ORIGINAL

VALIDATION OF THE SPANISH VERSION OF THE *COPENHAGEN BURNOUT INVENTORY* QUESTIONNAIRE

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ABSTRACT

Background: The Copenhagen Burnout Inventory (CBI) is a public domain questionnaire measuring the degree of psychological fatigue experienced in three subdimensions of Burnout: personal (PB), work-related (WB), and client-related Burnout (CB). The study aimed to examine the acceptability, reliability and construct validity of the Spanish version of CBI.

Method: The study population consisted of 479 workers of educational centers, social work centres, healthcare centres and workers within the industry sector. Data was collected in 2009 through a self-administered questionnaire including the three CBI scales, sixteen scales of psychosocial work environment (COPSOQ ISTAS21) and perceived general and mental health and vitality (SF-36).

Results: Response rate was 78.7%. The three scales have an inter-item correlation mean between 0.42 and 0.60 and a corrected item-total correlation between 0,49 and 0,83. The internal consistency of the three scales had Cronbach's α values of 0.90 for PB, 0.83 for WB and 0.82 for CB.

Conclusions: Burnout was related to both psychosocial work environment and wellbeing measures in direction and intensity. The items of the three scales show good discrimination capacity, good consistency and homogeneity. The three CBI scales have an acceptable internal consistency reliability index, slightly higher in PB. The discrimination capacity of the scales is verified through the discrimination index and the different levels between occupations and activities. These results demonstrate that the Spanish version of the CBI is a reliable and valid instrument for measuring Burnout.

Keywords: Burnout Professional. Validity. Reliability. Questionnaire. Spain.

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RESUMEN

Validación de la versión en español del cuestionario *Copenhagen Burnout Inventory*

Fundamentos: El cuestionario *Copenhagen Burnout Inventory* (CBI) es de dominio público para la medida del síndrome de burnout, que está estructurado en tres subdimensiones: la personal, la relacionada con el trabajo y la relacionada con el trabajo con clientes. El objetivo de este trabajo es determinar la aceptabilidad, fiabilidad y validez de su traducción al español.

Método: La población de estudio fueron 479 trabajadores de la enseñanza, trabajo social, sanidad e industria. Tras el proceso de traducción y retrotraducción, en 2009 se procedió a estudiar las características del cuestionario que incluía las tres escalas de CBI, dieciséis de ambiente psicosocial (COPSOQ ISTAS21) y tres de SF-36.

Resultados: La tasa de respuesta fue del 78,7%. Las tres escalas presentaron una correlación inter-ítem entre 0,42 y 0,60 y una correlación ítem-total corregida entre 0,49 y 0,83. La consistencia interna de las tres escalas de burnout tuvo valores de α de Cronbach de 0,90 en el personal, 0,83 en la dimensión relacionada con trabajo y 0,82 en la relacionado con el trato conclientes.

Conclusiones: Las puntuaciones de burnout se relacionaron con el entorno psicosocial del trabajo y con las medidas de salud y bienestar en la dirección e intensidad esperadas. Los ítems de las tres escalas presentan una buena capacidad de discriminación, consistencia y homogeneidad. La capacidad de discriminación también se observa en los distintos niveles de burnout entre ocupaciones y actividades. La validez de constructo queda acreditada. Estos resultados demuestran que la versión en castellano de CBI que se presenta es un instrumento fiable y válido para la medida específica de burnout en España.

Palabras clave: Agotamiento profesional. Validez. Fiabilidad. Cuestionario. España.

INTRODUCTION

According to literature[1,2], fatigue and emotional exhaustion are the core concepts of burnout. The NRCWE (Danish National Institute of Occupational Health) identified constraints in the use of the Maslach Burnout Inventory (MBI) in the framework of a prospective study of burnout in human service sector organizations[3]. Following a review of the literature and a pilot test using MBI, the concept of burnout was reviewed. This led to the decision of developing a new instrument[4] that would allow measuring burnout in different settings, not just the workplace, and would provide better accuracy in the approach to the work environment, whether it includes, or not, providing services to other persons.

The Copenhagen Burnout Inventory (CBI)[5] is a public domain questionnaire, translated into eight languages, which measures the level of Burnout with three scales: personal burnout (PB), work-related burnout (WB) and client-related burnout (CB). The reasons that led to creating this questionnaire are explained in the work of Kristensen et al[4].

The three CBI scales were designed to be used in different settings. PB can be used in any group, WB assumes that those answering the questionnaire are in paid employment (working population) and CB includes those who work in the human service sector, including the various meanings of the term "client" (user , patient, student, client, colleague ...). CBI maintains its focus on fatigue/emotional exhaustion, but adds a new aspect: its attribution by the person in different areas of his/her life (work would be one area -even more specifically, working with clients- and personal life would be another). How a person perceives, understands and interprets his/her situation has great importance, and this personal interpretation is influenced by the social and cultural background and the society in which one lives.

In this context, PB is defined as the degree of fatigue/emotional exhaustion experienced by the person. WB is defined as the degree of fatigue/emotional exhaustion experienced in connection with a person's work without attempting to establish causal relationships. CB is defined as the degree of fatigue/emotional exhaustion experienced by a worker in relation to his work with others; therefore, the main idea lies in the degree to which people relate their fatigue/exhaustion to their work when it involves providing a service to other persons.

It is important to distinguish between the different meanings that the term "client" may include. On the one hand, clients or users can be beneficiaries of social services, patients, senior citizens, students or inmates. The relationship with the client is basically professional and aimed to bring about changes in that person, intending to make them healthier, more knowledgeable[6]; this relationship will have different characteristics whether it is maintained during a given period of the client's life or is limited to a one off interaction. Another meaning of the term "client" relates to people who may be buying a product on the market. Relationships with clients are in this case commercial, usually much shorter and require less, sometimes zero, emotional involvement by the employee. Finally, the word client is used to describe all employees within the same workplace with which the person is interrelated (including both supervisors and subordinates). Relationships with colleagues may include a longterm emotional involvement, but may also be casual and brief.

There is a broad consensus on the relationship between psychosocial aspects of the work environment and burnout[7-9], including concepts such as justice, equity and reciprocality[10], as well as between burnout and various effects on individuals[11,12], organizations[13] and society[14,15]. Differences between different occupations and environments have also been described[16,17].

In the original CBI's validation process, no factor analysis was used, as the reasoning was not statistical but conceptual. The main aim was to use the three scales in different settings (any group of people, people at work and those working in the human service sector) and to be able to use them independently.

This paper aims to examine the acceptability, reliability and construct validity of the Spanish version of the three CBI scales, in workers of different occupations, and its relationship with the psychosocial aspects of the work environment, as well as some indicators of health and welbeing.

METHODS

The translation of the CBI questionnaire into Spanish was done directly from the Danish original version. A sequential strategy was planned and implemented to ensure conceptual and semantic equivalence while addressing sensitivity and acceptability issues. The translation and the back-translation were done by professionals within the field of application of the questionnaire as well as psychometry professionals, all native speakers of Danish and/or Spanish. Once the Spanish version of the questionnaire was agreed, it was assessed by testing it on a group of workers prior to the final version.

Population and Study Design. Cross sectional study. The study population consisted of all workers within four organizations of different types: schools, social work centres (residential and non-residential), healthcare centres (a primary care unit and a group of hospital residents) and workers within the industry sector. In total, 479 people were involved. Data was collected via self-completed questionnaires during the first half of 2009. The sample size was calculated to estimate a proportion[18] with reliability coefficients of 0.80, as recommended for comparisons between groups[19].

Variables: Burnout was measured with the Spanish translation of the three scales of the Copenhagen Burnout Inventory (CBI):

- Personal Burnout (PB) with six items to be answered by all participants.

- Work-related Burnout (WB) with seven items to be answered by all participants.

- Client-related Burnout (CB) with six items to be answered only by those who worked with any type of clients, as defined above, for more than half of their working hours. The items followed a Likert scale with five response categories (0-4) and were converted into points (0-100) for scoring purposes. The total score on a scale for a respondent is the mean of the scores on the individual items, unless less than half of the questions in a scale have been answered, in which case the respondent is classified as non-responder).

- Work environment NOT RELATED TO HUMAN SERVICES. Sixteen scales of the medium size Spanish version of COPSOQ[20] were used: two scales of psychological demands (quantitative and cognitive), four scales of active work and skills development (influence at work, possibilities for development, meaning of work and commitment to the workplace), seven scales on interpersonal relationships (predictability, role clarity, role conflict, social support from supervisors and colleagues, sense of community and quality of leadership), a scale on job insecurity and another on job satisfaction.

- Work environment RELATED TO HUMAN SERVICES. COPSOQ I scales of emotional demands and demands for hiding emotions were used. The activity of the company was used to classify the type of client, in order to allow comparison of different groups on the basis of activity and occupation. Responses to specific questions about client-related factors were dichotomised: client contact

for more than half the time, versus no contact with clients; clients' demands (item with a response scale of 1-7): scores of 6-7 versus scores of 1-5; professional recognition by clients: always or almost always versus sometimes or never.

- HEALTH AND WELBEING: scales of vitality, general health and mental health were measured with the Short-Form 36 questionnaire[21].

Validity and reliability. When conducting field work in human services workplaces, various qualitative aspects were taken into account in order to facilitate and ensure the quality of the process: related to the content, the language was adapted to the type of client; in relation to the response process, information sessions and written instructions were developed and processes for collecting the questionnaires were stablished in coordination with the workplaces; finally, and with regards to the consequences, two aspects were considered: confidentiality and delivery of results. Confidentiality was ensured throughout the process. Even more, given the workplace setting characteristics (some of them small), age range, rather than exact age, was requested from respondents to guarantee anonymity and prevent identification of individuals. Results were delivered to the workers and management of each specific participating group in return of their time, effort and emotional cost, as well as to facilitate the start of preventive action.

Data collection for workers not within the human services sector was performed in an outsourced occupational health service during the months of March to May 2009 in the context of periodical medical examinations: every worker was given a questionnaire to complete, allowing for clarification of potential doubts.

To facilitate the response while avoiding induction, stereotypes, and biased answers, burnout items were mixed with other questions on health effects and were placed at the beginning of the questionnaire to avoid possible effects of fatigue.

Quantitative analysis. Characteristics of the participants, response rate, distribution according to occupation, centre activity, attention to clients and clients'demands and evaluation were described. Reverse items were recoded, the distribution of responses for each item was explored, including the unknown values to assess potential wording/acceptability problems, position and dispersion indices (mean and SD) and variability of responses: range of responses, exploration of floor effect and ceiling effect and detection of abnormal patterns. The discrimination index (the difference between the means of the first and third terciles of each item) was calculated and was expected to be higher than a category in the direction of the item.

Reliability was evaluated through the internal inter-item consistency (mean, minimum, maximum, range, variance), the internal consistency based on the corrected item total correlation and the Cronbach's α internal consistency reliability coefficient and its confidence interval. A Cronbach's α coefficient ≥ 0.70 and a correlation mean in the range 0.20-0.40 were considered indicators of high reliability[19]. Likewise, Cronbach's α internal consistency reliability coefficient was calculated for the scales of the different dimensions for the psychosocial environment (COPSOQ), and for health and welbeing (SF-36). The reliability coefficients obtained were then compared with those published in the validation of the in-strument by other authors[3,22].

Construct validity was assessed by examining whether the expected relationships with other variables and constructs were observed[3,9,10,22]. Firstly, multivariate normality was proved with Barlett's sphericity test and also Kaiser-Meyer-Olkin (KMO) sample

adjustment measure was obtained. Correlations between the three scales of the CBI and between the CBI scales and the scales for measuring the psychosocial work environment and wellbeing were analysed with the Spearman correlation, and the mean scores of groups according to occupation and activity were compared with the ANOVA technique. The validation of the hypothesis consisted in finding the expected correlation, both in direction and intensity. We expected this correlation to be classified at least as moderate according to Burnand classification [23] [low (+ or -) < 0.3, moderate (++ or --) 0.3 to 0.45, substantial (+++ or ---) 0.45 to 0.6 and high (++++ or ----) > 0.6).

RESULTS

377 out of the 479 people working in the different centres participated in the study (participation rate 78.7%, ranging from 61.5% in education to 81.3% in social work). 62% were women, 57.5% were aged between 26 and 45 years (weighted mean age was 38.2 years) and 71.4% maintained contact with clients for more than half of their working hours (table 1). Of those in contact with clients more than half of their working hours, the occupations that had a stronger feeling that client demands were too high were nursing (86.7%), primary school teachers (85.7%) and sales representatives (83.3%); the occupations with greater percentages of high professional recognition by clients were doctors (72%) and primary school teachers (64.3%), whilst the administrative group showed the lowest percentatge of professional recognition by clients (7,7%).

Table 1
Characteristics of the study population

	Participants n	%	% with client contact more than 50% of working time
Total	377		71.4
Sex			
Men	144	38.2	52.8
Women	233	61.8	82.9
Age			
16-25 years	49	13.0	87.5
26-35 years	114	30.2	74.3
36-45 years	103	27.3	66.0
46-55 years	75	19.9	69.9
> 55 years	36	9.5	57.1
Teaching	**99**	**26.3**	**83.8**
Administrative staff	9	9.1	44.4
Support staff	21	21.2	81.0
Primary school teachers	30	30.3	93.3
Secondary school teachers	39	39.4	87.2
Social work	**109**	**28.9**	**80.8**
Social workers	93	85.3	82.6
Administrative staff	5	4.6	33.3
Manual workers	4	3.7	50
Support staff	7	6.4	85.7
Health	**72**	**19.1**	**97.2**
Administrative staff	13	18.1	100
Nursing staff	32	44.4	93.8
Physicians	27	37.5	100
Industry	**97**	**25.7**	**29.2**
Administrative staff	21	20.8	40
Manual workers	46	47.9	19.6
Sales representatives	12	12.5	50
Managerial staff	18	18.8	27.8

Table 2 shows the distribution of responses for each scale, mean and SD, the discrimination index and the Cronbach's α reliability coefficient with its 95% confidence interval, the inter-item correlation and the corrected item total correlation. All items have a moderate positive discrimination (between one and two categories). The three scales have an acceptable inter-item correlation mean (between 0.42 and 0.60), a small variance (between 0.008 and 0.012) and an adequate corrected item total correlation (between 0.49 and 0.83, except for an item with a value of 0.39) indicating acceptable

Table 2
Copenhagen Burnout inventory. Scales, ítems and response frequencies. Mean (ED). Cronbach's internal consistency coefficient, inter-ítem correlation, adjusted ítem-total correlation and discrimination index

	n	0 %	25 %	50 %	75 %	100 %	Miss	Mean	ED	Inter-ítem correlation		Adjusted ítem total correlation	Discrimination index
										Mín	Máx		
Personal burnout [α = 0,90 (IC95% (0,88 - 0,92)]	377							32.2	18.6	0.46	0.81		
1. How often do you feel tired?		4.8	35.3	37.4	20.6	1.9	3	44.9	22.2			0,76	42,3
2. How often are you physically exhausted?		10.7	47.2	27.3	13.1	1.6	4	36.9	22.7			0,80	42,7
3. How often are you emotionally exhausted?		18.0	46.2	21.2	13.2	1.3	5	33.4	24.1			0,71	43,6
4. How often do you think: ”I can’t take it anymore”?		34.6	40.8	14.7	9.1	0.8	4	25.2	24.1			0,73	43,1
5. How often do you feel worn out?		12.6	48.1	25.9	11.8	1.6	3	35.4	22.8			0,83	44,1
6. How often do you feel weak and susceptible to illness?		47.2	38.9	11.0	2.7	0.3	4	17.5	19.8			0,55	27,9
Work burnout [α = 0,83 (IC95% 0,81 - 0,86)]	377							29.4	17.1	0.26	0.61		
7. Is your work emotionally ex-hausting?		13.8	21.7	31.2	23.3	10.0	8	48.5	29.6			0.59	51.2
8. Do you feel burnt out because of your work?		31.7	38.8	22.5	4.6	2.4	8	26.8	24.3			0.68	39.7
9. Does your work frustrate you?		45,8	36.9	13.5	2.7	1.1	6	19.1	21.6			0.56	30.0
10. Do you feel worn out at the end of the working day?		7.0	40.4	30.2	17.6	4.8	3	43.2	24.8			0.60	40.2
11. Are you exhausted in the morning at the thought of an-other day at work?		39.8	38.8	14.4	5.9	1.1	3	22.4	23.3			0.63	35.6
12. Do you feel that every working hour is tiring for you?		44.8	38.9	13.1	2.1	1.1	4	19.0	21.0			0.67	33.4
13. Do you have enough energy for family and friends during leisure time?		26.6	43.8	22.6	5.4	1.6	5	27.9	22.9			0.39	30.3
Client burnout [α = 0,82 (IC95% 0,78 - 0,85)]	265							34.5	19.2	0.28	0.59		
14. Do you find it hard to work with clients?		12.0	14.7	34.0	24.7	14.7	6	53.9	30,0			0.65	55.4
15. Do you find it frustrating to work with clients?		35.4	38.5	20.4	3.5	2.3	5	24.7	23.8			0.64	38.0
16. Does it drain your energy to work with clients?		12.0	18.9	39.8	20.1	9.3	6	48.9	27.9			0.57	44.8
17. Do you feel that you give more than you get back when you work with clients?		19.6	26.2	29.2	18.5	6.5	5	41.5	29.4			0.50	44.1
18. Are you tired of working with clients?		46.9	32.4	16.0	4.2	0.4	3	19.7	22.2			0.59	33.9
19. Do you sometimes wonder how long you will be able to continue working with clients?		54.8	28.0	9.2	6.1	1.9	4	18.1	24.8			0.57	35.5

Table 3
Construct validity evaluation

Scales	Number of elements	Cronbach's alpha	Spearman corr with personal burnout	Spearman corr with work-related burnout	Spearman corr with client-related burnout
CBI burnout scales correlation					
Work-related burnout	7	0.83	0.76		
Client-related burnout	6	0.82	0.44	0.72	
Correlation with psychosocial work environment					
Psychological demands:					
Emotional demands	3	0.79	0.48	0.58	0.49
Demands for hiding emotions	2	0.79	0.33	0.44	0.44
Quantitative demands	4	0.82	0.43	0.55	0.39
Cognitive demands	4	0.74	0.18	0.31	0.29
Work organization & job content					
Influence	4	0.82	-0.09	-0.15	-0.14
Possibilities for development	4	0.76	-0.06	-0.16	-0.17
Meaning of work	3	0.79	-0.14	-0.3	-0.28
Commitment to the workplace	4	0.82	-0.22	-0.34	-0.27
Interpersonal relations and leadership					
Quality of leadership	4	0.91	-0.21	-0.38	-0.33
Predictability	2	0.77	-0.20	-0.33	-0.26
Role clarity	4	0.82	-0.28	-0.43	-0.28
Role conflicts	4	0.81	0.35	0.49	0.45
Social support from colleagues	3	0.84	-0.14	-0.27	-0.20
Social support from supervisor	3	0.87	-0.22	-0.33	-0.21
Sense of community	3	0.84	-0.28	-0.39	-0.23
Insecurity at work:					
Insecurity	4	0.77	0.13	0.21	0.20
Job satisfaction:					
Satisfaction	4	0.79	-0.29	-0.45	-0.43
SF-36 Scales					
Vitality	4	0.8	-0.70	-0.63	-0.38
Mental health	5	0.86	-0.59	-0.56	-0.28
General health	4	0.66	-0.35	-0.37	-0.22

** p<0,000 in all correlations (bilateral)

homogeneity. The internal consistency of the three scales was satisfactory, with values of 0.90 (95% CI, 0.88-0.92) for PB, 0.83 (95% CI, 0.81-0.86) for WB and 0, 82 (95% CI, 0.78- 0.85) for CB.

Cronbach's α reliability coefficient was satisfactory for all COPSOQ scales used (table 3). Sample adjustment measure was excellent (KMO=0.9) and Barlett's sphericity test was very significant, reason why the null hypothesis for correlation was rejected. The correlation coefficient between the psychosocial work environment and WB was higher for emotional demands (0.58), quantitative demands (0.55), role conflict (0.49), satisfaction (-0.45), demands for hiding

Table 4
Satisfaction and CB cuartils.
Mean CI95%

CB cuartils	N	Mean	CI 95%
I (< 20.83)	51	77.45	72.68-82.22
II (20.83 - 33.32)	64	64.26	60.16-68.36
III (33.33 - 45.82)	63	65.48	61.65-69.30
IV (>45.82)	78	56.09	52.56-59.62
Total	256	64.70	62.54- 66.86

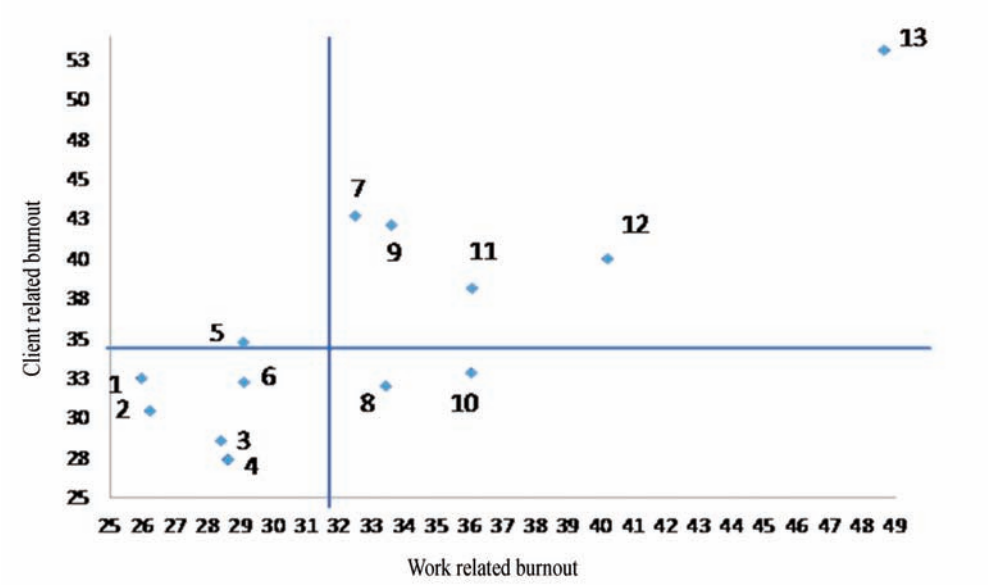
emotions (0.44) and role clarity (-0.43); on the contrary, it was lower for possibility of development (-0.16) and influence (-0.15). In relation to the three SF-36 scales used, Cronbach's α was satisfactory for 2 of the 3 scales (0.80 for vitality, 0.86 for mental health and 0.66 for general health). The expected outcomes (higher correlation for PB and lower for CB; higher correlations for vitality scale and lower for general health) were confirmed, with the highest correlation found between vitality and PB (-0.70) and the lowest between general health and CB (-0.22). The correlation coefficients between the CBI scales were 0.76 for personal and work related burnout, 0.44 for personal and client related burnout and 0.72 for workrelated and client related burnout. The latter varies between occupations (between 0.22/0.26 for managerial staff and doctors and 0.82/0.86 for support staff /sales representatives respectively). There was a clear relationship between CB and satisfaction (table 4): the mean satisfaction in the quartile with the highest score of CB was 56.1 (95% CI, 52.6-59.6) whilst it was 77.45 (95% CI, 72.7-82.2) for the lowest quartile.

Table 5 shows the mean scores of the three CBI scales according to occupation and activity of the centre. Considerable differences were observed in each of the scales for different occupations; for personal burnout the range of the mean scores is 13.2 points, 11.4 for work-related burnout and 15.1 for client-related burnout.

Table 5
Mean score of CBI scales for the 10 participating occupations

Personal burnout		Work related burnout		Client related burnout	
Ocuppation	Mean	Ocuppation	Mean	Ocuppation	Mean
Administrative staff	36.7	Physicians	34.7	Administrative staff	42.6
Primary school teachers	36.5	Administrative staff	34.1	Physicians	38.3
Secondary school teachers	35.8	Secondary school teachers	31.7	Nurses /auxillary nurses	34.9
Physicians	34.4	Primary school teachers	31.1	Social work	33.9
Nurses /auxillary nurses	32.7	Social workers	29.3	Support staff	32.6
Social workers	32.7	Nurses /auxillary nurses	29.2	Primary school teachers	32.4
Support staff	32.0	Support staff	26.7	Secondary school teachers	32.1
Sales representatives	25.8	Sales representatives	25.3	Managearial staff	31.3
Managearial staff	25.0	Managearial staff	23.4	Manual workers	30.6
Manual workers	23.5	Manual workers	23.3	Sales representatives	27.5
Teaching (99)	35.2	Health (72)	34.8	Health (69)	39.6
Health (72)	35.0	Teaching (99)	29.3	Industry (25)	34.3
Social work (108)	32.2	Social work (108)	28.5	Social work (83)	33.7
Industry (94)	27.0	Industry (94)	26.4	Teaching (83)	31.2

Figure 1
Mean score for the WB and CB scales according to occupation and activity



1.- Support staff , 2.- Manual workers , 3.- Primary school teachers (school A), 4.- Sales representatives
5.-Nurses /auxillary nurses, 6.-Social workers (NON residents), 7.- Social workers (residents)
8.- Secondary school teachers (school B). 9.- Primary care physicians , 10.- Resident physicians
11- Primary school teachers (school B), 12.- Administrative staff (industry), 13.- Administrative staff (health)

The mean score for the WB and CB scales, according to occupation and activity, is shown in Figure 1. High scores on both scales are seen for the group which performs administrative work in health and industry, residential social workers, primary school teachers in centre"A" and primary care physicians; high scores on the scale of work-related burnout, but not for CB, are shown for secondary teachers in centre"B" and for hospital resident physicians.

DISCUSSION

The results of this study show that the Spanish adaptation of the CBI is a reliable and valid instrument for measuring burnout. This gives support to the use and applicability of the CBI in countries other than that of origin.

The items of the three scales show good discrimination capacity, good consistency and homogeneity.

The three CBI scales have an acceptable internal consistency reliability index, slightly higher in PB, lower in WB and with no difference in CB, when compared with those obtained by Kristensen et al. When compared with Milfont et al[22] we find no differences in PB and WB (0. 88 and 0.90) and are higher in CB (0.87 in the teaching group in our case). The mean inter-item correlation was correct and only two of the

19 items showed correlations above 0.70; the interscale correlations were adequate. The discrimination capacity of the scales is verified through the discrimination index (always above one category of difference between the lowest and the highest score tercile for each item) and the different levels between occupations and activities. As in the Danish original[3], different occupations showed high scores in PB, WB and CB, but not necessarily in all three, which supports differentiation in different scales (capacity to discriminate and independent use of the three, depending on the context). For example, health care had high scores on the three scales, with differences according to occupation, whereas teaching had high scores for PB but lower scores than health care for CB. The importance of the phenomenon of burnout in health care workers is widely documented [14-16,24-26] just as it is among teaching staff[17,27]. These differences also point towards the different interpretations that the workers have of the origin and circumstances of their exhaustion, as explained in the conceptualization of the instrument.

Criterion validity is based on the correlation between the various dimensions of psychosocial risk in the work environment [7-9] in the expected direction in line with other studies, as well as the association between the three scales of burnout and the SF-36 scales of vitality, mental health and general health[3]. In this context, a high correlation is highlighted between PB/WB and the SF-36 scale of vitality (convergent validity) and is lower for CB and vitality or general health. In relation to the psychosocial work environment, the correlations are highest between WB and emotional-psychological demands (quantitative and hiding emotions), role conflict and role clarity.

The results support the importance of differentiating between the different origins attributed to burnout if a specific preventive action is to follow, an aspect which CBI allows for, as shown in figure 1: among primary care physicians, actions which address patient-related burnout should be prioritized, whilst emphasis should be on WB among hospital residents. In relation to administrative staff, both in health care and industry, the priority in preventive action would be addressing staff exposure to both CB and WB. Among teachers, major differences between one centre and another can be observed. This could be due to differences in their internal relations and their motivations for participating in the study: whilst centre A is actively engaged in promoting improvement of working conditions and providing attention to employees, centre B is undergoing a major internal conflict. Within this centre, the instrument has allowed to identify differences between primary and secondary school teachers in relation to WB and CB. The instrument has also allowed to find differences in terms of WB and CB among social workers in residential and non-residential centres.

Our work has several limitations: the cross-sectional design of our study does not allow to identify causal relationships; however, this was not our objective. The sample is restricted: groups used are small if the purpose is the study of all occupations. Finally, we are dealing with a self-selected sample where motivation for participating must have had an impact; this might imply overrepresentation of participating centres in one or both extremes of the spectrum with regards to psychosocial risk, burnout and preventive activity.

In line with other occupational studies, we find the "healthy worker effect": severely ill and disabled people are usually excluded from employment while it is likely that healthier workers tend to remain in the workforce (the survival effect).

In summary, the great consistency found between our work and similar studies allows us to state that the Spanish version of

the CBI would constitute a good tool for identifying groups at risk and assessing preventive measures over time while allowing comparisons between countries and overcoming the limitations of MBI for the study of burnout.

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Annex 1
Copenhagen Burnout Inventory and COPSOQ. Dimensions added to the spanish version

PERSONAL BURNOUT

P12b. ¿Con qué frecuencia te sientes cansado?
P12c ¿Con qué frecuencia piensas "no puedo más"?
P12j ¿Con qué frecuencia te sientes débil y susceptible de enfermar?
P12o ¿Con qué frecuencia estás físicamente agotado?
P12t ¿Con qué frecuencia te sientes agotado?
P12x ¿Con qué frecuencia estás psicológicamente agotado?

WORK-RELATED BURNOUT

P12f ¿Te sientes agotado al final de tu jornada laboral?
P12i ¿Por la mañana te agota pensar en otro día de trabajo?
P12l ¿Sientes que cada hora de trabajo es agotadora?
P12v ¿Tienes suficiente energía para la familia y los amigos durante el tiempo libre?
P13b ¿Te sientes quemado por tu trabajo?
P13d ¿Te sientes frustrado por tu trabajo?
P13f ¿Tu trabajo es emocionalmente agotador?

CLIENT-RELATED BURNOUT

P12e ¿Estás cansado de trabajar con clientes o usuarios?
P12m ¿A veces te preguntas cuánto tiempo podrás continuar trabajando con clientes o usuarios?
P13c ¿Es duro trabajar con clientes o usuarios?
P13e ¿Sientes que das más que recibes cuando trabajas con clientes o usuarios?
P13g ¿Es frustrante trabajar con clientes o usuarios?
P13h ¿Trabajar con clientes o usuarios consume tu energía?

COPSOQ - Psychosocial work environment

EXIGENCIAS EMOCIONALES

P21g ¿Te cuesta olvidar los problemas del trabajo?
P21f ¿Tu trabajo, en general, es desgastador emocionalmentez
P21e ¿Se producen en tu trabajo momentos o situaciones desgastadoras emocionalmente?

EXIGENCIAS DE ESCONDER EMOCIONES

P21h ¿Tu trabajo requiere que te calles tu opinión?
P21i ¿Tu trabajo requiere que escondas tus emociones?

EXIGENCIAS CUANTITATIVAS

P20a ¿Tienes que trabajar muy rápido?
P20b ¿La distribución de tareas es irregular y provoca que se te acumule el trabajo?
P20c ¿Tienes tiempo de llevar al día tu trabajo?
P20d ¿Tienes tiempo suficiente para hacer tu trabajo?

EXIGENCIAS COGNITIVAS

P21a ¿Tu trabajo requiere memorizar muchas cosas?
P21b ¿Tu trabajo requiere que tomes decisiones de forma rápida?
P21c ¿Tu trabajo requiere que tomes decisiones difíciles?
P21d ¿Tu trabajo requiere manejar muchos conocimientos?

INFLUENCIA

P25a ¿Tienes mucha influencia sobre las decisiones que afectan a tu trabajo?
P25b ¿Tienes influencia sobre la cantidad de trabajo que se te asigna?
P25c ¿Se tiene en cuenta tu opinión cuando se te asignan tus tareas?
P25d ¿Tienes influencia sobre el orden en el que realizas las tareas?

POSIBILIDADES DE DESARROLLO EN EL TRABAJO

P26a ¿Tu trabajo es variado?
P26b ¿Tu trabajo requiere que tengas iniciativa?
P26c ¿Tu trabajo permite que aprendas cosas nuevas?
P26d ¿La realización de tu trabajo permite que apliques tus habilidades y conocimientos?

COMPROMISO
P26h ¿Te gustaría quedarte en la empresa en la que estás para el resto de tu vida laboral?
P26i ¿Hablas con entusiasmo de tu empresa a otras personas?
P26j ¿Sientes que los problemas en tu empresa son también tuyos?
P26k ¿Sientes que tu empresa tiene una gran importancia para ti?

CALIDAD DE LIDERAZGO
Tus jefes inmediatos:
P30a ¿Se aseguran de que cada uno de los trabajadores/as tiene buenas oportunidades de desarrollo profesional?
P30b ¿Planifican bien el trabajo?
P30c ¿Resuelven bien los conflictos?
P30d ¿Se comunican bien con los trabajadores y trabajadoras?

PREVISIBILIDAD
P27a ¿En tu empresa se te informa con suficiente antelación de los cambios que pueden afectar tu futuro?
P27b ¿Recibes toda la información que necesitas para realizar bien tu trabajo?

CLARIDAD DE ROL
P27c ¿Sabes exactamente qué margen de autonomía tienes en tu trabajo?
P27d ¿Tu trabajo tiene objetivos claros?
P27e ¿Sabes exactamente qué tareas son de tu responsabilidad?
P27f ¿Sabes exactamente qué se espera de ti en el trabajo?

CONFLICTO DE ROL
P27g ¿Haces cosas en el trabajo que son aceptadas por algunas personas y no por otras?
P27h ¿Se te exigen cosas contradictorias en el trabajo?
P27i ¿Tienes que hacer tareas que crees que deberían hacerse de otra manera?
P27j ¿Tienes que realizar tareas que te parecen innecesarias?

APOYO SOCIAL DE COMPAÑEROS EN EL TRABAJO
P29a ¿Hablas con tus compañeros o compañeras sobre cómo llevas a cabo tu trabajo?
P29b ¿Recibes ayuda y apoyo de tus compañeras o compañeros?
P29c ¿Tus compañeros o compañeras están dispuestos a escuchar tus problemas en el trabajo?

APOYO SOCIAL DE SUPERIORES EN EL TRABAJO
P31a ¿Hablas con tu superior sobre cómo llevas a cabo tu trabajo?
P31b ¿Recibes ayuda y apoyo de tu inmediato o inmediata superior?
P31c ¿Tu inmediato o inmediata superior está dispuesto a escuchar tus problemas en el trabajo?

SENTIMIENTO DE GRUPO
P28c ¿Hay un buen ambiente entre tú y tus compañeros/as de trabajo?
P28d Entre compañeros y compañeras ¿os ayudáis en el trabajo?
P28e En el trabajo ¿sientes que formas parte de un grupo?

INSEGURIDAD EN EL TRABAJO
En estos momentos, ¿estás preocupado/a…
P32a …por lo difícil que sería encontrar otro trabajo en el caso de que te quedaras en paro?
P32b …por si te cambian de tareas contra tu voluntad?
P32c …por si te cambian el horario (turno, días de la semana, horas de entrada y salida) contra tu voluntad?
P32d …por si te varían el salario (que no te lo actualicen, que te lo bajen, que introduzcan el salario variable, que te paguen en especies, etc.)?

SF-36
SALUD GENERAL
Por favor, di si te parece CIERTA o FALSA cada una de las siguientes frases:
P10a Me pongo enfermo/a más fácilmente que otras personas.
P10b Estoy tan sana/o como cualquiera.
P10c Creo que mi salud va a empeorar.
P10d Mi salud es excelente

SALUD MENTAL
Durante las últimas cuatro semanas,
P11a ¿has estado muy nervioso/a?
P11b ¿te has sentido tan bajo/a de moral que nada podía animarte?
P11c ¿te has sentido calmada/o tranquila/o?
P11d ¿te has sentido desanimado/a y triste?
P11e ¿te has sentido feliz?

VITALIDAD
Durante las últimas cuatro semanas,
P11f ¿te has sentido llena/o de vitalidad?
P11g ¿has tenido mucha energía?
P11h ¿te has sentido agotado/a?
P11i ¿te has sentido cansada/o?

Satisfacción con el trabajo
En relación con tu trabajo, ¿estás satisfecho/a con…
P33a …tus perspectivas laborales?
P33b …las condiciones ambientales de trabajo, (ruido, espacio, ventilación, temperatura, iluminación…)?
P33c …el grado en que se emplean tus capacidades?
P33d …tu trabajo, tomándolo todo en consideración?