RNAO Healthcare Excellence Canada

LEADING CHANGE TOOLKIT™

TO HELP CHANGE AGENTS AND CHANGE TEAMS MAKE LASTING IMPROVEMENTS IN HEALTH CARE

Evidence-Based Concepts: Knowledge, Attitudes and Use Survey (EBCKAU)

Pragmatic Testing and Content Validity Data

Summary of Pragmatic properties

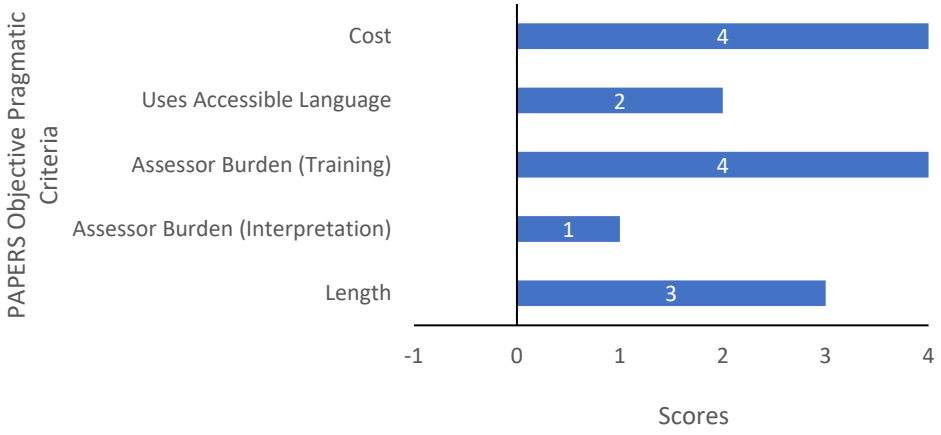
The EBCKAU tool had an overall **objective pragmatic score** of **14** out of **20**. According to this objective pragmatic assessment, the EBCKAU tool's strengths include being available in the public domain, having acceptable language, not requiring training for administration, and having less than 50 items. The EBCKAU tool lost scores because interpretation of the total score is not clearly outlined.

Based on two RNAO stakeholders, the EBCKAU tool was rated **1.5** out of **4** for **likelihood to use**. The EBCKAU tool has an overall **stakeholder facing assessments** score of **12.5** out of **24**.

Tool Pragmatic Properties

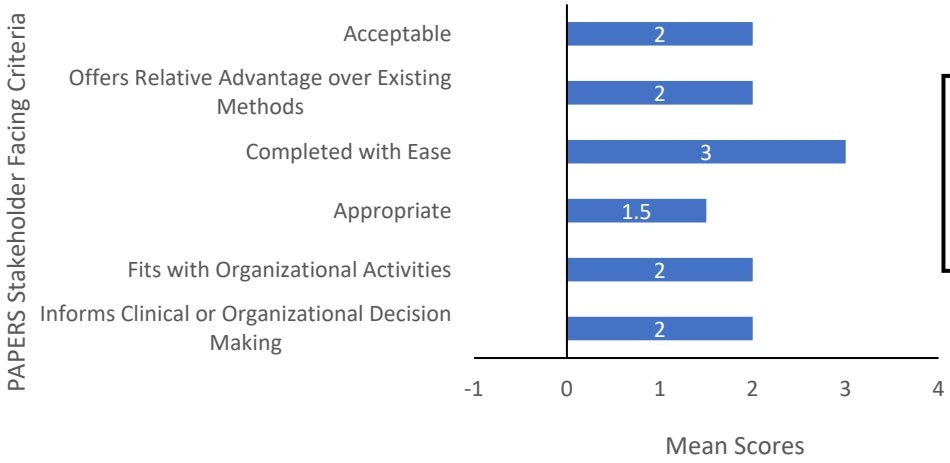
Tools were assessed for pragmatic properties with the PAPERS tool (Stanick et al. 2019); a validated tool for measuring a tool's acceptability, ease of use, appropriateness, and usefulness. Objective pragmatic properties were assessed by two research assistants independently and with consensus for each tool. Stakeholder facing pragmatic properties were assessed independently by at least two stakeholders (e.g., champions) for each tool. A mean score was calculated from participants' responses for each of the stakeholder facing PAPERS survey questions.

PAPERS Objective Pragmatic Criteria - Scoring details below



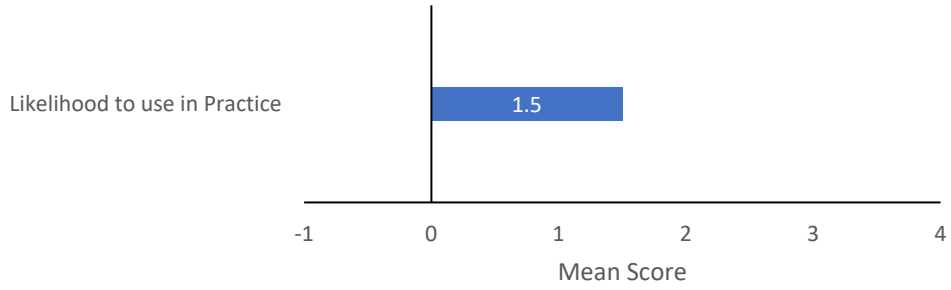
Overall PAPERS Objective Pragmatic Score:
14 (out of 20)

PAPERS Stakeholder Facing Criteria (n = 2 stakeholders) - Scoring details below



Overall PAPERS Stakeholder Facing Criteria Score:
12.5 (out of 24)

Likelihood to Use the Tool in Practice (n = 2 stakeholders) - Scoring details below



Content Validity

Summary of Content Validity

According to our assessment using an adapted checklist by Mokkink et al. (2010), the EBCKAU tool has evidence of content validity.

Content validity refers to degree to which the content of the tool is an adequate reflection of the construct being measured. In the case of the Evidence-Based Concepts: Knowledge, Attitudes and Use (EBCKAU), this refers to the extent that individuals can use the EBCKAU tool to assess barriers/facilitators to knowledge use and monitor knowledge use according to the following sections:

- Knowledge Section:
  - Knowledge of evidence-based practice (EBP) concepts
  - Confidence in Knowledge
- Attitudes Section:
  - Familiarity with EBP process
  - Interest in EBP process
  - Perceived importance of EBP process towards EBP
- Use Section:
  - Confidence in use of EBP Process
  - Intended future use of EBP process

General Requirements	Yes	No
1. Was there an assessment of whether all items refer aspects of the construct to be measured?	X	
2. Was there an assessment of whether all items are relevant for the study population? (e.g., age, gender, disease characteristics, country, setting)	X	
3. Was there an assessment of whether all items are relevant for the purpose of the measurement instrument? (discriminative, evaluative, and/or predictive)	X	
4. Was there an assessment of whether all items together comprehensively reflect the construct to be measured?		x

Adapted from: Mokkink, L.B., Terwee, C.B., Knol, D.L., Stratford, P.W., Alonso, J., Patrick, D.L., Bouter, L.M. and De Vet, H.C. (2010). The COSMIN checklist for evaluating the methodological quality of studies on measurement properties: a clarification of its content. *BMC medical research methodology*, *10*(1), 1-8.

According to our assessment using an adapted checklist by Mokkink et al. (2010), the EBCKAU tool has evidence of content validity.

Content Validity Requirement 1:

- The tool developers stated that the EBKAU was examined for content validity through a blueprint design (i.e., each item was constructed according to the learning objectives of their educational intervention) and by a panel of athletic trainers (intended target group of the survey at development/educational intervention) (Manspeaker et al., 2011).

Content Validity Requirement 2:

- The tool developers stated that an unknown number of athletic trainers examined the content validity of the EBKAU (Manspeaker et al., 2011).

Content Validity Requirement 3:

- The tool developers tested the EBKAU's ability to evaluate changes in knowledge, attitude, and reported future use of EBP after an educational intervention on 78 students. The authors reported that by using the EBKAU in their study, they were able to capture a statistically significant change in student's EBP knowledge, confidence in their EBP knowledge, familiarity with EBP and confidence in using EBP after an education intervention (Manspeaker et al., 2011).

Content Validity Requirement 4:

- The tool developers stated that the EBKAU does not assess high levels of EBP knowledge. Examples provided by the authors of higher level EBP knowledge include the application, the evaluation, and the statistical concepts used in EBP. Therefore, we can argue that the EBKAU does not comprehensively reflect EBP processes (Manspeaker et al., 2011).

Limitations:

- A limitation of the validation of the EBKAU is that there was no description of the panel of athletic trainers that assessed content validity (e.g., expertise, number of athletic trainers etc.). Further, as mentioned above, the construction of the EBKAU was intended for undergraduate athletic trainers who may not be as familiar with EBP; this limited the authors to construct knowledge items that are only on foundational concepts of EBP. Lastly, structural and construct validity was not assessed for EBKAU (Manspeaker et al., 2011).

References

Manspeaker, S. A., Van Lunen, B. L., Turocy, P. S., Pribesh, S., & Hankemeier, D. (2011). Student knowledge, attitudes, and use of evidence-based concepts following an educational intervention. *Athletic Training Education Journal*, *6*(2), 88-98.

Mokkink, L.B., Terwee, C.B., Knol, D.L., Stratford, P.W., Alonso, J., Patrick, D.L., Bouter, L.M. and De Vet, H.C. (2010). The COSMIN checklist for evaluating the methodological quality of studies on measurement properties: a clarification of its content. *BMC medical research methodology*, *10*(1), 1-8.

Stanick, C. F., Halko, H. M., Nolen, E. A., Powell, B. J., Dorsey, C. N., Mettert, K. D., Weiner, B. J., Barwick, M., Wolfenden, L., Damschroder, L. J., & Lewis, C. C. (2019, Nov 20). Pragmatic measures for implementation research: development of the Psychometric and Pragmatic Evidence Rating Scale (PAPERS). *Translational Behavioral Medicine*. https://doi.org/10.1093/tbm/ibz164