English Version of the Evidence Based Practice Competence Questionnaire: Validity Assessment among Nursing Students

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INTRODUCTION

- Validity describes an assessment's successful function and results. A valid tool must be implemented to determine if the knowledge and skills demonstrated during an Evidence-Based Practice (EBP) course will transfer to their professional practice once students become licensed Registered Nurses.
- The **Evidence Based Practice Competence Questionnaire (EBP-COQ)** developed by Ruzafa-Martinez is a 25-item tool clustered to 3 subscales: attitudes (13 items) skills (6 items) and knowledge (6 items), specifically for nursing students which captures each of the EBP outcomes university level courses are intended to meet.
- Currently this tool is written in the Spanish language and has also been successfully translated into the Turkish language. Thus far, an English translated version has not been reported or validated.
- **Objective.** The purpose of this study was to evaluate the psychometric properties (validities) and the ease of use of instruments among nursing students.

METHODS

A total of 93 undergraduate nursing students in a university located in the metro-Denver area of Colorado participated in this study.

- The tool was translated using a **back-translation technique**. Some items in the first English version were modified to better correspond to the meaning of the original item in the EBP-COQ. The content of the final EBP-COQ was further verified by back translation procedure until both translated and back-translated versions are considered completely interchangeable, conceptually and linguistically.
- To ensure that the degree of instrument covers the content that is supported to be measured and correspondence to the original work; this project addressed **face and content validity**, as well as **construct validity**.
- Six experts were identified and invited to review the instrument for face and content validity, including **clarity, relevance,** and **essentially.**
- A CVI index of greater that **80% or 0.80** is a high value which denotes a high level of agreement.
- Internal Consistency (Cronbach's alpha) is acceptable between **0.7-0.9.**

RESULTS

1. Content Validity Result

- Based on feedback from the experts and the results of CVI of each item.
  - 16 items were revised with significant rewording to remove ambiguity of the phrasing.
  - 3 items had the sentencing structure rearranged to increase clarity.
- Content validity comparisons (1st vs. 2nd)

	Clarity		Relevance		Essential	
	1st_CVI	2nd_CVI	1st_CVI	2nd_CVI	1st_CVI	2nd_CVI
Attitudes	2.94 (73.40%)	3.85 (96.15%)	3.47 (86.87%)	3.85 (96.15%)	3.54 (88.5%)	3.79 (94.85%)
Skills	3.03 (75.63%)	3.75 (93.71%)	3.86 (96.50%)	3.86 (96.50%)	3.83 (95.83%)	3.83 (95.83%)
Knowledge	2.86 (71.58%)	3.75 (93.71%)	3.53 (88.17%)	3.97 (99.29%)	3.45 (86.13%)	3.97 (99.29%)
Total	2.94 (73.54%)	3.78 (94.52%)	3.62 (90.53%)	3.89 (97.31%)	3.61 (90.15%)	3.87 (96.64%)

Note: 1st_Overall CVI:3.39 (84.74%);
2nd_Overall CVI: 3.85 (96.16%)

2. Construct Validity Result

- The results indicated the tool had acceptable internal consistency (Cronbach's alpha for three subscale >0.70).
- The correlation coefficient between the items and the total scores were 0.33-0.66.
- The exploratory factor analysis method generated 3 factors that accounted for 65.78%.

DISCUSSION

- Instrument translation process involves **cultural equivalency** of original instrument which can be a challenge to translate into another language.
- Used **multicultural bilingual translators** who are fluent in Spanish and English.
- Considered **semantic equivalence** to ensure translated terms can be understood as close to the same meaning for the targeted cultural group.
- **Content validity** applied to ensure that the degree of instrument covers the content that is supported to be measured and corresponds to the original work.
- To assess the ability and the validity of the scale by using **exploratory factor analysis.**
- Our findings appear to have adequate validity of this 25-item questionnaire and a need to establish its **reliability.**
- The results of this study can be used among nursing students as a **standardized assessment tool**.

EBP-COQ Tool

- A1. EBP helps to make decisions in clinical practice.
- A2. I'm confident that I will be able to evaluate the quality of a scientific article.
- A3. The practice of EBP will enhance the role of the nurse.
- A4. Professional nurses should include time to read scientific articles and critically analyze them.
- A5. Implementing EBP in professional nursing will increase collaboration with other professionals.
- A6. I will use EBP in my practice as a nurse.
- A7. The application of EBP improves patient healthcare outcomes.
- A8. In the future, I plan to contribute to the application of EBP.
- A9. I do not like reading scientific articles
- A10. Patient care will not significantly change with application of EBP.
- A11. I consider EBP only a theoretical method that is not used in nursing practice.
- A12. If I had the opportunity I would like to take an EBP course.
- A13. I believe access to published scientific articles is important.
- H1. I feel I am able to pose a clinical question in order to start searching for the best scientific evidence.
- H2. I do not feel confident searching scientific evidence using various health science data bases (MEDLINE, PsycINFO, CINALH…).
- H3. I do not feel confident searching for scientific evidence associated with clinical practice guidelines and systematic reviews.
- H4. I feel I am able to critically evaluate the quality of a scientific article.
- H5. I do not feel confident interpreting the finding in scientific articles nor their relevance to practice.
- H6. I feel I am able to translate scientific articles into practice.
- C1. I know how to formulate a clinical question organized in the PICO format (problem/patient/population, intervention/indicator, comparison, and outcome).
- C2. I am familiar with major databases that report scientific research. (Joanna Briggs, Cochrane Library, Evidence Based-Nursing, etc).
- C3. I do not understand the different types of research designs.
- C4. I can differentiate the levels of evidence reported in scientific articles.
- C5. I do not know how to assess the strength and quality of scientific evidence.
- C6. I know how to interpret the main results of the data analysis correctly.

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