

VALIDATION AND ADAPTATION TO THE ROMANIAN LANGUAGE AND POPULATION OF THE EBBCAM SCALE OF PERCEIVED COMPETENCE IN THE FACE OF DEATH, IN NURSING AND MEDICAL STUDENTS

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VALIDATION AND ADAPTATION TO THE ROMANIAN LANGUAGE AND POPULATION OF THE EBBCAM SCALE OF PERCEIVED COMPETENCE IN THE FACE OF DEATH, IN NURSING AND MEDICAL STUDENTS (Abstract): We carried out the translation, validation and cultural adaptation in Romanian language of the EBBCAM Questionnaire for the measurement of Perceived Death Competence in Medical and Nursing students. **Materials and methods:** 117 medical and nursing students of the Faculty of Medicine, Grigore T. Popa University of Medicine and Pharmacy Iasi. **Results:** The Romanian translation of the Bugen Brief Bugen Coping Competence in the Face of Death (EBBCAM) questionnaire, which is a multidimensional instrument consisting of 16 items, was administered. Subsequently, a Confirmatory Factor Analysis was performed in order to verify the validity of the measurement model. Both the study of the reliability of the responses (f1: .902; f2: .824; f3: .882 y f4: .828) and the Confirmatory Factor Analysis showed that the four-factor model had an adequate fit. (NNFI: .882; CFI: .920; IFI: .825 y RMSEA: .117). **Conclusions:** The Bugen Brief Competence in the Face of Death (EBBCAM) scale is a suitable instrument for the measurement of Perceived Competence in the Face of Death in Romanian-speaking students of Health Sciences (Medicine and Nursery). **Keywords:** DEATH COMPETENCE, VALIDATION, SCALE, ATTITUDES TOWARD DEATH, MEDICAL OR NURSING STUDENTS.

INTRODUCTION

The research shows how many health care professionals and health science students have difficulties in dealing with death, both their own and that of the patients they are taking care for (1, 2). In this sense, inappropriate management of one's own emotions, as well as poor self-

knowledge (Bermejo, 2011) will influence the attitudes we adopt towards our patients, especially if they are at the final stage of their lives (3).

Any medical or nursing professional will sooner or later face death. It does not matter the service or area in which they work. From primary care in health centers or specialty

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centers where elderly people and others suffering from degenerative diseases and terminal processes are attended, as well as in nursing homes and in any hospital unit, such as Palliative Care Units, Intensive Care Units, Internal Medicine Units, but also in Gynecology, Otorhinolaryngology or Ophthalmology Units, to name a few, where death may seem to be absent.

Perceived competence can be defined as the perception that one is capable of interacting effectively with the environment (4). The study of competence in the face of death is, therefore, fundamental for the effective performance of the tasks and processes involved in end-of-life care (5-7). For this purpose, the translation, validation and cultural adaptation in Romanian language of the EBBCAM Questionnaire for the measurement of Perceived Death Competence in Medical and Nursing students has been carried out.

MATERIALS AND METHODS

Measurement instrument. The EBBCAM scale (Bugen Brief Scale of Competence in the Face of Death) is an adaptation of the EBAM scale made by Medrano (2017; 2020) (8, 9), it is composed of 16 statements that evaluate 4 dimensions, to each dimension belong some of these statements. The EBBCAM is composed of the following dimensions or factors:

- f1: Assistance and communication;
- f2: Post-mortem care;
- f3: Self confidence
- f4: Management of own fear.

The reliability for the present scale in each of its dimensions respectively is: .787, .766, .814, .702 respectively.

Methodology

1. To carry out the adaptation process

(translation and content validity), the scale was first translated from Spanish into Romanian by three Romanian nationals, third- and fourth-year students of the Nursing Degree at the Catholic University of Valencia (Spain), and then corrected by a non-professional in the health sciences, a native speaker of Romanian and Spanish. Subsequently, the translated scale was revised by an official translator in Romania (Iasi).

2. Data collection was implemented through an online questionnaire developed by one of the authors (VP). The time to complete the questionnaires was estimated at less than 15 minutes.

3. To study the psychometric properties of the scale, a study of its validity and reliability was carried out. For this purpose, a structural equation model was specified, estimated and evaluated, and internal consistency estimates were calculated.

The equation model carried out, confirmatory factor analysis (CFA), is characterized by representing the causal processes under study by means of a series of equations, and these structural equations can be modelled pictorially to conceptualize more clearly the theory studied (10).

This procedure is appropriate when, as in this case, the researcher has prior knowledge about the relationships between the observable variables (items), in this case, the original structure proposed by the authors.

The CFA tested for the EBBCAM Questionnaire specified a structure of four correlated factors (Companionship and communication, Post-mortem care, Self-confidence and Self-fear management), which depart from Medrano's original model (8, 9) and which would explain the 16 items of the instrument (fig. 1).

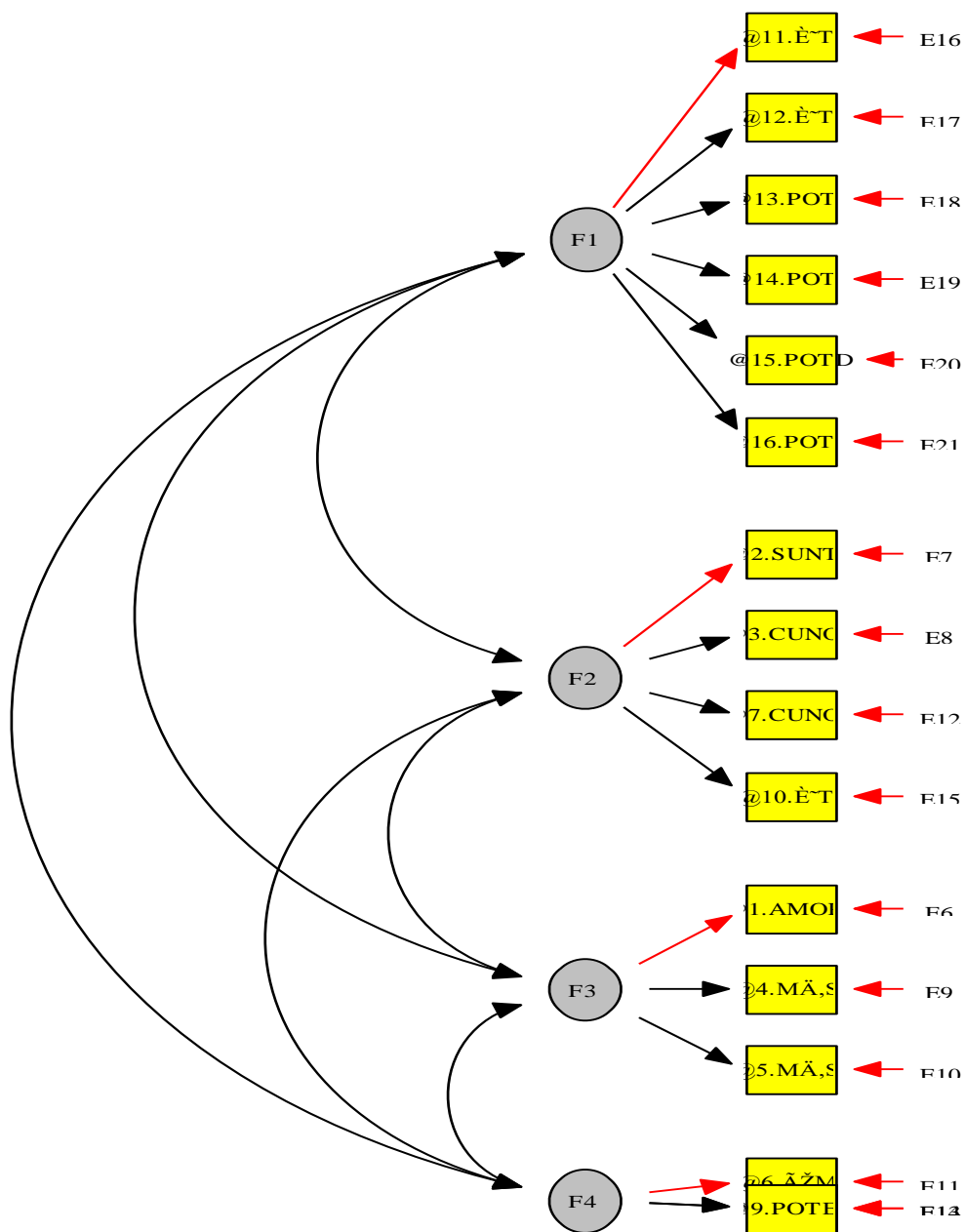


Fig. 1. Proposed confirmatory factor analysis of the EBCCAM Questionnaire

RESULTS

There is a high representation of the 5th and 4th courses, medium in the third and

first grades and low in the second grade. Also, there is a high female participation and a low participation of male students.

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Both groups (medicine and nursing) are higher participation of medical students optimally represented, although with a (tab. I).

TABLE I.
Basic sample data

N=117		
Average age		22.2 (SD: 3.01)
Age range		18-43
		N (%)
Sex	Male	17 (14.5)
	Female	100(85.5)
Marital Status	Single	108 (92.3)
	Married	9 (7.7)
Specialty	Medical	78 (66.6)
	Nursing	39 (33.3)
Year of study	1 ^o : 12; 2 ^o : 6; 3 ^o : 15; 4 ^o : 58; 5 ^o : 25	

Table II shows that the four factors analyzed have high reliability (tab. II).

The confirmatory factor analysis shows an adequate fit to the theoretical dimensions from the original EBBCAM scale in

Spanish (tab. III).

The confirmatory factor analysis shows an adequate fit to the theoretical dimensions from the original EBBCAM scale in Spanish (tab. III).

TABLE II.
Internal consistency for theoretical factors

	f1	f2	f3	f4
α	.902	.824	.882	.828

TABLE III.
Confirmatory Factor Analysis for the four-factor model

CHI²	NNFI	IFI	RMSEA
254.6233	.882	.825	.117

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental

conclusions that can be drawn.

DISCUSSION

Based on recommendations in the litera-

ture (11, 12), the fit of the models to the data was assessed using various criteria, such as the chi-square (χ^2) statistic (13). This statistic, however, has been widely criticized for its sensitivity to sample size, the magnitude of correlations, and violations of multivariate normality assumptions, which has led researchers to rely on complementary indices of model fit. Consequently, several alternative fit indices have been developed to provide a more robust and nuanced evaluation of how well a model represents the observed data. Among these, the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA), both employed in the present study, are among the most widely accepted and frequently reported indicators in structural equation modeling. The CFI compares the fit of the hypothesized model with that of a null model that assumes zero covariances among the observed variables, thereby reflecting the relative improvement in fit achieved by the proposed model. It ranges from 0 to 1, with higher values indicating better model fit. Values above .90 are generally interpreted as acceptable, whereas values above .95 are considered indicative of excellent fit (9, 14). In this sense, the CFI provides a standardized measure of how well the specified relationships among variables reproduce the observed covariance structure.

The RMSEA, in contrast, evaluates the degree of approximation error of the model in the population rather than in the sample. It estimates how well the model would fit the population covariance matrix if it were available, thereby accounting for model complexity and degrees of freedom. Values of zero indicate a perfect fit, while values below .08 are typically interpreted as reflecting an adequate fit to the data (15, 16). Lower RMSEA values therefore suggest

that the discrepancies between the hypothesized model and the observed data are small and within acceptable limits. Together, the CFI and RMSEA offer complementary perspectives on model fit, capturing both relative and absolute aspects of model adequacy. Using both indices provides a more balanced and rigorous evaluation than relying on a single statistic alone.

To evaluate the reliability of the scales, Cronbach's alpha was computed for each of the subscales. This coefficient is the most widely used index of internal consistency and reflects the extent to which the items within a scale measure the same underlying construct. Values between .70 and .79 are generally considered to indicate moderate reliability, whereas values of .80 or higher are interpreted as reflecting high reliability (17). In the present analyses, the reliability estimates not only met these accepted standards but also exceeded those reported in the original Medrano version of the instrument (9). This improvement suggests that the current adaptation demonstrates enhanced internal consistency and psychometric robustness in the studied sample.

CONCLUSIONS

The data show a good psychometric fit and high reliability, making the Romanian version of the Bugen Brief Death Competence Scale a reliable and valid instrument for application in the Romanian population. This scale is easy and quick to apply and offers useful data in specific areas related to the analyzed construct.

CONFLICTS OF INTERESTS AND FUNDING

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