

## QUESTIONNAIRE ORIGIN & DEVELOPMENT APPRAISAL (QODA) TOOL VERSION V3 (2018-12-07)

Joshua Hamzeh<sup>1-2</sup> ; Navdeep Kaur<sup>1-2</sup> ; Paula L. Bush<sup>1-2</sup> ; Catherine Hudon<sup>1-3</sup> ; Tibor Schuster<sup>1-2</sup> ; Isabelle Vedel<sup>1-2</sup> ; Quan Nha Hong<sup>1-2</sup> ; Pierre Pluye<sup>1-2</sup>

[1] Method Development, Quebec SPOR Support Unit; [2] Department of Family Medicine, McGill University; [3] Department of Family Medicine, Université de Sherbrooke.

*Cite as: Hamzeh, J., Kaur, N., Bush, P.L., Hudon, C., Schuster, T., Vedel, I., Hong, Q.N., & Pluye, P. (2018). The Questionnaire Origin and Development Appraisal tool. [McGill Family Medicine Studies Online, 13: e06](#)*

### INTRODUCTION

The Questionnaire Origin & Development Appraisal (QODA) tool is a critical appraisal tool for assessing the quality of both the origin and the initial development of any questionnaire used for assessing clinical practice, educational programs, and health service/policy. The development of the QODA tool is based on Haynes et al.'s (1995) best practices for creating and developing assessment-related questionnaires in educational and clinical fields as well as in psychometrics. Although, published in 1995, these best practices remain relevant, but were not designed for critical appraisal. Indeed, they are aligned with current international standards (American Educational Research Association (AERA), American Psychological Association (APA), National Council on Measurement in Education (NCME), 2014). The lack of corresponding critical appraisal tool led to conceive the QODA. The origin and development of the QODA tool is presented elsewhere (Hamzeh et al., in press).

The QODA complements the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) tools which are used for appraising measurement properties of assessment-related questionnaires (Mokkink et al., 2010). For example, a questionnaire used by clinicians, managers, policy-makers, patients and researchers to assess clinical practice can (1) have an appropriate origin and initial development (assessed with the QODA tool), and (2) be validated and reliability-tested (i.e., measurement properties assessed with COSMIN tools). Stated otherwise, users of an assessment-related questionnaire should at least appraise the quality of its origin and initial development (using QODA) before they appraise its measurement properties (using COSMIN tools).

**Note for QUALITY IMPROVEMENT TEAMS:** The QODA tool can help to decide whether an assessment-related questionnaire can be used for a project; e.g., a team may decide to use only questionnaires with clear origin and development.

### INSTRUCTIONS for using the QODA tool

- Collect all publications and documents associated with the questionnaire of interest.
- Indicate the extent to which you agree with each QODA statement
  - '0 = Not applicable', or
  - '1 = Strongly disagree' when the information suggests the statement is false, or
  - '2 = Disagree' when information is not provided and cannot be deduced, or
  - '3 = Neither agree nor disagree, or
  - '4 = Agree' when this can be deduced from available information, or
  - '5 = Strongly agree' when the information is clearly provided.

**GLOSSARY:** Researchers use different terminologies for the key conceptual elements of the questionnaires they create and develop. Two common terminologies (from specific to general) are as follows: (1) response/item, facet, concept and construct in psychometry; and (2) response/item, factor, dimension and construct in clinical and educational evaluation. The latter is used in QODA. Hereafter, '**Responses**' refer to participants' answers to the questionnaire such as yes/no, or Likert-scales response options. '**Items**' refer to questions or statements, which represent themes or variables that explain or predict the construct the questionnaire assesses. '**Dimensions**' refer to the aspects of the construct (each dimension includes several items). '**Construct**' refers to what is being assessed (usually derived from, or related to, a conceptual framework, or theoretical model).

*NOTE: Sometimes, complex questionnaires have constructs and sub-constructs, dimensions and sub-dimensions, for which the QODA statements must be adapted.*

**PART A. INITIAL DEVELOPMENT (CONSTRUCT & SPECIFICATION OF ITEMS)**

Indicate the degree to which you agree or disagree.

	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. The definition of the construct(s) measured by the questionnaire is/are appropriate.	0	1	2	3	4	5

*If 'Neither agree nor disagree', or 'Disagree', or 'Strongly disagree', skip to PART D.*

	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2. There is coherence between dimensions and the construct.	0	1	2	3	4	5
3. There is coherence between dimensions and items.	0	1	2	3	4	5
4. There is coherence between items and response scale(s).	0	1	2	3	4	5
5. The response scale(s) is/are appropriate.	0	1	2	3	4	5
6. The purpose of the questionnaire is appropriate.	0	1	2	3	4	5
7. The target population is appropriate:	0	1	2	3	4	5

Who is the target population of the questionnaire? Check all that apply.

- Clinicians
- Decision/policy-makers
- Patients-public
- Practitioners
- Researchers
- Other

If 'Other', please describe here:

Comment your ratings when needed (e.g., to keep track of the process and facilitate future inter-rater discussion):

**PART B. ORIGIN (CONSTRUCT & SOURCES OF ITEMS)**

For questions 8-13, indicate the degree to which you agree or disagree.

	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
8. Dimensions and items are derived from the input of content experts (such as researchers) who are not the intended users of the questionnaire.	0	1	2	3	4	5
9. Dimensions and items are derived from the practical experience of the intended users of the questionnaire (such as professionals or patients).	0	1	2	3	4	5
10. Dimensions and items are derived from other questionnaires relevant to the construct.	0	1	2	3	4	5
11. Dimensions and items are derived from a conceptual framework or theory relevant to the construct.	0	1	2	3	4	5
12. Dimensions and items are derived from empirical studies relevant to the construct.	0	1	2	3	4	5
13. The purpose of the questionnaire is supported by research work (such as theoretical or empirical work).	0	1	2	3	4	5

14. If you answered 'Neither agree nor disagree', or 'Disagree', or 'Strongly disagree', to 10, 11, 12, and 13:

How were the dimensions, items, and purpose, generated and selected?

- I can tell      Please specify: \_\_\_\_\_
- I cannot tell      Comment as needed: \_\_\_\_\_

Comment your ratings when needed (e.g., to keep track of the process and facilitate future inter-rater discussion) regarding:

- the researchers' expertise:...
- the mobilized experience(s):...
- these questionnaires:....
- this theoretical foundation :...
- the empirical literature (research area and topic): ...

**PART C. ORIGIN (METHODOLOGICAL QUALITY OF STUDIES SUPPORTING THE ORIGIN OF THE QUESTIONNAIRE)**

**Instructions: .**

- When the study uses qualitative research methodology (e.g., ethnography) and methods (e.g., focus groups), use 15a to 19a.
- When the study uses quantitative descriptive methods (e.g., survey research), use 15b to 19b.

*Items from the validated Mixed Methods Appraisal Tool (Hong et al., 2018)*

	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
<b>QUALITATIVE</b>						
15a. The qualitative approach to answer the research question is appropriate.	0	1	2	3	4	5
16a. The qualitative data collection methods to address the research question are adequate.	0	1	2	3	4	5
17a. The findings are adequately derived from the data.	0	1	2	3	4	5
18a. The interpretation of results is sufficiently substantiated by data.	0	1	2	3	4	5
19a. There is coherence between qualitative data sources, collection, analysis and interpretation.	0	1	2	3	4	5
<b>QUANTITATIVE</b>						
15b. The sampling strategy is relevant to address the research question.	0	1	2	3	4	5
16b. The sample is representative of the target population.	0	1	2	3	4	5
17b. The measurements are appropriate.	0	1	2	3	4	5
18b. The risk of nonresponse bias is low.	0	1	2	3	4	5
19b. The statistical analysis to answer the research question is appropriate.	0	1	2	3	4	5

Comment your ratings when needed (e.g., to keep track of the process and facilitate future inter-rater discussion):

**PART D. INITIAL DEVELOPMENT (CLARITY OF CONSTRUCT AND ITEMS; SPECIFICATION OF RESPONSE OPTIONS, SCALES AND INSTRUCTIONS)**

	Not applicable 0	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
20. Information on the questionnaire development phase is provided						

*If answer is 'NA' or 'Strongly disagree' or 'Disagree' or 'Neither agree nor disagree', skip all the following questions (end of the appraisal of the development process).*

	Not applicable 0	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
21. The rationale for any modification of dimensions was appropriate.						
22. The rationale for any modification of items was appropriate.						
23. The rationale for transforming data (such as weighting and standardization of the responses) is appropriate.						
24. The instructions for administering (or completing) the questionnaire are clear.						

Comment your ratings when needed (e.g., to keep track of the process and facilitate future inter-rater discussion):

**REFERENCES**

- American Educational Research Association (AERA), American Psychological Association (APA), National Council on Measurement in Education (NCME). Standards for educational and psychological testing: American Educational Research Association; 2014.
- Hamzeh, J., Kaur, N., Bush, P., Hudon, C., Schuster, T., Vedel, I., Hong, Q.N., & Pluye, P. (in press). Towards a Comprehensive Questionnaire Origin and Development Appraisal Tool: A Literature Review and a Modified Nominal Group. Education for Information.
- Haynes SN, Richard DCS, Kubany ES. Content validity in psychological assessment: A functional approach to concepts and methods. Psychol Assess. 1995;7(3):238-47.
- Hong QN, Pluye P, Fàbregues S, Bartlett G, Boardman F, Cargo M, Dagenais P, Gagnon M-P, Griffiths F, Nicolau B, O’Cathain A, Rousseau M-C, Vedel I. Mixed Methods Appraisal Tool (MMAT), version 2018. Registration of Copyright (#1148552), Canadian Intellectual Property Office, Industry Canada
- King, G., Servais, M., Kertoy, M., Specht, J., Currie, M., Rosenbaum, P., (...), & Willoughby, T. (2009). A measure of community members’ perceptions of the impacts of research partnerships in health and social services. Evaluation and Program Planning, 32(3), 289-299.
- Mokkink, L. B., Terwee, C. B., Gibbons, E., Stratford, P. W., Alonso, J., Patrick, D. L., (...), & De Vet, H. C. (2010). Inter-rater agreement and reliability of the COSMIN (COnsensus-based Standards for the selection of health status Measurement Instruments) checklist. BMC Medical Research Methodology, 10(1), 82.