Title

Psychometric validation and cultural adaptation of evaluation questionnaires for measuring nursing students', anxiety, professional self-confidence and experiences during high fidelity simulation

Background

High-fidelity simulation can influence anxiety and professional self-confidence in nursing students [1-3]. These outcomes depend on factors such as a safe learning environment, effective debriefing and sufficient opportunities for skill development [4-5]. To optimize students' learning potential and preparedness for real clinical practice, nursing educators must accurately assess anxiety, professional self-confidence and students' experiences during high-fidelity simulation [6]. Unfortunately, there is a lack of validated Dutch questionnaires specifically measuring these outcomes

Aim(s)

This study aims to adapt and validate questionnaires measuring anxiety, professional self-confidence, and students' experiences during high-fidelity simulation in the context of Belgian bachelor of nursing education at the Karel de Grote University Antwerp (KdG).

Methods

Following self-reported, initially validated, questionnaires underwent psychometric validation and cultural adaptation into the Belgian context: "Nursing Anxiety and Self-Confidence with Clinical Decision Making Scale (NASC-CDM)" [7], "Simulation Design Scale (SDS)", "Educational Practices Questionnaire (EQP)" and "Students Satisfaction and Self-confidence in Learning Scale (SCLS) [8]. It involved translation and backtranslation by two qualified, independent interpreter. Discrepancies were resolved through consensus. A native professional interpreter compared the translations with the originals. For cultural adaptation, content validity index based on the average of proportion relevance scores (S-CVI/Ave) across six experts was used. The final Dutch versions were evaluated by 135 undergraduate nursing students.

Results

The modified NASC-CDM (MNASC-CDM) includes 40 questions with a Likert 1 (*not at all*) – 6 (*totally*) . The modified SDS (MSDS) contains 12 questions while the modified EPQ (MEPQ) and SCLS (MSCLS) each consists of 7 questions, all using a Likert 1 (*completely disagree*) – 5 (*completely agree*). The content validity of the items within the questionnaires based on S-CVI/Ave ranged between 0.82 and 0.96, with an S-CVI/Ave ≥ 0.90 considered excellent content validity [9]. The internal consistency of the questionnaires according to Cronbach's alpha was: MNASC-CDM = 0.969, MSDS = 0.856, MEQP = 0.831, MSCLS = 0.824.

Discussion/limitations

Psychometric validation is crucial for ensuring the validity and accuracy of questionnaires in capturing the intended variables [9]. However, this validation process of existing validated English-language questionnaires has certain limitations. Cultural adaptation ensures the suitability of questionnaires for the Belgian context, considering variations in language, norms, and beliefs in Belgian culture. Limitations include monocentric validation, where experts from KdG were involved in determining the S-CVI/Ave. Self-reported questionnaires carry inherent risks of response bias and misinterpretation, potentially skewing the results [10]. The use of a midpoint in some Likert scales may lead to non-committal response bias among participants [11].

Implications/future perspectives

By validating and culturally adapting questionnaires for measuring nursing students', anxiety, professional self-confidence and experiences during high fidelity simulation to the Belgian context, researchers can confidently assess nursing students' psychological states and experiences. This allows for better objectification of students' performances and identifying areas for improvement. Ultimately, this enhances the quality and effectiveness of nursing education and simulation training programs, facilitating better preparation of students for real-world healthcare challenges.

References

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