SIMPLIFICATION AND VALIDATION OF BUGEN'S COPING WITH DEATH SCALE IN NURSING STUDENTS

SIMPLIFICACIÓN Y VALIDACIÓN DE LA ESCALA DE BUGEN DE AFRONTAMIENTO DE LA MUERTE EN ESTUDIANTES DE GRADO EN ENFERMERÍA

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Abstract

Method: Participants: 286 first course students and 165 third course students at the Nursing School of the Catholic University of Valencia.

Procedure: Bugen's Coping with Death questionnaire was distributed. It is a one-dimensional instrument consisting of 30 items, for which there is a Spanish translation. In current literature, questionnaires related to death are considered to tend to a multidimensional quality evaluation. In order to guarantee the coherent verification of the multidimensional quality in these questionnaires, a theoretical factor analysis is performed, resulting in five factors and the exclusion of some items which cannot be grouped together with these or other dimensions. Then, a Confirmatory Factor Analysis is used to check the measurement model validity.

Results: The Confirmatory Factor Analysis showed that the five factor model was an adequate fit (NNFI: .904; CFI: .920; IFI: .921 y RMSEA: .052). Nevertheless, the reliability study suggests excluding dimension 5 (Cronbach's alpha .484). After excluding this dimension, the factor model continues to perform well (NNFI: .917; CFI: .934; IFI: .934 y RMSEA: .066).

Conclusion: A brief multidimensional scale to measure death competence (MSMDC) is considered to be an acceptable instrument to measure Nursing School students' death competence. This scale includes competence specifications besides the fact that it can be implemented quickly.

Key words: *Bugen, death competence, death attitudes, nurse and death skills*.

Resumen

Método: Participantes: 286 alumnos de primer curso y 165 alumnos de tercer curso de la Escuela de Enfermería de la Universidad Católica de Valencia.

Procedimiento: Se administró la traducción al español del cuestionario Coping with Death de Bugen, el cual es un instrumento unidimensional que consta de 30 ítems. Hoy en día ser acepta en mayor medida la multidimensionalidad de las escalas de medida en diversas áreas, y especificamente en el studio de las actitudes hacia la muerte. Para analizar la potencial multidimensionalidad del instrument, se llevó a cabo un análisis factorial exploratorio, resultando en cinco factores y la exclusión de algunos ítems que no pudieron ser agrupados en estas u otras dimensiones. Posteriormente, se realizó un Análisis Factorial Confirmatorio con el objeto de verificar la validez del modelo de medición.

Resultados: El Análisis Factorial Confirmatorio mostró que el modelo de cinco factores tuvo un ajuste adecuado (NNFI: .904; CFI: .920; IFI: .921 y RMSEA: .052). Sin embargo, el estudio de la fiabilidad de las respuestas sugirió excluir la dimensión 5 (alfa de Cronbach .484). Tras la exclusion de dicha dimensión, el modelo factorial mantuvo un adecuado funcionamiento (NNFI: .917; CFI: .934; IFI: .934 y RMSEA: .066).

Conclusion: La escala Breve de Bugen de Competencia ante la muerte (EBB-CAM) es un instrumento adecuado para la medición de la Competencias Percibida ante la muerte en los estudiantes de Grado en Enfermería. Esta escala es de fácil y rápida aplicación y ofrece datos en áreas concretas relacionadas con el constructo analizado.

Palabras clave: *Bugen, competencia ante la muerte, actitudes hacia la muerte, enfermería y manejo de la muerte*.

Although Bugen's Coping with Death Scale (EBAM) is easy to apply in time and understanding (Bugen, 1980-1981), and its scientific objective is of major interest in order to train people to deal with death and mourning (see palliative care, training programs, etc.), the discovered literature with such scale is limited. It seems that this scale hasn't been able to attract the attention of the scientific community in the way other questionnaires on attitudes towards death have (DAS, PAM-R, CLFODS, etc.).

On the other hand, in a proportional way to its use, the studies of validity and reliability have been neither many nor exhaustive. In this respect, Robbins tried to show if the EBAM was discriminating against the subjects taking part in training programmes in hospices. In fact, he carried out a study with 242 subjects who were taking care of patients in the above mentioned institutions (Robbins, 1992), finding a high internal consistency (Cronbach's alpha of .90) and reliability test - retest (r=.90). But he never carried out another similar type of study.

In the same way, with a Spanish sample, Schmidt (2007) analysed the internal consistency obtaining a Cronbach's alpha of .824. In this sample, items 1, 13 and 24 were behaving in a deficient way (r = -.081, -.033 and -.006 respectively), and although the reliability of the instrument would increase with their elimination (.830), the authoress chose to keep them, preserving the integrity of the original scale. This authoress neither implemented other measures of reliability or validity of the instrument, nor developed any factorial analysis.

On the other hand, the scale EBAM has not always met the evaluative needs of researchers. In this respect, Colell (2005) in his doctoral thesis, eliminated 19 of the 30 items that compose the above mentioned scale using only 11 in a students' sample of first, second and third courses of the degree in Nursing in two Spanish universities obtaining, nevertheless, a Cronbach's alpha of .810. This author didn't carry out any other study afterwards to ensure the reliability or the validity of the new scale.

Similarly, in some researches, the individual analysis of the punctuation of the items was considered more suitable than the total punctuation suggested by the authors (Colell, 2005; Schmidt, 2007).

For all this, considering the importance of the evaluation of death competence and bearing in mind that the scale can be improved, we consider it necessary to adapt psychometrically the scale EBAM to Nursing students.

Aim

To conduct the psychometric adaptation of the Bugen scale in undergraduate nursing students from a multidimensional approach

Methodology

Bugen's Coping with Death questionnaire was administered.

Participants: 286 first course students and 165 third course students at the Nursing School at the Catholic University of Valencia.

A theoretical factorising was carried out supported by scientific literature and validated by six experts in order to check it empirically later by means of a Confirmatory Factor Analysis.

After the Confirmatory Factor Analysis, the reliability of every dimension was analysed in order to decide whether it should be included in the final scale. Later, a second Confirmatory Factor Analysis of the final factorial solution was completed.

Measuring instruments

Data collection sheet with demographic information and significant deaths.

It is a questionnaire designed *ad hoc* for the present research for which different factors that can affect people's attitudes towards death were considered (age, sex, experience with death, recent deaths, other losses, etc).

Bugen's Scale of death competence.

It is a self-administered questionnaire of 30 items which are answered according to a Likert scale of seven points, where 1 means in total disagreement with the statement, 4 neutral and 7 in total agreement.

For its assessment, the total score is calculated adding the 30 items after previously inverting items 13 and 24.

A high reliability is found in university students (alpha =.89) (Robbins, 1990-91).

Results

Table 1. Basic data of the sample

N = 446		
Sex	First Grade	283 (63,45%)
	Third Grade	163 (36,55%)
	Male	133 (29,7%)
	Female	315 (70,3%)
Average age	First Grade	21,39 (SD= 5,79)
	Third Grade	23,6 (SD= 5,11)
Age range		17-51
Marital status	Single	96% (n=432)
	Married	3,1% (n=14)
	Separated / Divorced	4% (n=0,9)
	Widowed	0% (n=0)

As it can be observed in table 1, most subjects (70,3 %) are female. This distribution is the same in first and third-course students. Likewise, the average age is high in both first-year (21,39 years) and third-year students (23,6 years).

Theoretical Factorising

Item analysis after the literature and expert review suggested a theoretical model shaped by the following factors:

F1: Accompaniment and communication:

22, I know how to listen to others, including terminal patients.

23, I know how to speak to children about death.

25, I can spend time with dying patients if I need to.

26, I can help people with their thoughts and feelings about death and the process of dying.

28, I can identify anxiety in the people around me when the topic is death and the process of dying.

29, I can communicate with dying patients.

F2: Post-mortem care:

4, I know about all the services that undertaker's offer.
5, I am aware of the different ways available to deal with the bodies.
11, I am familiar with the arrangements before the funeral.
19, I know who to contact when a death takes place.
F3: Self-confidence:
2, I have a healthy understanding of death and of the process of dying.
8, I am prepared to face my own death.
9, I feel prepared to face the process of dying.
F4: Management of one's own fear:
10, I understand my fears related to death.
14, I can express my fears about death.
15, I can put my instincts into words in relation to death and the process of dying.
F5: Valuation of the moment:
16, I am trying to live my life to the full.
17, I consider quality of life to be more important than longevity.
30, I can tell people how much I love them before they or I die.

Internal consistency of the EBAM scale and validity

The analysis of internal consistency of the original scale of 30 items for the information in this sample according to Cronbach's Alpha is of .842 (Table 2).

In order to adjust to the theoretical model, items 3, 6, 7, 12, 18, 20, 21 and 27 were also eliminated, obtaining a Cronbach's Alpha of .82 for the scale of 19 factors. The reduction is expected given the sensitivity of the statistical analysis to the number of items. The result in terms of factors is the following (Table 3):

Nevertheless, the analysis of validity by means of confirmatory factor analysis (Table 4) shows that the model of five factors behaves well (Table 5).

Discussion and conclusions

Some authors have already found certain dimensionality in the EBAM scale specifying this fact to a certain extent, but without the due psychometric adjustment. In this respect, Brysiewicz and Mclnerney (2004) divided the questionnaire

Table 2. Analysis of reliability

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B1	121,9683	489,704	-,031	,849
B2	121,7104	459,118	,408	,836
B3	121,2557	458,871	,380	,836
B4	123,0294	466,092	,274	,840
B5	122,5452	462,294	,297	,839
B6	121,3552	465,359	,278	,840
B7	120,7466	455,890	,366	,837
B8	122,3371	443,757	,541	,831
B9	122,5068	445,747	,539	,831
B10	120,5611	465,290	,309	,839
B11	122,7602	455,815	,394	,836
B12	122,6154	470,242	,232	,841
B13	121,0543	491,770	-,059	,852
B14	120,6923	462,998	,329	,838
B15	121,1968	457,011	,441	,835
B16	119,5814	476,035	,233	,840
B17	119,9231	468,996	,301	,839
B18	120,6765	446,682	,503	,832
B19	121,3824	443,638	,482	,833
B20	121,5679	450,255	,490	,833
B21	122,0950	444,068	,584	,830
B22	120,2873	457,602	,445	,835
B23	121,8529	452,629	,431	,835
B24	120,8394	485,868	,017	,848
B25	121,1719	456,311	,425	,835
B26	120,8665	455,277	,503	,833
B27	120,6900	451,756	,505	,833
B28	121,0023	457,272	,479	,834
B29	121,3937	458,675	,410	,836
B30	119,8348	469,939	,300	,839

Table 2 suggests the improvement of internal consistency after having eliminated items 1, 24 and 13 (after elimination Cronbach's Alpha of .859).

Table 3. Internal consistency for theoretical factors

	f1	f2	F3	F4	F5
α	.774	.775	.815	.683	.484

Values below what is expected can be seen in exploratory analyses in f4 and f5.

Table 4. Confirmatory factor analysis for model of five factors

	CHI2*	df	NNFI	CFI	IFI	RMSEA
	314.5026	142	.904	.920	.921	.052
P	.000					

Table 5. Confirmatory factor analysis for model of three factors

	CHI2*	df	NNFI	CFI	IFI	RMSEA
	179.8345	62	.917	.934	.934	.066
P	.000					

Table 5 shows that the result improves with the solution of three factors (f1, f2 and f3).

into two parts; on the one hand, six items that referred to death competence with others (i.e. item 22 "I know how to listen to others, including terminal patients" or item 23 "I know how to speak with children about death") and, on the other hand, one's own death competence (i.e. item 8 "I am prepared to face my own death" or item 2 " I have a healthy understanding of death and of the process of dying ").

In Spain, Marchán (2016), with a sample of nursing staff, proves that there is a theoretical tentative factorisation of this scale suggesting that items 30, 22 and 14 are related to communication and items 16 and 17 to quality of life.

Therefore, a scale is developed based on the EBAM scale, but factorised and simplified to which new items have not been added and those which have been kept continue with identical morphosyntactic structure to that of the Spanish version. It is called Bugen's Brief Scale of Competence before Death (EBBCAM).

Nevertheless, the EBBCAM scale which we presented here can be improved to a great extent, since it only includes four dimensions (Accompaniment and Com-

munication, Post-Mortem Care, Self-confidence and Management of One's Own Fear), whereas the American Association of Colleges of Nursing, for example, standardised many other areas as necessary competences for medical care at the end of life (AACN, 2000) and, more precisely, with reference to those competences that any nursing student should acquire.

However, the EBBCAM scale might be considered useful for a rapid screening and assessment of certain areas of perceived competence about death in Nursing students.

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