Psicothema

Psicothema 2014, Vol. 26, No. 2, 227-234
doi: 10.7334/psicothema2013.178

ISSN 0214 - 9915 CODEN PSOTEG

www.psicothema.com

Multivariate analysis of burnout syndrome in Latin-American priests

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Abstract

Background: Burnout syndrome is a highly prevalent disorder in a wide range of professional groups, and is associated with substantial psychophysiological alterations. Nevertheless, this syndrome has not been analyzed in depth among the clergy, a group which fulfils a fundamental social function and has to deal with numerous stressors that increase the risk of burnout onset. **Method:** In the present study, the authors assessed 881 Catholic priests from Latin America. The Maslach Burnout Inventory-22, the General Health Questionnaire-28 and the CAGE were applied; we also recorded the priests' rates of cigarette-smoking. Specific cut-off points were set for burnout syndrome in priests. **Results:** The original factor structures of the questionnaires are confirmed in the clerical sample, and the reliability is adequate. As regards the dimensions of the syndrome as a function of the countries studied, no statistically significant differences were found, except for the exhaustion dimension. **Conclusions:** The authors established the typology that defines the relevance and effect of each dimension, as well as its prevalence in this group, with a figure of 25.39%. Furthermore, burnout shows a clear relationship with general health and may be associated with addiction to substances such as alcohol or tobacco.

Keywords: Burnout, health, priests, clergy, latent class analysis, canonical correspondence analysis.

Resumen

Análisis multivariante del síndrome de burnout en sacerdotes latinoamericanos. **Antecedentes:** el síndrome de burnout es un trastorno con una prevalencia notable en diferentes colectivos profesionales, relacionándose, además, con importantes alteraciones psicofisiológicas. Sin embargo, este no ha sido analizado en profundidad en el colectivo religioso, el cual cumple una función social fundamental, soportando numerosos estresores que incrementan el riesgo de padecer este síndrome. **Método:** en el presente estudio se evaluó a 881 sacerdotes católicos latinoamericanos. Se aplicaron los cuestionarios Maslach Burnout Inventory-22, General Health Questionnaire-28 y CAGE y se registró la cantidad de tabaco consumido. Asimismo, se establecieron puntos de corte específicos para el síndrome de burnout en sacerdotes. **Resultados:** las estructuras factoriales originales de los cuestionarios se confirman en la muestra eclesiástica, los cuales muestran una fiabilidad adecuada. En cuanto a las dimensiones del síndrome en función de los países estudiados, se comprobó la inexistencia de diferencias estadísticamente significativas, exceptuando la dimensión agotamiento. **Conclusiones:** se ha establecido la tipología que define la relevancia y efecto de cada dimensión, así como su prevalencia en este colectivo, cifrada en un 25,39%. Por otro lado, el burnout muestra una clara relación con la salud general, pudiendo degenerar, incluso, en conductas adictivas a sustancias como el alcohol o el tabaco.

Palabras clave: burnout, salud, sacerdotes, clero, análisis de clases latentes, análisis canónico de correspondencias.

In recent decades, numerous studies have been carried out on a disorder with substantial repercussions, both for those experiencing it directly and those around them: burnout syndrome (Alarcón, 2011). Burnout syndrome was initially defined by Freudenberger (1974, p. 160), who referred to it as "a feeling of failure and of the extinction of motivation or incentive, especially where one's devotion to a cause or relationship fails to produce the desired results". Some time later, Maslach and Jackson (1984) reformulated this proposal, giving more relevance to the presence of disequilibrium between the demands perceived by the person and his resources for satisfying them. Thus, they understood burnout as a three-dimensional syndrome characterized by physical and emotional exhaustion, reduced personal accomplishment and depersonalization. This three-dimensional structure has been confirmed in a range of professional contexts, including the religious one (Figueiredo-Ferraz, Grau-Alberola, Gil-Monte, & García-Juesas, 2012; de la Fuente, Aguayo Extremera, Vargas Pecino, & Cañadas de la Fuente, 2013; Pedrosa & García-Cueto, 2012; Jackson-Jordan, 2013).

The presence of this disorder among the clergy is a documented fact, and despite the scarce number of studies carried out in this area, it has been demonstrated in diverse socio-cultural contexts (e.g., Jackson-Jordan, 2013; Joseph, Luyten, Corveleyn, & De Witte, 2011). The studies carried out to date, most of them correlational, point to the existence of multiple stressors to which priests are subjected on a daily basis, such as excess work or bureaucracy, lack of support in their job, or rigid timetables, all of which increase the

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likelihood of their suffering from burnout (Chandler, 2009; Rosetti & Rhoades, 2013). Nevertheless, there is some research that plays down the relevance of such stressors, identifying as principal predictors aspects related to personality traits and personal self-appraisals (Francis, Robbins, Rolph, Turton, & Rolph, 2010; Joseph, et al., 2011). In spite of this, figures on the risk of developing this syndrome and its prevalence vary markedly across different studies in this group (Doolittle, 2010; Fichter, 1984; Jacobson, Rothschild, Mirza, & Shapiro, 2013). In this regard, as Fichter (1984) pointed out, great care should be taken with the criteria adopted on establishing the diagnosis of the syndrome, since it is important for these to be in line with the reality of the problem, so as to avoid overestimating its prevalence. In addition to the case of burnout syndrome itself, numerous authors have confirmed the harmful effects of stress —the principal trigger of burnout syndrome— on the immune system and on general health and wellbeing (Kapplan, Madden, Mijanovich, & Purcaro, 2013; Keller et al., 2012); this clearly also applies to priests (e.g., Berry, Francis, Rolph, & Rolph, 2012; Wells, 2013). Such conditions of stress, together with burnout syndrome, can lead to addictive pathologies such as habitual use of alcohol or tobacco (Paredes, 2001).

The objective of the present work is not only to assess the prevalence of burnout syndrome in Latin-American Catholic priests, but also to determine the weight of each dimension in the development of the syndrome and to define a typology of its development. Likewise, we set out to study the relationship between burnout and both perceived general health and addictive behaviours. Furthermore, we examine the reliability of three instruments (MBI, GHQ-28 and CAGE) in a representative sample of Catholic priests in Latin America and provide both new evidence of their validity and the cut-off points for burnout diagnosis in this group, thus permitting the application of these instruments and the adequate interpretation of their scores (Muñiz, Elosua, & Hambleton, 2013). In this sense, the study addresses two of the most common limitations found in work with groups of this type, which are related to small sample sizes and the study of the syndrome's development and course.

Finally, the statistical techniques employed are of great utility, although scarcely used to date in the psychological literature: latent class analysis and canonical correspondence analysis (Vicente Galindo, López Herrera, & Gallindo Villardón, 2010). Indeed, this is the first work to use latent class analysis to obtain a typology in the psychological context.

Method

Participants

A cross-sectional study was carried out to assess, using a convenience sample, those attending the Human Maturity and Mental Health (*Madurez Humana y Salud Mental*) course offered in different Latin-American dioceses. Thus, the sample was made up of priests from ten Mexican dioceses, five Costa Rican dioceses and one Puerto Rican diocese, together with a group of Central-American Franciscans. The total number of participants was 881 priests, representing 77.6% of the total population of priests in the geographical area comprising Mexico, Central America and the Caribbean.

As regards its sociodemographic characteristics, mean age of the sample was 45.89, and its standard deviation was 11.58. The distribution by age, which was grouped in five categories according to country, is shown in Table 1.

Instruments

For the assessment of burnout syndrome we applied the *Maslach Burnout Inventory* (MBI-22; Maslach & Jackson, 1981).

There are several adaptations of the MBI to Spanish; however, the samples either fail to include any priests at all (both Spanish and Hispano-American samples) or they are very poorly represented (some Spanish samples; Seisdedos, 1997). Thus, both in Maslach and Jackson's (1981) manual and its adaptation (Seisdedos, 1997), the scales referring to clergymen correspond to "other professionals", including lawyers, police officers, public prosecutors, members of the clergy and booksellers. In fact, one can find only two studies that adapt the instrument to this group (Alves, 2008; Miranda & Romero, 2004) using terciles as cut-off points, though the sample is excessively small, including just 123 and 107 priests from Chile and Brazil, respectively. In the present study we used the Spanish-language adaptation by Moreno, Oliver and Aragoneses (1991).

Another of the instruments used, the *General Health Questionnaire* (GHQ-28; Goldberg & Williams, 1996), permits the detection of symptoms related to psychological disorders in individuals without psychotic alterations. It comprises four dimensions: somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. The validity of the GHQ-28 has been studied in a range of contexts, from the general population to patients with acute clinical pathology, demonstrating adequate sensitivity (75-78%) and specificity (78-82%) in the general population (Retolaza Balsategui et al., 1993). As far as its reliability is concerned, its different scales, applied in the general population, present adequate values – around .85 (e.g., Noorbala, Mohammad, & Bagheri Yazdi, 1998).

For assessing alcohol consumption we used the CAGE test (Ewing, 1984), in its Spanish adaptation (Rodríguez-Martos, Navarro, Vecino, & Pérez, 1986). The CAGE is a screening questionnaire made up of four dichotomous items, three of which explore subjective aspects of alcohol use, whilst the final one analyzes abstinence from alcohol; an affirmative response to one of them implies risk of alcoholism, and two affirmative responses have a specificity of over 90%. The scale has shown acceptable reliability indices – of between .66 and .68 (Johnson & Tonda, 2005; Skogen, Øverland, Knudsen, & Mykletun, 2011) – and these rise markedly in clinical populations, with values of between .80 and .95 (Dhalla & Kopec, 2007).

Finally, tobacco use was assessed by requesting participants to indicate how many cigarettes they smoked per day. Three

Table 1
Distribution by age according to country (%)

Age	Total	Mexico	Puerto Rico	Costa Rica	Central America
Under 30	6.0	6.3	2.2	6.9	0.0
30-40	31.7	31.3	24.4	30.1	69.6
41-50	28.0	26.1	17.8	39.3	17.4
51-60	17.5	18.3	35.6	11.0	8.7
Over 60	16.8	18.1	20.0	12.7	4.3

categories were established: no smoking, 1-20 cigarettes per day, and 21 cigarettes or more per day.

Procedure

For the data collection, a set of instruments was sent to each diocese, together with a letter of presentation with the pertinent explanations, so as to avoid possible administration bias and allow each priest to self-administer the questionnaires.

Initially, 912 participants received the instruments, but only 881 came back, giving a response rate of 96.60%. Participation was voluntary, and with no type of incentive offered.

Data analysis

First of all we analyzed the psychometric properties of the three instruments employed in the present study – MBI, GHQ-28 and CAGE. Thus, the sample was subdivided in two random halves in order to test, via confirmatory factor analysis (CFA), the stability of the factor structure they proposed. Moreover, we estimated their reliability by means of Cronbach's α coefficient.

In the case of the MBI, we calculated percentiles 33 and 66 in the distribution of scores to obtain the cut-off points, classifying participants in low, moderate and high burnout levels. An ANOVA was applied to check for statistically significant differences in the MBI dimensions according to country.

Subsequently, we carried out a latent class analysis (LCA) with the aim of classifying participants according to their level of development of the syndrome, considering the scores categorized in each dimension of the MBI as observable variables. Latent Class Analysis involves a parametric model, and uses the data observed in the sample to estimate the prevalence of each class and the probabilities of conditioned response for each pattern of the observed variable within each latent class.

We carried out a canonical correspondence analysis (CCA; ter Braak, 1986) so as to analyze in more depth the relation between burnout and general heath level.

Moreover, we calculated the contingency coefficient relating alcohol and tobacco use with the scores obtained in each MBI dimension to identify the degree of association between the variables.

All the statistical analyses were carried out at the 95% interval confidence level.

Results

Psychometric properties of the measurement instruments

First of all, a CFA was applied to each of the three instruments employed in the study. After dividing the total participants into two random subsamples, we tested their factor structures on the basis of previous studies, thus starting out from a three-dimensional model for the MBI, a four-dimensional model for the GHQ-28 and a one-dimensional model for the CAGE.

The fit indices of the CFA, according to the cross-validation method, are shown in Table 2.

Moreover, we estimated the internal consistency of each dimension of the different instruments using Cronbach's α coefficient. For the MBI we obtained indices of .85 for the exhaustion dimension, .54 for that of depersonalization, and .81 for that of personal accomplishment. In the case of the CAGE the figure was α = .76. Finally, for the GHQ-28, the reliability coefficients were .83 in the somatic symptoms dimension, .86 in that of anxiety and insomnia, .80 in the depression factor, and .90 in the social dysfunction dimension.

Cut-off points for the MBI-22

As was the case in the original manual (Maslach & Jackson, 1981) and the adaption by Seisdedos (1997), the scores were divided in terciles, participants being categorized as having low, moderate or high burnout level. The results are shown in Table 3.

Prevalence and typology of burnout syndrome in Latin-American priests

Below we present the scores obtained by the priests in the MBI dimensions according to the cut-off points mentioned above; in bold, the country with the highest score per dimension (Table 4).

Statistically significant differences in exhaustion were found only among the priests in Mexico and Costa Rica (p = .012).

Although burnout had traditionally been diagnosed when a person presented high levels of exhaustion and depersonalization and low levels of personal accomplishment –the 3-3-1 pattern–, Paredes (2001) demonstrated, using latent class analysis, how classifying a person at the highest burnout level does not imply that he or she has extreme scores in all the dimensions.

Applying this analysis, the results reflect a typology defined by three latent classes (p = .061).

Table 2
Confirmatory factor analysis fit indices in cross-validation

	CAGE		MBI		GHQ-28	
	n_1	n_2	n_1	n_2	n_1	n_2
χ^2/df	1.57	0.23	1.53	2.39	1.81	2.23
CFI	.98	.99	.95	.86	.93	.90
GFI	.99	.99	.99	.99	.99	.99
TLI	.94	.99	.94	.84	.92	.89
SRMR (S.E.)	.04 (.05)	.01 (.05)	.06 (.05)	.07 (.05)	.06 (.05)	.07 (.05)
RMSEA	.03	.00	.04	.06	.04	.05

Note: CFI = Comparative Fit Index; GFI = Jöreskog Goodness of Fit Index; TLI = Tucker-Lewis Index: SRMR = Standardized Root Mean Square Residual; S.E. = Standard Error; RMSEA: Root Mean Square Error of Approximation
n_1 = 443; n_2 = 438

Table 3
Cut-off points of the MBI scales

MBI Dimensions	Low	Mean	High	M	SE
E	≤ 14	15-21	≥22	18.88	0.32
PA	≤ 30	31-37	≥38	33.86	0.27
D	≤ 5	6-7	≥ 8	6.91	0.16

Note: E = Physical and emotional exhaustion; D = Depersonalization; PA = Personal accomplishment; M = Mean of the scale; SE = Standard Error of estimation

Table 4
Incidence of burnout syndrome by countries assessed (%)

Country	MBI Dimension								
	Exhaustion			Personal accomplishment			Depersonalization		
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
Mexico	36.7	31.9	31.4	34.1	28.4	37.5	40.9	21.7	37.3
C. Rica	30.1	26.6	43.4	36.4	33.5	30.1	35.3	15.6	**49.1**
P. Rico	33.3	35.6	31.1	28.9	31.1	40.0	46.7	22.2	31.1
Central America	21.7	26.1	**52.2**	17.4	39.1	**43.5**	17.4	34.8	47.8

Latent class 1 includes those participants with a 1-1-3 pattern, those who do not show the syndrome. Also belonging to this class are participants with levels 1 or 2 in depersonalization and exhaustion, regardless of personal accomplishment levels.

Latent class 3 is made up of priests with the highest degree of burnout. In this class we find priests with the 3-3-1 pattern, as well as all those who fit into one of the patterns in Table 5.

As can be seen, level of personal accomplishment is irrelevant in cases in which exhaustion or depersonalization are not at minimum levels, as high burnout is generated independently of this dimension. The rest of the combinations make up latent class 2**,** to which belong those priests with moderate burnout levels.

As regards the probabilities associated with the three latent classes, the likelihood of a priest being free of burnout is 39.62%, of showing a moderate level of this disorder, 60.38%, and of presenting the syndrome in its fullest extent, 25.39% (Figure 1).

The exhaustion dimension appears to be the most determinant, given that with high levels of exhaustion there are 231 cases (26.22%), and even with low levels of exhaustion there are 76 priests with moderate levels of burnout.

As far as depersonalization is concerned, it appears to have considerable weight in the development of the syndrome, specifically when its score is high and moderate.

Finally, with regard to personal accomplishment, this dimension seems to be that which least affects the manifestation of the syndrome in priests, as regardless of the level of personal accomplishment, we find priests with a severity of the syndrome at all levels (maximum, moderate and low).

Multivariate characterization of the relations between burnout and health level

To analyze the relation between burnout and physical and psychological well-being we used canonical correspondence analysis, selecting the linear combination of the MBI items that maximize the dispersion of values of the GHQ-28 items.

The results indicate a strong association between the exhaustion and depersonalization belonging to the MBI. Overall, there is a relation between anxiety and insomnia of the GHQ-28 and the depersonalization and exhaustion dimensions, as well as a negative correlation between personal accomplishment and depression.

If the analysis is carried out considering the different scales, the percentage of variance explained is 78.9% (Figure 2). The vector representation reveals a high correlation between the exhaustion and depersonalization dimensions, with personal accomplishment being practically independent. There is also a strong covariation between the dimensions insomnia and somatic symptoms.

On the other hand, personal accomplishment presents a negative linear relation with the depression and social dysfunction dimensions, which show a positive relationship between themselves.

In order to learn more about the priests' lifestyle and its relation to the syndrome, we assessed their alcohol and tobacco consumption. The results show an association between exhaustion and smoking, as well as one between depersonalization and the use of both alcohol and tobacco (Table 6).

Table 5
Patterns that generate maximum burnout according to its dimensions

E	D	PA
2	3	Irrelevant
3	2	Irrelevant
2	2	1 or 2
3	3	1

Note: E = Physical and emotional exhaustion; D = Depersonalization; PA = Personal accomplishment

Discussion

All three questionnaires employed show fit indices which confirmed their factor structures among the clergy.

As regards its reliability, the MBI shows values similar to those obtained in other studies, the depersonalization dimension being that which presents the lowest coefficient (α = .54). In contrast, the reliability of the exhaustion and personal accomplishment dimensions is higher than that obtained in previous works (e.g.,

Table 6
Contingency coefficient between the MBI dimensions and alcohol and tobacco use

Variables		Contingency coefficient	*p*
Emotional exhaustion	Alcohol use	.405	.878
	Smoking	.365	.007*
Personal accomplishment	Alcohol use	.379	.583
	Smoking	.290	.335
Depersonalization	Alcohol use	.378	.001*
	Smoking	.333	<.001*

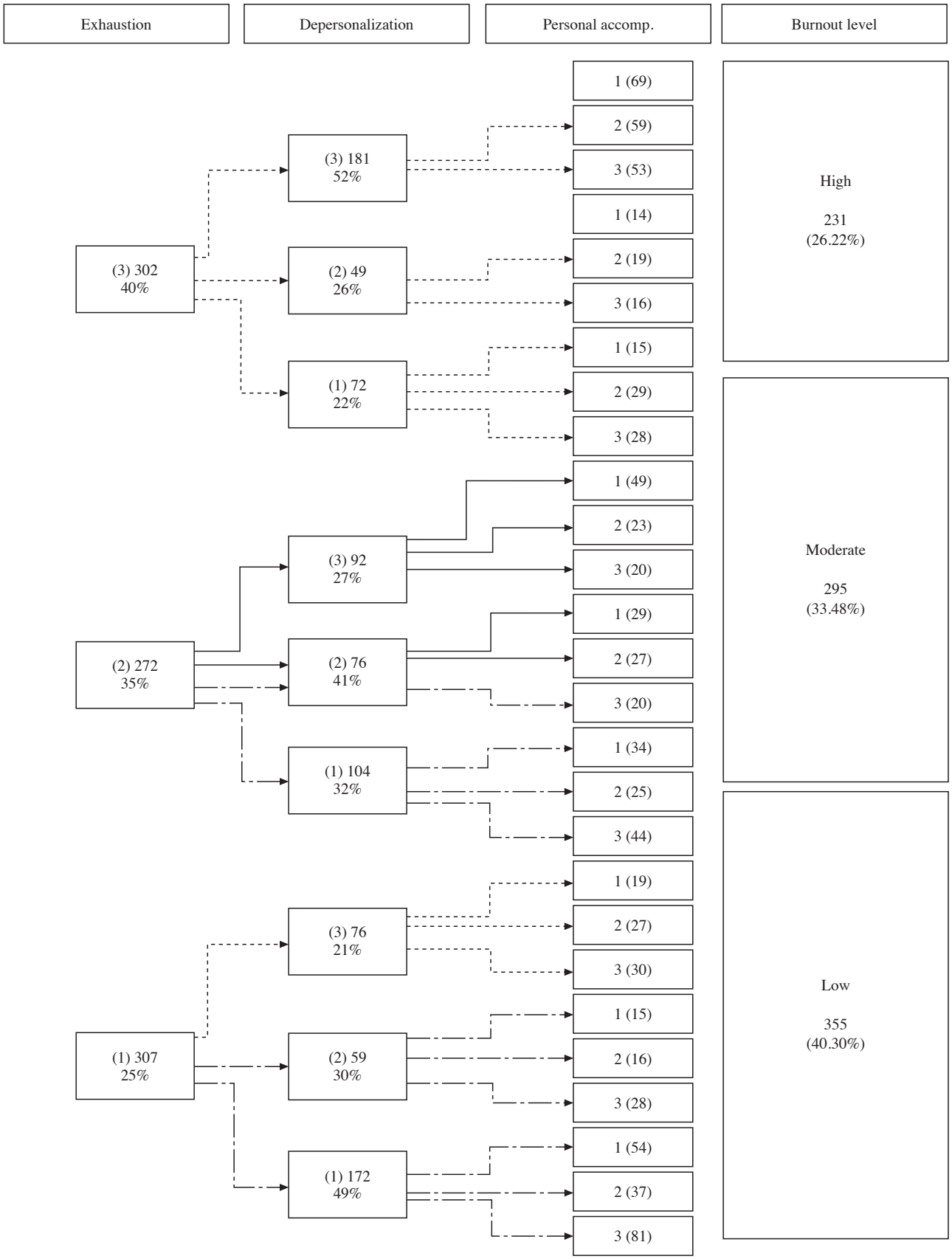

Figure 1. *Classification tree derived from latent class analysis*

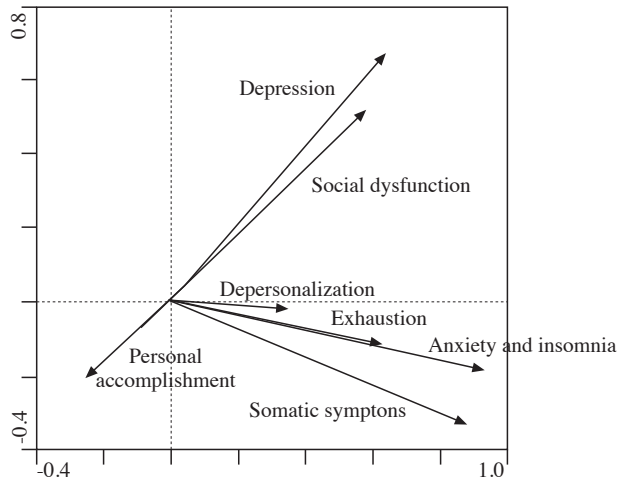

Figure 2. *Canonical correspondence analysis between the MBI and GHQ-28 scales*

Barzon, Caltabiano, & Ronzoni, 2005; Raj & Dean, 2005). This dynamic is maintained in the other two scales, since the reliability of the GHQ-28 dimensions is analogous that found in other studies with non-clinical populations (Noorbala et al., 1998) and, as regards the CAGE, its reliability was found to be adequate (α = .76) and higher than that found elsewhere (Johnson & Tonda, 2005; Skogen et al., 2011).

With regard to the cut-off points established, on comparing the proportion of priests included in the risk terciles of each dimension with respect to the original sample (Maslach & Jackson, 1981) and to the work by Miranda and Romero (2004) –also carried out among priests, but with a very small sample–, we obtained a slightly different classification. Thus, for exhaustion and depersonalization, where the syndrome is associated with the highest scores, the cut-off points proposed classify the highest percentage of priests in the highest category (34% and 39.6%, respectively), whilst for personal accomplishment the pattern is inverse (34%). As regards the specific sample of priests, the present study provides more empirical support than previous work, since the number of participants is notably higher, and the sample representativeness is high (Alves, 2008; Miranda & Romero, 2004).

Comparing the results with those for other groups, such as police officers or healthcare personnel, the proportion of professionals exhibiting the syndrome is similar, on the whole, though, specifically in relation to the dimensions, it is significantly lower in terms of exhaustion (de la Fuente et al., 2013; Grau, Suñer, & García, 2005).

On analyzing the prevalence of the syndrome by countries, in general, there are no statistically significant differences between them, though it can be seen how the most exhausted priests are those from Central America (52%), among whom scores in the personal accomplishment dimension are also the highest (43.5%). The results on depersonalization are alarming, as almost 50% of the Costa Rican priests show high levels in this dimension, the figure (47.8%) being close to that found for the Central Americans. Also worthy of mention are the high levels presented by the Central-American priests in the three MBI dimensions, which implies the need to analyze this group in depth, mainly with a view to implementing coping strategies that would permit the reduction of these levels and the improvement of health.

As regards the LCA, the empirical and theoretical results on burnout syndrome are very close, which can be explained by the low margin of error (1.5%) and the representativeness of the sample for the geographical area studied.

In this regard, of the total sample, just 81 priests (9%) present no burnout risk at all, showing optimum levels in the three subscales. In contrast, 60% of the priests present moderate levels of burnout, 25.39% being diagnosed as severe. These findings give some cause for concern, both for the physical and psychological consequences of the syndrome at the personal level and for the effect it can have on the performance of their work as priests.

On analyzing the representativeness of each dimension, different authors have pointed to exhaustion as that with the most relevance in the development of this disorder (Domínguez, Padilla, Domínguez, & Domínguez, 2013). The results reported here, in addition to confirming previous data, permit us to define a typology, through LCA, of the specific levels of each dimension that lead to the development of the syndrome with greater or lesser severity.

In this sense, the most relevant and novel contribution of this work is the definition of the different patterns of the syndrome, because, as revealed by the latent class analysis, in addition to the classical combination of maximum levels of depersonalization and exhaustion and low levels of personal accomplishment, there are different combinations that can generate severe burnout.

Thus, specifically, priests with the highest burnout levels fulfil one of these two conditions: scores on the three dimensions indicate extreme levels, or, on the other hand, the levels of depersonalization are maximal and those of exhaustion are moderate or maximal, or depersonalization is moderate, but with a maximum level of exhaustion, whist personal accomplishment shows no well-defined pattern.

These patterns are also totally in accordance with Golembiewski and Kim's (1990) phase model, even though it does not account for the course of the disorder in such a detailed way. It can be observed how the pattern indicating non-existence of the disorder is identical to the first three phases of the model. In contrast, those cases indicating maximum severity, where exhaustion is at very high levels and depersonalization is not at a minimum, or indeed the inverse, fit perfectly with phases 6 and 8 of the model; in the present study the pattern corresponding to phase 7 was not found.

On considering the relation between burnout and perceived health level, a positive correlation is observed between anxiety and insomnia and the exhaustion and depersonalization dimensions, the correlation being negative between personal accomplishment and depressive symptomatology and social dysfunction.

In general, the correlations between all the subscales of the MBI and the GHQ-28 are statistically significant (p = .01), providing support for the assertion that the different subscales that assess general health are directly related to burnout. Moreover, these results contribute evidence in relation to the convergent validity of the MBI among the clergy.

Finally, we confirmed a relationship between burnout syndrome and the development of pathologies such as alcoholism and, more especially, habitual smoking, where contextual factors play a relevant role (Isralowitz, Reznik, Rawson, & Hasson, 2009).

Bearing in mind these results, at an applied level, it would be advantageous to offer priests different types of coping strategies, such as the provision or encouragement of activities outside the religious environment, which have proved to have a protective

effect against the syndrome (Doolittle, 2010; Jackson-Jordan, 2013).

As regards the limitations of the study, it would be advisable to incorporate other measures that permit an analysis of the mediating effect they can have in reducing the problems—physical and psychological, general health and addictions—associated with the disorder. Likewise, it should be borne in mind that this is a correlational study, so that no causal effects can be inferred for the variables studied.

Acknowledgments

This research was partially funded by the Spanish Ministry of Education and Science (AP2010-1999, PSI2011-28638).

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