed?
Evaluation/ outcome	Conclusions drawn in the research report do appear to flow from the analysis, or interpretation, of the data		Is the conclusion justified given the conduct of the study?
Value and implications of research		How valuable is the research?	To what setting and population are the study findings generalizable? What are the implications for policy and practice?

Note. JBI = Joanna Briggs Institute; CASP = Critical Appraisal Skills Program; ETQS = Evaluation Tool for Qualitative Studies

**Table 2.** Types of Validity Addressed in the Critical Appraisal Instruments

Types of Validity	Description	Criteria	Appraisal Instruments
Descriptive validity	The degree to which descriptive information such as events, subjects, setting, time, and places are accurately reported	Impact of investigator Context	Evaluated in JBI, CASP, & ETQS JBI & ETQS
Interpretive validity	The degree to which participants' viewpoints, thoughts, intentions, and experiences are accurately understood and reported by the qualitative researcher	Believability	Evaluated in JBI & ETQS
Theoretical validity	The degree to which a theory or theoretical explanation informing or developed from a research study fits the data and is, therefore, credible and defensible	Theoretical framework	Evaluated in JBI & ETQS
Generalizability	The degree to which findings can be extended to other persons, times, or settings than those directly studied	Value and implications of research	Evaluated in CASP & ETQS
Evaluative validity	The degree to which an evaluative framework or critique is applied to the object of study	Evaluation/outcome	Evaluated in JBI & ETQS

Note. JBI = Joanna Briggs Institute; CASP = Critical Appraisal Skills Program; ETQS = Evaluation Tool for Qualitative Studies

It is therefore important to include the appropriateness criterion, at least in the list of screening questions.

## Discussion

We evaluated the extent to which three online, publically available critical appraisal instruments can be used to facilitate the assessment of validity in qualitative research reports. Building on Maxwell's (1992) framework, we could argue that the discourse should focus on criteria such as believability, impact of the investigator, context, and the relationship between them (see Table 1). This, though, would evaluate researcher bias resulting from selective observation or recording of information and ungrounded interpretation of data related to a nonreflective attitude of the researcher. It might not differ fundamentally from the "risk of bias" (the potential over- or underestimation of an effect) definition used to appraise quantitative research designs (Higgins et al., 2008). Risk of bias is intertwined with the instruments used to retrieve results. Quantitative researchers would typically use calibrated or validated external measurement instruments and statistical programs. In qualitative research, the investigator is the instrument through which data are collected and analyzed (Brody, 1992). Therefore, criteria closely linked to the investigator's potential influence and interpretation are crucially important to assess validity. Maxwell's deconstruction of the concept of validity into descriptive, interpretative, theoretical, external, and evaluative validity facilitates the comparison between appraisal instruments. Winter (2000) criticized Maxwell's idea to link validity to certain stages of a research

project. Descriptive validity is related to the initial stage of data collection and refers to the registration of facts. It is, however, extremely difficult to eliminate interpretation from this phase. Furthermore, there is a very thin line between concepts such as theoretical validity and generalizability. Theoretical frameworks are meant to guide the data analysis process, but are also used in an attempt to generalize beyond the original research results. Because of this potential overlap between concepts of validity, assigning evaluation techniques to a particular category is somehow artificial. Several authors have reported on evaluation techniques to deal with the aspect of validity in original research articles.

It is important to establish accuracy in what researchers report as information retrieved from participants in evaluating descriptive validity. Such reporting includes descriptions from events, behavior or characteristics of the participants, setting, time, and place. Methods and investigator triangulation are considered useful techniques (Denzin, 1978; Mays & Pope, 1995). Different methods that produce different data or accounts of the same events raise concerns about the descriptive validity of the accounts (Maxwell, 1992). The accuracy of reporting can be increased through the use of multiple observers recording and describing the participants' behavior and context, which allows for cross checking of observations (Giacomini & Cook, 2000). Techniques to increase interpretive validity include the display of citations and verbatim interview excerpts laying out the participants' views, behaviors, perceptions, thoughts, feelings, or experiences. In addition, reviewers should evaluate whether these were correctly interpreted by the researcher.

Member checking, participant feedback, and close collaboration with participants verify insights from a researcher. However, these techniques do not allow researchers to feed back any theoretical abstractions of what has been stated or observed during the research process. One could ask, for example, for an opinion on whether the categorical classification of participants' statements is congruent with the meaning they intended to express through a particular quote. Other appropriate strategies include the analysis of data by more than one independent researcher and the calculation of interrater agreements. One of the techniques to promote interpretive validity is self-reflection by the researcher on potential biases, preconceptions, assumptions, and reference frameworks that might affect the research process and conclusions. Creswell and Miller (2000) suggested prolonged engagement in the field—also referred to as persistent observation—to improve theoretical validity. This means that researchers spend enough time studying their subjects and their setting to be able to create a set of patterns or relationships that are stable and contribute to an understanding of why these occur.

Another strategy is to explore different theories to help interpret and explain data (theory triangulation). This could include the search for deviant cases or disconfirming evidence or the use of multiple working hypotheses for questions that cannot be addressed by one single theory (Miles & Huberman, 1994). By using theory triangulation, researchers can examine how theoretical models complement, supplement, or controvert each other. In more deductive approaches to qualitative research, pattern matching might occur. Researchers would typically predict a series of results that form a pattern and then determine the degree to which the actual results fit the predicted pattern (Burke Johnson, 1998). Reviewers can also look for details of the study participants, demographics, contextual background information, and thick description about both the sending and the receiving context. This approach enables reviewers to make informed decisions about to whom the results might be generalized or to which groups the findings can be transferred.

Another strategy researchers might use is replication logic. This refers to the degree of confidence we have in a particular finding when it shows to be true for different sets of people. In that case, we assume that it applies more broadly (Campbell, 1979; Yin, 1994). There are no clear techniques that facilitate evaluative validity, mainly because it is an almost unconscious activity within the research project itself, and part of the reflective process of the researcher. Assessing the value of something or judging the objects under study will depend very much on the circumstances. Both the JBI tool and the ETQS include an "evaluation/outcome" criterion. This can be used to evaluate the congruity between conclusions and

other parts of the research process rather than the legitimization of the conclusions. Clarifying the link between the conclusion and other stages of a research project might contribute to evaluative validity. We doubt, however, that this very act would capture the full meaning Maxwell (1992) assigned to the concept. Ethics are important to consider in judging the findings and outcomes of research. These techniques are all useful; however, they should not be rigidly applied. They can be of assistance in evaluating research, but do not contribute directly to the rigor of a qualitative research project, nor do they provide us with an accurate picture of whether the choices researchers made were grounded. We would benefit from a reflexive dialogue between researchers and reviewers as promoted by Stige, Malterud, and Midtgarden (2009), and an extensive knowledge of research paradigms and methodologies, to be able to fully understand these issues. Checklists can nevertheless provide us with an interesting list of criteria to be considered in assessing the level of methodological soundness of a study.

There are some interesting differences between the instruments compared. The JBI tool does not include a criterion that facilitates the assessment of external validity or relevance of original studies to be included in QES. It is debatable whether or not relevance is an issue that needs to be evaluated in the context of a critical appraisal exercise. Like ethics, the relevance criterion most likely has its roots in the idea that research should address the concerns of practitioners rather than be the product of individual academic interest. However, these criteria are unlikely to have direct implications on the methodological quality of a study. Of the three instruments, the CASP tool seems to be the least sensitive to validity. It does not facilitate the evaluation of interpretative and theoretical validity (see Table 1). We believe an evaluation of interpretative and theoretical validity is crucial for the establishment of a methodologically sound qualitative study.

Most qualitative research is inductive. Researchers typically look at reality and try to develop a theory from the information derived from the field. The philosophical position of researchers toward a research project determines not only their choice of an appropriate method but also the window through which they will be looking at the data. It has a direct impact on the way the findings will be interpreted and presented. Therefore, a research article that does not reveal what view of reality the researchers held can be described as highly mechanistic (Wilson, 2002). Although the CASP tool is a popular appraisal instrument—most likely because it is a user-friendly alternative for novice researchers—it does not score particularly well in evaluating the intrinsic methodological quality of an original study when compared with other instruments. The ETQS provides more detailed instructions on how to interpret criteria than the

JI tool. However, it is the latter, with its focus on congruity, that appears to be the most coherent. It would be interesting to assess whether these appraisal instruments are indeed applicable to a broad range of qualitative research designs, and to assess their validity, in future research projects.

### Acknowledgments

We thank Catalin Tufanaru for assisting us in labeling the criteria, and the staff members from the Joanna Briggs Institute for accepting the lead author as a visiting research fellow.

### Declaration of Conflicting Interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

### Funding

The authors received no financial support for the research and/or authorship of this study.

### Note

1. The JBI tool was developed through an analysis of the literature and input from a panel of experts from Australian universities. It has been extensively piloted and refined before being incorporated into the JBI qualitative assessment and review instrument software developed to assist reviewers in completing systematic reviews of qualitative research (JBI, 2007). The CASP tool was developed by the Public Health Resource Unit of the National Health Service in collaboration with the U.K. Centre for Evidence Based Medicine and the Birmingham critical appraisal skills program. The instrument provides users with an extensive amount of additional information as to how the criteria on rigor and relevance of an original research report should be interpreted (Public Health and Resource Unit, 2009). The ETQR was developed by the Health Care Practice Research and Development Unit from the University of Salford, in collaboration with the Nuffield Institute and the University of Leeds. The emphasis lies on the areas of study context and the process of data collection and analysis. The developers of the instrument were particularly concerned with meaning, context, and depth. They provided the researcher with a set of core questions, and then elaborated on what was meant by it (Health Care Practice Research and Development Unit, 2009).

### References

- Attree, P., & Milton, B. (2006). Critically appraising qualitative research for systematic reviews: Defusing the methodological cluster bomb. *Evidence & Policy*, 2, 109-126.
- Brody, H. (1992). Philosophic approaches. In B. Crabtree & W. Miller (Eds.), *Doing qualitative research* (pp. 174-185). Newbury Park, CA: Sage.
- Burke Johnson, R. (1998). Examining the validity structure of qualitative research. *Education*, 118, 282-292.
- Campbell, D. T. (1979). Degrees of freedom and the case study. In T. D. Cook & C. S. Reichardt (Eds.), *Qualitative and quantitative methods in evaluation research* (pp. 49-67). Beverly Hills, CA: Sage.
- Cohen, D. J., & Crabtree, B. F. (2008). Evaluative criteria for qualitative research in health care: Controversies and recommendations. *Annals of Family Medicine*, 6, 331-339. doi:10.1370/afm.818
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory and Practice*, 39, 124-130.
- Denzin, N. K. (1978). *The research act: A theoretical orientation to sociological methods* (2nd ed.). New York: McGraw-Hill.
- Dixon-Woods, M., Booth, A., & Sutton, A. J. (2007). Synthesizing qualitative research: A review of published reports. *Qualitative Research*, 7, 375-422. doi:10.1177/1468794107078517
- Eisner, E. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practices*. New York: Macmillan.
- Giacomini, M. K., & Cook, D. J. (2000). User's guide to the medical literature XXIII: Qualitative research in health care. a. Are the results of the study valid? *Journal of the American Medical Association*, 284, 357-362. doi:10.1001/jama.284.3.357
- Guba, E., & Lincoln, Y. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Hannes K., & the Cochrane Qualitative Research Methods Group. (2009). *Chapter 6: Critical appraisal of qualitative research*. Retrieved from [http://www.joannabriggs.edu.au/cqrmg/documents/Cochrane\\_Guidance/Chapter6\\_Guidance\\_Critical\\_Appraisal.pdf](http://www.joannabriggs.edu.au/cqrmg/documents/Cochrane_Guidance/Chapter6_Guidance_Critical_Appraisal.pdf)
- Hannes, K., & Macaitis, K. (2010). *Update on a review of published qualitative evidence syntheses: Moving toward more systematic and transparent approaches*. Manuscript submitted for publication.
- Harden, A. (2008, June-July). *Critical appraisal and qualitative research: Exploring sensitivity analyses*. Paper presented at the Research Methods Festival of the National Centre for Research Methods, Oxford, United Kingdom.
- Health Care Practice Research & Development Unit. (2009). *Evaluation tool for qualitative research*. Retrieved from <http://www.fhsc.salford.ac.uk/hcprdu/qualitative.htm>
- Higgins, J. P. T., Altman, D. G., the Cochrane Statistical Methods Group, & the Cochrane Bias Methods Group. (2008). Assessing risk of bias in included studies. In J. P. T Higgins & S. Green (Eds.), *Cochrane handbook for systematic reviews of interventions* (Version 5.0.1). Retrieved from <http://www.cochrane-handbook.org>
- Joanna Briggs Institute. (2007). *SUMARI: The Joanna Briggs Institute system for the unified management, assessment and review of information*. Adelaide, Australia: Author. Retrieved from <http://www.joannabriggs.edu.au/services/sumari.php>
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.



- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review*, 62, 279-300.
- Mays, N., & Pope, C. (1995). Rigour in qualitative research. *British Medical Journal*, 311, 109-112.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Newbury Park, CA: Sage.
- Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1(2), 1-19. Retrieved from [http://www.ualberta.ca/~iiqm/backissues/1\\_2Final/pdf/morseetal.pdf](http://www.ualberta.ca/~iiqm/backissues/1_2Final/pdf/morseetal.pdf)
- Public Health Resource Unit, Critical Appraisal Skills Program. (2009). *Critical appraisal tool for qualitative studies*. Retrieved from [http://www.phru.nhs.uk/Doc\\_Links/Qualitative%20Appraisal%20Tool.pdf](http://www.phru.nhs.uk/Doc_Links/Qualitative%20Appraisal%20Tool.pdf)
- Sandelowski, M. (1986). The problem of rigor in qualitative research. *Advances in Nursing Science*, 8, 27-37.
- Seale, C. (1999). Quality in qualitative research. *Qualitative Inquiry*, 5, 465-478. doi:10.1177/107780049900500402
- Smith, J. K. (1984). The problem of criteria for judging interpretive inquiry. *Educational Evaluation and Policy Analysis*, 6, 379-391. doi:10.3102/01623737006004379
- Stige, B., Malterud, K., & Midtgarden, T. (2009). Toward an agenda for evaluation of qualitative research. *Qualitative Health Research*, 19, 1504-1516. doi:10.1177/1049732309348501
- Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in qualitative research. *Qualitative Health Research*, 11, 522-537. doi:10.1177/104973201129119299
- Wilson, T. D. (2002, July). *Philosophical foundations and research relevance: Issues for information research*. Paper presented at the Fourth International Conference on Conceptions of Library and Information Science, Seattle, Washington.
- Winter, G. A. (2000, March). Comparative discussion of the notion of "validity" in qualitative and quantitative research. *The Qualitative Report*, 4(3/4). Retrieved from <http://www.nova.edu/ssss/QR/QR4-3/winter.html>
- Yin, R. K. (1994). *Case study research: Design and methods*. Newbury Park, CA: Sage.

### Bios

**Karin Hannes**, PhD, MEd, MSc, is a senior research fellow and teacher of research methodology at the Centre for Methodology of Educational Research in the Catholic University Leuven, and senior researcher at the Belgian Center for Evidence-Based Medicine, Belgian Cochrane Branch, in Leuven, Belgium.

**Craig Lockwood**, RN, BN, MNsc, is associate director of the research and innovation unit at the Joanna Briggs Institute, University of Adelaide, Adelaide, Australia.

**Alan Pearson**, PhD, RN, MSc, is a professor of evidence-based health and executive director of the Joanna Briggs Institute, University of Adelaide, Adelaide, Australia.