The Spanish Journal of Psychology
2012, Vol. 15, No. 3, 1456-1465
http://dx.doi.org/10.5209/rev_SJOP.2012.v15.n3.39429

ISSN 1138-7416

Development and Validation of a Measuring Instrument for Burnout Syndrome in Teachers

Jesús Miguel Rodríguez Mantilla[1] and Mª José Fernández Díaz[2]

[1]Universidad Camilo José Cela (Spain)
[2]Universidad Complutense (Spain)

This paper is part of a research done on Burnout Syndrome, and its objective is to develop and validate an instrument for measuring the syndrome in Secondary School teachers, taking as a principal starting point Maslach, Schaufeli, and Leiter´s theory (2001). After developing and testing the instrument on a sample of 794 teachers in the Community of Madrid (Spain), we analyzed the reliability, content and construct validity (the latter by means of Structural Equations Models implemented with Software AMOS 7.0). The reliability analysis (α = .911 for the total instrument; .849, .899 and .674 for the dimensions of Exhaustion, Reduced Personal Accomplishment and Depersonalization respectively) and the Confirmatory Factorial Analysis (CMIN/DF = 4.163, CFI = .904, RMSEA = .60, PRATIO = .874) showed highly satisfactory results. The discrimination coefficient scores for items in the final instrument ranged between .22 and .74. Thus, the instrument presented combines the necessary technical characteristics for it to be considered a valid and reliable tool for measuring the syndrome.
Keywords: burnout, teachers, secondary education, measuring instrument.

El presente estudio forma parte de una investigación sobre el síndrome de Burnout y su objetivo, en este caso, es elaborar y validar un instrumento de medida del síndrome en profesores de Secundaria partiendo, principalmente, de la teoría de Maslach, Schaufeli, y Leiter (2001). Tras la elaboración y aplicación del instrumento a una muestra de 794 docentes de la Comunidad de Madrid, se analizó la fiabilidad, la validez de contenido y de constructo (ésta última a través de Modelos de Ecuaciones Estructurales con la aplicación informática AMOS 7.0). Los resultados obtenidos en el análisis de fiabilidad (α = .911 para la totalidad del instrumento, .849, .899 y .674 para las dimensiones de Agotamiento, Baja Realización y Despersonalización respectivamente) y en el Análisis Factorial Confirmatorio fueron altamente satisfactorios (CMIN/DF = 4.163, CFI = .904, RMSEA = .06, PRATIO = .874). Los valores del coeficiente de discriminación de los ítems del instrumento final oscilaron entre .22 y .74. Por todo ello, el instrumento presentado reúne las características técnicas exigidas para ser considerada una herramienta válida y fiable para medir el síndrome.
Palabras clave: burnout, profesorado, educación secundaria, instrumento de medida.

Correspondence concerning this article should be addressed to Jesus Miguel Rodríguez Mantilla. Universidad Camilo José Cela. Dpto. de Educación. C/Pericles 28, 5º Dcha. 28011 Madrid (Spain). E-mail: jmrodriguez@ucjc.edu

In the present educational climate there are a series of characteristics, outcome of the constant and vertiginous changes taking place in modern society. We need to look at the educational world of the XXI century from a fresh perspective as new models of family structure, the all-invasive world of technology or the legislative changes in education all influence, to a greater or lesser extent, aspects such as the deterioration in students´ interest and motivation, the loss of teachers´ authority, the increase in school failure, etc. The Secondary School stage is especially sensitive to these changes as an intrinsic aspect also to be taken into account is the student´s own development during adolescence. Therefore, it is at this stage of schooling, as pointed out by Arís (2005), (and especially in Compulsory Secondary Education -CSE-, according to the Cisneros Report Cisneros IX, 2006), that teachers and, on occasions, students appear to suffer greater bullying at school, demotivation, absenteeism, depression, chronic stress, decrease in self-esteem, Burnout Syndrome and endless other symptoms, all a consequence of the present and increasing difficulties many teachers are experiencing when trying to teach normally.

In this sense, Burnout Syndrome can be defined as chronic interpersonal stress in the exercise of one´s work. On speaking of *syndrome* we mean a symptomatic pattern, not a defined illness. The syndrome is characterized by feelings of fatigue, dejection, depersonalization and reduced self-effectiveness, linked to what are perceived as excessive demands in the work environment (Kahill, 1988). Adopting the conclusions of Gil-Monte (1997) and Maslach et al. (2001), it can be stated that the professionals most affected, although not the only ones (as pointed out by Grau, Salanova, & Martínez, 2005), are those working in *helping professions* such as the *fields of health, education and social services*.

The syndrome is, therefore, made up of three dimensions: *Exhaustion, Depersonalization* and *Reduced Personal Accomplishment.* According to Maslach and Jackson (1986), Sarros (1988) and Farber (1991), *Exhaustion* refers to the feeling of excessive physical effort and emotional tiredness suffered as a consequence of the continuous, unavoidable interactions maintained by the workers with each other as well as with their clients. This dimension is described as feeling a lack of emotional resources. *Depersonalization* involves the developing of cold, distant, negative feelings, attitudes and responses to other people (colleagues, bosses, clients, etc.) and an attempt to isolate themselves. This is accompanied by an increase in irritability, loss of motivation, an ironic, cynical attitude and even the use of offensive terms to refer to clients, in an attempt to blame others for their own frustrations and reduced work performance. Lastly, *Reduced Personal Accomplishment* implies the loss of confidence in one´s personal fulfillment and a negative self-image, outcome of problems in the work place. This leads to negative responses towards oneself and one´s work such as: avoiding personal and professional relationships, reduced work performance, incapacity to support pressure, low self-esteem, feelings of disillusionment and failure, absence of hope and expectations in one´s job, and a general feeling of dissatisfaction. Accordingly, the worker may show a series of behavioral symptoms such as: lack of punctuality, avoidance of work, absenteeism and, on occasion, they may even leave the profession.

As in other social professions, Burnout in teachers does not appear overnight; it is the final step in a continuous process. Burnout is revealed by symptoms such as a sense of inadequacy in one´s work, lack of resources to face up to the job of teaching, reduced capacity for solving problems etc. Burnout Syndrome in teachers is revealed, according to Maslach et al. (2001), Moriana & Herruzo, (2004), Xiao-Ming and Dong-Mei, (2005) and Weng, Sturmlinger, Wirsching, and Schaarschmidt, (2005), as an emotional exhaustion, which makes the teachers feel unable to give more of themselves to their students. To be able to cope with this exhaustion, the teacher adopts a depersonalized conduct, that is, negative attitudes of remoteness and, at times, insensitivity towards students, parents and/or colleagues. The consequences for the teacher are feelings of a low personal and professional performance, with a negative assessment of his/her own professional role, feelings of ineffectiveness when helping students with their studies or carrying out other work duties.

Although writers like Doménech (1995) and Ortiz (1995) indicated a higher level of Burnout in the early stages of education, in general, it appears that there is an increase in Burnout indices at higher educational levels, except for university. Burke and Greenglass, (1995) point out that Secondary School teachers particularly are most affected, above all with regard to *Depersonalization* and *Reduced Personal Accomplishment*. Gold and Grant, (1993) explained these results in Secondary Education by the pupils´ diminished interest and motivation. Likewise, the Cisneros IX Report (2006) indicates that in the Comunidad de Madrid, this syndrome affects 26.17% of teachers in Secondary Schools, compared to 11.52 % in Infant Schools and 15.02% in Primary Schools. Our research will concentrate, therefore, on the group of teachers showing the highest proportion of Burnout Syndrome.

Bearing this in mind, this study´s main objective is to design and develop a valid, reliable measurement instrument, based on a conceptual, operative definition that combines the psychometric characteristics necessary to evaluate one of the changes in *affective labor* with the most social and professional relevance for teachers, that is, Burnout Syndrome in a Spanish context. To design the instrument, we started with Maslach et al. (2001) three dimensions, which we broke down into the following subdimensions: *Exhaustion* -meaning the level of fatigue felt by the teacher at both a physical and psychological level-; *Depersonalization* -constituted by the subdimensions: the teacher´s *emotional hardening* towards the people he/she is working with and *lack of concern for the students*; and finally *Reduced Personal Accomplishment,*

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

for which we used Rodríguez and Fernández's instrument (2010), showing the teacher´s *level of achievement, personal stimulation and motivation*.

Method

Participants

The survey´s target audience was Compulsory Secondary School teachers in the Comunidad de Madrid, which comprises a total of 13,318 teachers (Consejería de Educación de la Comunidad de Madrid, 2009). Our aim was the total of 1,291 ESO teachers corresponding to a total of 38 schools in different areas of the Comunidad de Madrid (North, South, East, West and Center). In the end, 794 teachers took part in the survey, from which we obtained a 61.50% response rate. Hair, Anderson, Tathan, and Black, (2004) point out that although, as a general rule, it is advisable to be able to rely on a number of observations at least five times the number of variables, a ratio of ten to one is also acceptable. Our sample consisted of 794 observations, and the measuring tool, as we will see later, comprised 34 items, so we obtained a ratio of observations/variables 23.35, much higher than the recommended ratio.

The teachers were selected by means of random sampling, resulting in 62.6% of the total (n = 497) being from state schools, 29.85% (n = 237) from state-subsidized schools and 7.55% (n = 60) from private schools. The distribution of types of schools as well as areas corresponds to the population distribution in the Comunidad de Madrid (Consejería de Educación de la Comunidad de Madrid, 2009). On applying the chi-squared test to this proof, the probability was higher than .01. The distribution of the teachers by areas shows 14.1% (n = 112) belong to the North area of the Comunidad, 34.4% (n = 273) to the South, 12.6% (n = 100) to the East, 14.9% (n = 118) to the West and 24.1% (n = 191) to the Center area.

With respect to the socio-demographic characteristics, the sample comprises 318 women (40.1%) and 476 men (59.9%). 45.2% of the sample corresponds to teachers aged less than 39 years old, 34.6% (n = 275) to those between 40 and 49 years old and the remaining 20.2% to teachers of 50 years old or more.

Lastly, from the viewpoint of professional profile, 20.2% of the sample has 4 years or less teaching experience, 27.1% between 5 and 10 years, 22.5% between 11 and 19. So the remaining 30.2% have been teachers for 20 years or longer.

Instrument

The measurement for Burnout Syndrome was carried out using an instrument developed especially for the purpose, composed of items relating to thoughts and feelings characteristic of the syndrome. Accordingly, the questionnaire comprised a total of 34 items (see Table 1) to be answered by the teacher, complying with a *Likert*- type scale of 1-5 (with 1 indicating *nothing, never*, and 5 *a lot, always*), for all the items in the different dimensions (*Exhaustion, Depersonalization* and *Reduced Personal Accomplishment*).

Procedure

The testing of the tool was carried out between April and May, 2009. To encourage schools and teachers to take part in the survey, the researcher sent the schools the questionnaires together with a letter containing information on the purpose of the survey and assuring the respondents´ anonymity. The questionnaires, once filled in by the teachers concerned, were deposited in a special box put expressly for that purpose in each school. Likewise, the schools´ management teams were told they would receive information on the survey´s findings, which could be of use to them internally thus making their collaboration worthwhile.

Development of the questionnaire

To obtain proof that would guarantee the instrument´s *content validity,* already based on the dimensions definition, two types of experts were chosen: on the one hand, experts in educational research with ample knowledge of the subject as well as scale design and analysis to judge the tool´s items independently; on the other hand, professionals from the Secondary School field to check the opinions of some of the Secondary School teachers regarding the items included in the tool. In the end, the panel of evaluators consisted of three independent experts and three Secondary School teachers. Each evaluator was briefed on the purpose of the test and the universal conceptualization of the universe of content in order that they might carry out their duties critically and correctly. Each evaluator received a validation instrument in which to collect the information provided by them .The experts had to score on a scale of 1-5 the *relevance* (the level of the item´s signification or importance with respect to the dimension it fitted in) and the *clarity* of each item on the questionnaire. Lastly, the validation instrument was composed of a series of open questions on the relevance of adding, deleting or modifying some of the items put forward. Once the assessors had evaluated the scales, they proceeded to analyze the results, taking into account certain basic aspects (Tejero, 2006 and Tejero, Fernández, & Carballo, 2010): a) items where there was 100% agreement among the judges would be included in the instrument, b) items where there was 100% disagreement would be excluded and c) items where there was only partial agreement would have to be revised.

At a quantitative level, referring to Cortada de Kohan (1999), we considered the possible elimination of those items that did not exceed a mean of 4, both for *clarity* and for *relevance*, and any items that had a standard deviation

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

greater than 1.5. In addition, we also took into account a detailed qualitative analysis of the responses to the open questions asked in the validation instrument on each and every one of the items. The experts' assessments showed the significant relevance of all the items proposed for the tool so changes were minimal corrections of slight spelling and grammatical mistakes and some modifications in the editing of several items in order to improve both the clarity and representativity of the indicator they belonged to. The items included in the instrument are shown in table 1.

Data analysis

After an initial descriptive study of the results, which showed no irregular behavior in the items´ variability and central tendency (averages between 1.35 and 4.45, corresponding to items 33 and 34 respectively -with a standard deviation of .67 in both cases- and standard deviations that range between .67 and 1.17), the instrument´s reliability was checked, calculating Cronbach's Alpha, implemented with software SPSS 17, on the whole test as well as each dimension described, and analyzing the homogeneity indices (corrected element-total correlation) of the items in order to determine whether it would be advisable to suppress some of them (according to Hair et al., 2004, the item with a score of less than .20 is suppressed).

Subsequently, with the help of software AMOS 7.0, we determined the goodness of fit of the factorial model proposed at a theoretical level, through the dimensions and indicators set out previously, by means of a Confirmatory Factorial Analysis following the criteria adopted by Byrne (2001) and Kline (2005) (CMIN/DF between 2 y 5, CFI & IFI > .90, PRATIO, PNFI & PCFI > .90, RMSEA < .08 and HOELTER > 200) (see table 2).

Results

Reliability

On interpreting the global alpha corresponding to the Burnout measuring instrument we obtained a value of .95. Nevertheless, the homogeneity indices did not have expected values (lower than .2 according to Hair et al., 2004) in item 3 ("*I consider that teachers with problems in class should solve them by themselves*") and item 5 ("*I consider that rewarding and praising pupils systematically is negative"*). Analyzing the frequency distribution of item 3, we observe that the item had little variability (80% of the responses had scores of 1 and 2). Item 5, however, turned out to be more heterogeneous so the problem may have resided in the wording of the item. We proceeded therefore to eliminate both items and, subsequently, to analyze dimension reliability. In this analysis we observed that the reliability value in the *Depersonalization* dimension (α = .674) showed a slightly lower level than that reached in the other two dimensions: *Exhaustion* (α = .849) and *Reduced Personal Accomplishment* (α = .899). After the elimination of items 3 and 5, Cronbach's Alpha global measure reached a final value of .911 and the discrimination coefficient values of the final items fluctuated between .22 and .74.

Construct validity (Confirmatory Factorial Analysis)

Basing the instrument´s design structure on the relevant literature consulted, (table 1), we performed a Confirmatory Factorial Analysis, applying S.E.M. (Structural Equation Modeling) methodology to evaluate the instrument construct validity. To do this, we specified the rules of correspondence and relationships between the latent and observed variables measured by the questionnaire. We proposed the initial measuring model (figure 1), including all the theory´s predictive indicators, in order to measure the three constructs. This model comprised three latent variables, 32 observed variables (from V01 to V34, except for items 3 and 5 that were eliminated) and 32 error terms (from e01 to e34). Likewise, we defined 32 factor loadings and 32 factor regressions among the error terms and their associated variables. Three correlations were included between the principal latent factors and all the error terms were considered to be uncorrelated.

Once the model was specified, we analyzed the multivariate normality. According to Bollen (1989), the assumption of multivariate normality is fulfilled if Mardia's coefficient (which, in the present survey reached a value of 193.9) is lower than p (p + 2), p standing for the number of observed variables. Taking into account that the model consists of 32 observed variables, we confirmed that this coefficient value is less than the product 32(32+2) = 1,088. Assuming , therefore, the existence of multivariate normality, we estimated the model parameters, using the Maximum Likelihood ("ML") procedure -the most efficient and least skewed when above-mentioned assumptions of multivariate normality are fulfilled and sufficiently robust to be unaffected by slight fluctuations regarding multivariate normal distribution (Hayduk, 1996). In the results (table 2), we find that the model´s adjustment indices CFI = .806 and IFI = .807 score just under the .90, required by Kline (2005), due partly to the unsatisfactory factorial loadings of items 1, 2, 12, 14, 21, 24, and 27 (lower than the value .5 indicated as necessary by Byrne, 2001), leading to the elimination of these items. In addition, on consulting the *modification indices* table, we found correlations between the error terms of the variables corresponding to the *Depersonalization* dimension (table 3). Based on our theoretical fundamentation, therefore, it seemed opportune to include both latent variables: the factors *Emotional hardening* and *Teachers´ lack of concern towards the pupils* in order to establish whether this would bring about any improvement in the adjustment model.

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

Table 1
Items analysis

DIM.	IND.	Nº	ÍTEMS
Exhaustion	Physical Exhaustion	18.	On workdays, I feel physically tired when I get up in the morning.
		9.	I usually feel tired.at the end of the working day.
	Psychic Exhaustion	25.	I feel a lot more stress than normal at work.
		20.	I feel emotionally exhausted by my work.
		10.	I feel worn out by my work.
		6.	I feel frustrated in my work.
		14.	I consider my job as a teacher takes a lot of effort.
		2.	I think I work too hard.
Depersonalization	Emotional hardening	12.	My experience makes me feel I do not want to share my knowledge or my resources with other teachers.
		3.	I consider that teachers with problems in class should solve them by themselves.
		23.	At an emotional level, I think that my work as a teacher is making me feel a harder person.
		11.	I consider that on the whole the pupils are not interested in making academic progress.
		26.	I have become less sensitive with people since I started teaching.
	Lack of concern towards pupils	33.	I treat some pupils/teachers with indifference.
		17.	I understand easily what the pupils feel.
		24.	The level of responsibility I have in the academic progress of my pupils is… (Scale 1- 5).
		19.	My level of implication in my pupils´ personal issues and problems is… (Scale 1-5).
		5.	I consider that recompensing and praising pupils systematically is negative.
Reduced Personal Accomplishment	Level of Achievement	29.	I think I am a positive reference in my pupils´ lives.
		8.	In general, I feel satisfied by the way I teach my lessons.
		30.	I am satisfied with the work I do as a teacher.
		28.	In general, I feel valued as a teacher.
		32.	I feel proud of my work.
		13.	I have achieved much of use to me in the exercise of my profession as a teacher.
		21.	I am able to create easily a calm atmosphere among my pupils.
		27.	I am able to deal with emotional problems calmly.
		7.	I deal effectively with my pupils´ problems.
	Personal esteem and motivation	22.	I feel motivated in my job as a teacher.
		4.	I feel very active.
		16.	I feel stimulated at the end of the working day.
		1.	I like to learn constantly in order to be up to date with knowledge and new techniques to apply to my subject.
		31.	I feel demotivated in my work.
	Commit-ment	34.	I feel committed to my work as a teacher.
		15.	I feel identified with the school where I work.

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

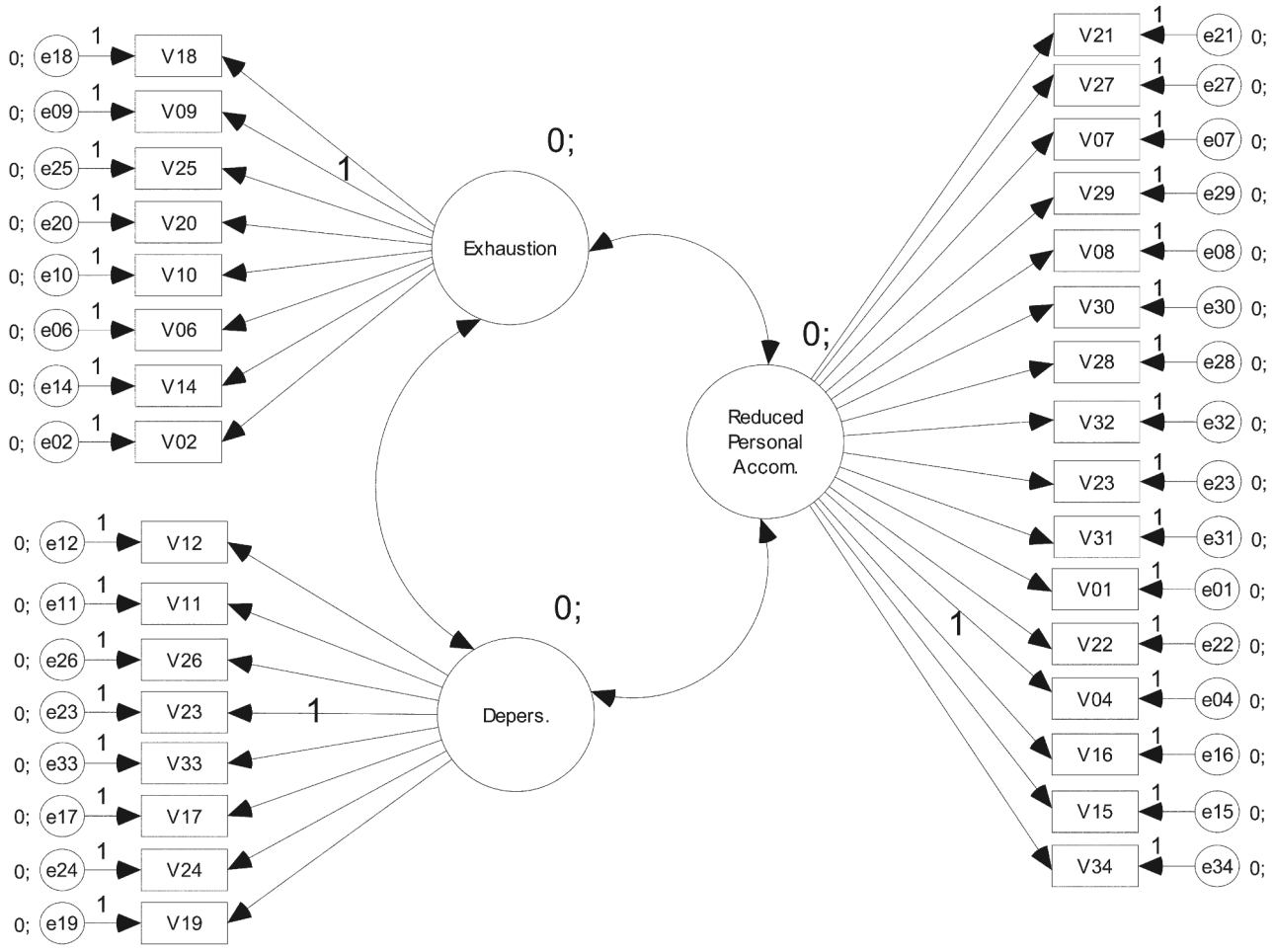

Figure 1. Initial structural model for measurement of Burnout Syndrome.

Table 2
Summary of the adjustment indices of the initial and final Burnout model

Measure	Adjustment Level recommended*	Score Model Initial	Score Model Final
CMIN/DF	2-5	5.124	4.163
IFI	> .90	.807	.904
CFI		.806	.904
PRATIO		.919	.874
PNFI	> .70	.723	.766
PCFI		.756	.789
RMSEA		.072	.063
LO 90	< .08	.069	.059
HI 90		.075	.067
HOELTER .05	> 200	172	222
HOELTER .01		180	236

*according to Byrne (2001) & Kline (2005).

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

Likewise, we found a multi-saturation of item 31 on *Depersonalization* and *Exhaustion* and of item 16 on *Exhaustion* (table 3). Because of this multidimensionality, we opted to eliminate these items. Finally, the modification indices (table 3) also showed the advisability of some co-variations between error terms that would reduce substantially the chi-squared statistic, some of them justifiable from a theoretical point of view. Specifically, the correlations were factible between the error terms e26 and e33 (as both allude to an impersonal relationship between teachers and pupils), between e20 and e18 and between e09 and e25 (given that each pair of items possesses an element corresponding to *physical exhaustion* and the other to *psychic exhaustion)* and between e29 and e19 (as both items refer to the *influence or responsibility that the teacher has or exercises on the pupils*).

Table 3
Modification Indices

			M.I.	Par Chang.
e17	<-->	e23	4.73	–.055
e19	<-->	e07	30.73	.109
e19	<-->	e17	28.22	.116
e19	<-->	e33	4.93	.040
e19	<-->	e26	4.04	–.053
e11	<-->	e19	4.86	–.058
e26	<-->	e33	17.54	.083
e29	<-->	e19	3..25	.117
e20	<-->	e18	25.78	.131
e09	<-->	e25	38.89	.167
V31	<---	Deperson.	8.06	.217
V31	<---	Exhaustion	36.49	.219
V16	<---	Exhaustion	31.00	.190

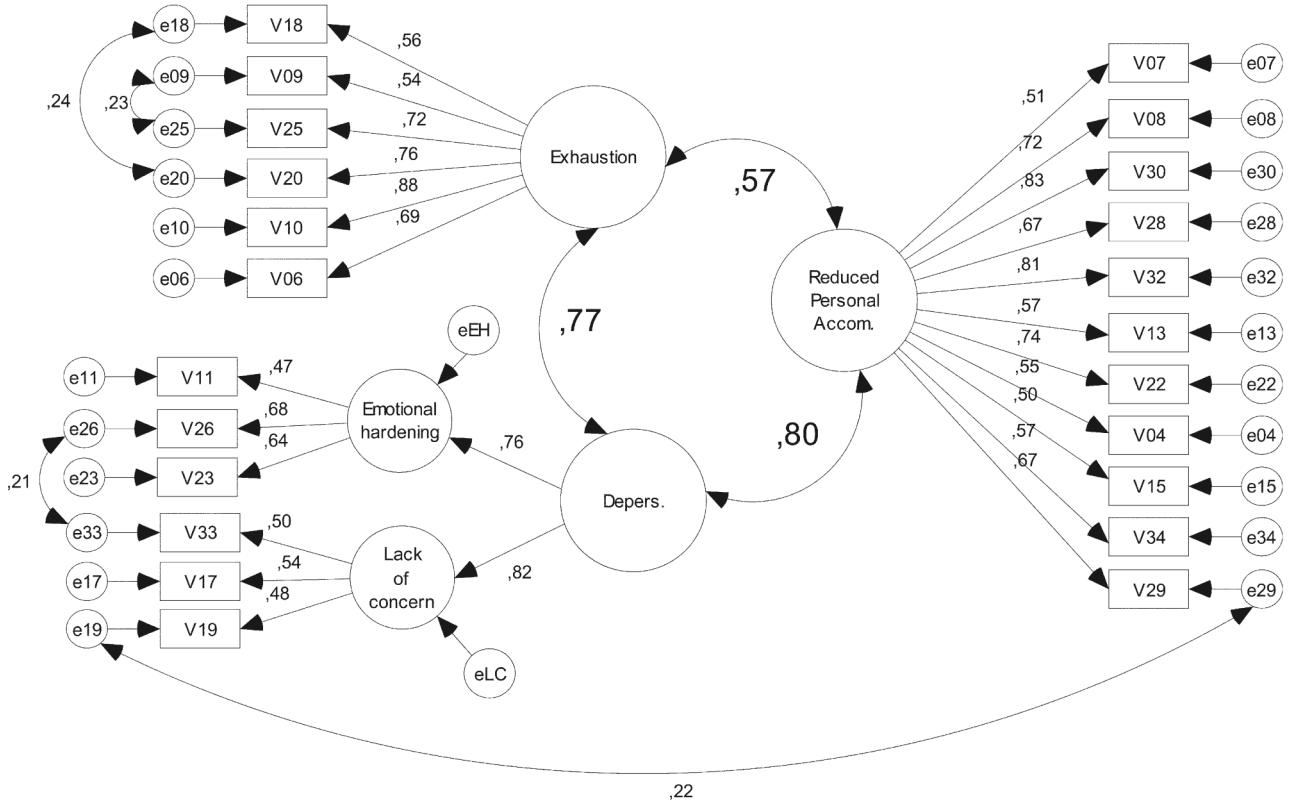

Figure 2. Final structural model for measurement of Burnout Syndrome.

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

Similarly, after carrying out the modifications indicated, we obtained a final recursive model (figure 2) estimated from a sample of 794 subjects, with 53 variables: 23 observed variables (corresponding to the items) and 30 latent variables (of which 5 are factors, 23 error terms and 2 disturbance terms). From these 53 variables, 28 are exogenous (23 error terms, 2 disturbance terms and 3 factors), and 25 are endogenous (23 indicators and 2 factors). In addition, there are 55 parameters to be estimated, which is why the model consists of 221 degrees of freedom, proving it to be an over-identified model and able to be estimated.

The parameters of the previously- mentioned final model were estimated similarly by the procedure of Maximum Likelihood (Mardia's coefficient = 118.8 less than 23(23+2) = 575) and we reached satisfactory estimation results (table 2), highlighting a CFI = .904, an IFI = .04; a 4.163 CMIN/DF. With regard to the residues, we reached a .06 RMSEA and an adequate sample size, since Hoelter's index is 236. Likewise, the parsimony indices are high (PRATIO = .874, PNFI = .766 and PCFI = .789); therefore, taking into account the parameters incorporated in the model, we can state that we are facing a quite parsimonious measurement model.

In the modification indices we found no values worth taking into consideration and analyzing the standardized values of the parameters we can confirm good quality indicators since the factorial loadings were higher than .5 (except for items V11 and V19 that we decided to maintain for theoretical issues, and even so showed values very close to .5). The correlation between error terms acquires a significant value in all cases (the lowest being .21), as is the case with the estimations of error terms (table 4).

Finally, with the criteria of Hair et al. (2004), as a reference, we observe that the components of Burnout show significant correlations ($p < .01$). These correlations are high between *Exhaustion* and *Depersonalization* (.77), and *Depersonalization* and *Reduced Personal Accomplishment* (.80) and moderate between *Exhaustion* and *Reduced Personal Accomplishment* (.57).

Discussion and Conclusion

For the development of the Burnout measuring scale, we took as a starting point the configuration of a system of dimensions, subdimensions and indicators sustained in the contributions of writers of such relevance, among others, as Seidman and Zager (1986), Maslach and Jackson (1986), Sarros (1988), Farber (1991), Pines and Guendelman (1995), Maslach et al. (2001), Moriana and Herruzo (2004), Xiao-Ming and Dong-Mei (2005) and Weng et al. (2005), adapting this system to the educational context of our

Table 4
Estimation of parameters: Error terms

	Estimate	S.E.	C.R.	P
e69	.825	.044	18.742	***
e80	.551	.034	15.984	***
e85	.634	.037	17.026	***
e70	.299	.028	10.564	***
e66	.608	.035	17.530	***
e71	.709	.040	17.637	***
e90	.210	.013	15.787	***
e88	.445	.024	18.397	***
e89	.378	.021	18.386	***
e92	.252	.015	16.354	***
e82	.351	.020	17.690	***
e79	.627	.037	16.760	***
e64	.502	.026	19.124	***
e94	.301	.016	18.997	***
e73	.475	.025	19.014	***
e86	.576	.044	12.992	***
e75	.779	.040	19.303	***
e68	.302	.017	17.894	***
e78	.881	.048	18.503	***
e93	.337	.020	16.512	***
e77	.433	.028	15.537	***
e83	.751	.052	14.331	***
e67	.400	.021	19.241	***

https://doi.org/10.5209/rev_SJOP.2012.v15.n3.39429 Published online by Cambridge University Press

country and to the Secondary School stage. For these reasons, besides the choosing of educational research experts and professionals from the Secondary Education field to judge and evaluate the configuration of the instrument´s items, the instrument showed high content validity.

The questionnaire´s psychometric characteristics were evaluated, showing acceptable items and global *reliability* with an excellent coefficient of internal consistency (α = .911), (Hair et al., 2004). In this respect, although the scales for *Reduced Personal Accomplishment* (α = .899), and *Exhaustion* (.849) show extremely satisfactory scores, we find that the *Depersonalization* scale rates slightly lower on reliability (.674), similar to that found in other research where the values are between .42 and .64 (Leiter & Maslach, 1988; Richardsen & Martinussen, 2004 and Gil-Monte, 2005); this is why, it seems necessary to explore in more depth the construct conceptualization. All in all, we can confirm the covariance relationship between the syndrome´s three dimensions, verifying that teachers with higher levels of *Exhaustion* also show higher levels of *Depersonalization* and lower levels of *Personal Accomplishment* ($r_{Exhaustion\text{-}Reduced\ Personal\ Accomplishment}$: .57, $r_{Exhaustion\text{-}Depersonalization}$: .77 y $r_{Reduced\ Personal\ Accomplishment\text{-}Depersonalization}$: .80).

The sample size used to conduct this study has been, without a doubt one of the key elements enabling us to carry out the analyses expounded, especially the Confirmatory Factorial Analysis (Hair et al., 2004). Nonetheless, on receiving only moderate participation on the part of the teachers, we considered it pertinent to widen the scope of the study by using a bigger sample in order to increase the study´s power of generalization. In this respect, we need to take into account that the type of random character sample, a common procedure justified in this type of study because of the voluntary nature of audience participation, may affect the external validity of the research, limiting the power of generalization of the results.

With reference to the afore-mentioned Confirmatory Factorial Analysis, this showed the solid, robust configuration of the dimensions of *Exhaustion* (through psychological and physical exhaustion), of *Depersonalization* (composed of *lack of concern towards pupils* and *emotional hardening* in general) and the *Reduced Personal Accomplishment* (through the teacher´s *level of fulfillment*, *personal stimulation* and *motivation* and *work commitment*) on finding adequate item saturation on the syndrome factors. These results should therefore be interpreted as an indicator of the measuring instrument´s adequate *construct validity* and that the proposed dimensional structure is satisfactory and valid.

Although Maslach's theory points out that in the processual realationship between the three main dimensions of Burnout, *Exhaustion* is the first phase of the syndrome that will give rise to *Depersonalization* and also lead to *Reduced Personal Accomplishment*, we share the opinions of Tejero (2006) in considering that this theory does not prove there are no other ways of feeling job burnout; we consider, therefore, that other dimensions other than those mentioned can exist (as expressed by Golembiewski, Boudreau, Goto, & Murati, 1993; Pines & Guendelman, 1995; Gil-Monte & Peiró, 1997; Buunk & Schaufeli, 1999; Boer, Bakter, Syroit, & Schaufeli, 2002 and Unterbrink, 2008).

Ultimately, from our point of view, although Maslach's theory is still a valid model for research on Burnout Syndrome, we consider it opportune, indeed necessary, to make further advances in conceptualizing the theory and its dimensions (especially *Depersonalization*). Likewise, to approach the syndrome from a more global perspective and so try to delimit more precisely the possible causes that may prevent and treat it, we thought it appropriate to analyze the explicative processual model of the syndrome that interrelates the three dimensions of Burnout and relates similarly to external dimensions or factors (such as the school climate or factors specific to the individual (such as the subject´s own psychological characteristics). Finally, however, we can state that in accordance with our research objectives, we have contributed a valid, reliable measurement instrument to the scientific field of research on Burnout Syndrome.

References

Arís, N. (2005). *El síndrome de burnout en los docentes de educación infantil y primaria en la zona del Valles Occidental* [Burnout's syndrome in the teachers of infantile and primary education in the zone of Western Valles]. (Unpublished doctoral dissertation) Universidad Internacional de Catalunya, Spain.

Boer, E. B., Bakker, A. B., Syroit, S., & Schaufeli, W. B. (2002). Unfairness at work as a predictor of absenteeism. *Journal of Organizational Behavior, 23,* 181–197.

Bollen, K. A. (1989). *Structural equations with latent variables.* New York, NY: Wiley.

Burke, R. J., & Greenglass, E. (1995). A longitudinal examination of the Cherniss model of psychological burnout. *Social Science Medicine, 40,* 1357–1363. http://dx.doi.org/10.1016%2F0277-9536%2894%2900267-W

Buunk, B. P., & Schaufeli, W.B. (1999). Reciprocity in interpersonal relationships: An evolutionary perspective on its importance for health and well-being. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology, 10*, 259–291. http://dx.doi.org/10.1080%2F14792779943000080

Byrne, B. (2001). *Structural equation modelling with AMOS.* London, England: Erlbaunm Asoc.

Consejería de Educación de la Comunidad de Madrid (2009). *Bases de datos del Instituto de Estadística de la Comunidad de Madrid* [Databases of the Institute of Statistics of Comunidad de Madrid]. Madrid, Spain: Author

Cortada de Kohan, N. (1999). *Teorías psicométricas y construcción de tests* [Psychometrical theories and construction of Tests]. Buenos Aires, Argentine: Editorial Lugar.

Doménech, B. (1995). Introducción al síndrome "Burnout" en profesores y maestros y su abordaje terapéutico [Introduction to the syndrome "Burnout" in teachers and teachers and his therapeutic boarding]. *Psicología Educativa, 1*, 63–78.

Farber, B. A. (1991). *Crisis in education: Stress and Burn out in the American teacher.* New York, NY: Jossey-Bass.

Gil-Monte, P., & Peiró, J. M. (1997). *Desgaste psíquico en el trabajo: El síndrome de quemarse* [Psychic wear in the work: the syndrome of burning]. Madrid, Spain: Síntesis.

Gil-Monte, P. (2005). *El síndrome de quemarse por el trabajo ("burnout"). Una enfermedad laboral en la sociedad del bienestar* [The syndrome of burnout for the work. An occupational disease in the company of the well-being]. Madrid, Spain: Pirámide.

Gold, Y., & Grant, R. A. (1993). *Teachers managing stress and preventing burnout: The professional health solution.* Londres, England: Falmer.

Golembiewski, R. T., Boudreau, R., Goto, K., & Murati, T. (1993). Transnational perspectives on job burnout: Replication of phase model results among Japanese respondents. *The International Journal of Organizational Analysis, 1,* 7–27. http://dx.doi.org/10.1108%2Feb028781

Grau, R. M. Salanova, M., & Martínez, I. M. (2005). Demandas laborales y conductas de afrontamiento: El rol modulador de la autoeficacia profesional [Labor demands and conducts of confrontation: The modulating role of the professional autoefficiency]. *Psicothema, 17,* 390–395.

Hair, J., Anderson, R., Tathan, R., & Black, W. (2004). *Análisis multivariante* [Multivariant analysis] Madrid, Spain: Edit. Pearson.

Informe Cisneros IX (2006). *Libro Blanco. Los riesgos psicosociales en el profesorado de la enseñanza pública en la Comunidad de Madrid* [White book. The risks psicosociales in the professorship of the state education in the Community of Madrid] Madrid, Spain: Sindicato ANPE.

Kahill, S. (1988). Symptoms of professional burnout. A review of the empirical evidence. *Canadian Psychology, 29*, 284–297. http://dx.doi.org/10.1037/h0079772

Kline, R. (2005). *Principles and practice of structural equation modeling (2nd Ed.)*. New York, NY: The Guilford Press.

Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behaviour, 9*, 297–308. http://dx.doi.org/10.1002%2Fjob.4030090402

Maslach, C., & Jackson, S. E. (1986). *Maslach Burnout Inventory. Manual research Edition.* Palo Alto, CA: Consulting Psychologist Press.

Maslach, C., Schaufeli, W., & Leiter, M. (2001). Job Burnout. *Annual Review of Psychology, 52*, 397–422. http://dx.doi.org/10.1146/annurev.psych.52.1.397

Moriana, E., & Herruzo C. (2004). Estrés y burnout en profesores. [Stress and burnout in teachers]. *International Journal of Clinical and Health Psychology, 3*, 597–621.

Ortiz, V. M. (1995). *Los riesgos de enseñar: La ansiedad de los profesores* [The risks of teaching: The anxiety of the teachers]. Salamanca, Spain: Amarú.

Pines, A., & Guendelman, S. (1995). Exploring the relevance of burnout to Mexican blue collar women. *Journal of Vocational Behavior, 47*, 1–20. http://dx.doi.org/10.1006%2Fjvbe.1995.1026

Richardsen, A., & Martinussen, M. (2004). The Maslach Burnout Inventory: Factorial validity and consistency across occupational groups in Norway. *Journal of Occupational and Organizational Psychology*. *77*, 377–384. http://dx.doi.org/10.1348%2F0963179041752691

Rodríguez, J. M., & Fernández, M. J. (2010). La Realización profesional y personal de los docentes de Educación Secundaria Obligatoria y su relación con las variables personales y del trabajo [The professional and personal accomplishment of the teachers of Secondary Obligatory Education and his relation with the personal variables and of the work]. *EduPsykhé, 1*, 101–118.

Sarros, J. (1988). Administrator burnout: Findings and future directions. *The Journal of Educational Administration, 26*, 184–196. http://dx.doi.org/10.1108%2Feb009948

Seidman, S. A., & Zager, J. (1986). The Teacher Burnout Scale. *Educational Research Quarterly, 11*, 26–33.

Tejero, C. (2006). *Burnout y dirección escolar: Análisis de la influencia que sobre el síndrome ejercen las variables perfil demográfico-profesional, estrés, satisfacción e indefensión* [Burnout and school direction: analysis of the influence that on the syndrome the variables exercise demographic - professional profile, stress, satisfaction and defenselessness]. (Unpublished doctoral dissertation) Universidad Complutense, Spain.

Tejero, C., Fernández, M. J., & Carbajo, R. (2010). Medición y prevalencia del síndrome de quemarse por el trabajo en la dirección escolar [Measurement and prevalencia of the syndrome of burnout for the work in the school direction]. *Education Magazine 351*, 361–383.

Unterbrink, T. (2008). Parameters influencing health variables in a sample of 949 German teachers. *International Archives of Occupational Health 82*, 117–123. http://dx.doi.org/10.1007%2Fs00420-008-0336-y

Weng, G., Sturmlinger, R., Wirsching, M., & Schaarschmidt, U. (2005). Correlation between burnout syndrome and psychological and psychosomatic symptoms among teachers. *International Archieves of Occupational Health 79*, 199–204.

Xiao-Ming, F., & Dong-Mei-Li, L. (2005). The relationship between intention to quit and burnout of teachers in elementary and middle schools. *Chinese Mental Health Journal, 19*, 615–617.

Received February 21, 2011
Revision received October 19, 2011
Accepted November 2, 2011