

A model of burnout process development: An alternative from appraisal models of stress

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Abstract. According to the Maslach Burnout Inventory (MBI), burnout is a syndrome of emotional exhaustion, depersonalisation and reduced sense of personal accomplishment. In this paper four models of the burnout process, conceptualized by the MBI dimensions, are examined and evaluated by LISREL VII: Golembiewski, Munzenrider, and Carter (1983), Leiter and Maslach (1988), Lee and Ashforth (1993b), and an *alternative model*. The sample consisted of 196 nursing professionals from different hospitals in Tenerife (Spain). The results indicate that the model of Leiter and Maslach, and the alternative model may offer a good representation of the burnout process. The alternative model states that the burnout process progresses in parallel from personal accomplishment to depersonalisation and from emotional exhaustion to depersonalisation. The theoretical soundness of this sequence is emphasized.

Introduction

Maslach and Jackson (1981/1986) defined burnout as a syndrome of emotional exhaustion, depersonalisation, and a reduced sense of personal accomplishment that may occur among individuals with human service professions. These three variables are measured by the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986) as dimensions of burnout syndrome. A consideration of the relationship between the MBI dimensions is important because a delineation of their sequential order should provide insight into the development of the burnout process as a whole, into the way the various antecedents and outcomes are linked to burnout, and it should facilitate the prevention or early recognition and treatment of burnout. On the other hand, a model is necessary to explain the sequence because it is important that research proceed on some adequate theoretical basis.

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In order to elaborate a theory on burnout, previous studies discovered that lack of personal accomplishment and emotional exhaustion are a kind of strain, and depersonalisation is a coping strategy (Lee & Ashforth, 1990; Cox, Kuk & Leiter, 1993). But there is no consensus about the relationship between these variables and how the burnout syndrome progresses (Burke, 1989; Golembiewski, 1989; Leiter, 1989, 1993; Lee & Ashforth, 1993b).

Relationships between the MBI dimensions

In the literature there are three models to explain the burnout process. The first one, the Golembiewski and colleagues model (Golembiewski, Munzenrider & Carter, 1983; Golembiewski, Munzenrider & Stevenson, 1986; Golembiewski & Munzenrider, 1988) states that burnout progresses from depersonalisation through lack of personal accomplishment to emotional exhaustion. The Golembiewski and colleagues model was based on a phase approach, dichotomizing the MBI subscales, and using the mean as a cutoff point to dichotomize. The model establishes eight phases in the progressive burnout. The empirical support of the phase structure is based on a series of pair-wise comparisons contrasting scores of burnout correlates in the eight phases. The regularity and robustness of the phase model has been tested in different studies (Burke & Deszca, 1986; Golembiewski, *et al.*, 1986; Golembiewski & Munzenrider, 1988; Golembiewski, Scherb & Boudreau, 1993). Nevertheless, Leiter (1989, 1993) mentioned serious limitations in relation to this approach, mainly because it reduces burnout to the single dimension of emotional exhaustion.

The second model was developed by Leiter and Maslach (1988). This model states that burnout progresses from emotional exhaustion through depersonalisation to lack of personal accomplishment. Based on a longitudinal study, with a sample of service supervisors and managers, Lee and Ashforth (1993b) assert that the Leiter and Maslach model is somewhat more accurate than Golembiewski's model. However, in different studies, the Leiter and Maslach model presented some problems when explaining the depersonalisation-lack of personal accomplishment link (Leiter, 1988; Holgate & Clegg, 1991; Leiter, 1991; Lee & Ashforth, 1993b).

The third model, developed by Lee and Ashforth (1993a, 1993b), states that burnout progresses from emotional exhaustion to depersonalisation, and from emotional exhaustion to lack of personal accomplishment. This model was proposed on the basis of a post hoc analysis, and it had no theoretical soundness to release the emotional exhaustion-lack of personal accomplishment link (Lee & Ashforth, 1993b). It presented some problems when explaining this link (Lee & Ashforth, 1993a).

From appraisal models of stress (Lazarus & Folkman, 1984), it seems possible to suggest a model to explain the relationships between the MBI dimensions (see Figure 1). In our model (herein called the *alternative model*) the burnout syndrome is understood as a response to job stress, and this response happens after secondary appraisal when initial coping strategies are not successful. Burnout progresses from lack of personal accomplishment to emotional exhaustion, from lack of personal accomplishment to depersonalisation, and from emotional exhaustion to depersonalisation.

In the alternative model, lack of personal accomplishment is regarded as a strain. Here, in contrast to what other authors propose (Golembiewski *et al.*, 1983; Leiter & Maslach, 1988; Lee & Ashforth, 1993b), it is considered as taking place previously to depersonalisation and it is regarded as a cognitive process deriving from subjective stress when initial coping is not successful. When professionals cannot successfully cope with job problems, a feeling of lack of personal accomplish-

ment and, later, an emotional response appear. These two circumstances lead to depersonalisation as a coping strategy. Our approach integrates the role of cognitive and emotional experiences as mediators in the relationship between perceived job stress and behavioral/attitudinal outcomes.

The relationship between personal accomplishment and emotional exhaustion can be inferred from Bandura (1986, 1989) who stated that the fact that people believe in their capabilities affects their affective processes. The relationship between lack of personal accomplishment and depersonalisation can be established because perceptions of poor performance and feelings of professional failure normally originate frustration. This frustration in turn originates aggression, which is generally directed towards the source of frustration (Mummendey, 1990). In human service professions or occupations recipients are a source of frustration (e.g., patients who do not collaborate or do not present amelioration). Those professionals who behave cruelly towards recipients use depersonalisation for escaping from guilt feelings (Bandura, 1986). The relationship between emotional exhaustion and depersonalisation can be understood if emotional exhaustion is considered as a work-related strain and depersonalisation is taken as a way of coping with it (Dignam, Barrera & West, 1986; Holgate & Clegg, 1991; Leiter, 1991; Gil-Monte, Peiró & Valcárcel, 1993). Depersonalisation can be considered as a style of coping tried after the reappraisal stage. Before reacting with depersonalisation, human service professionals have tried, without success, other strategies of coping (e.g., control or escapist strategies).

Even though, in all four perspectives, burnout is understood as a kind of job strain, the differences depend on which dimension is the first response to perceived job stress and how the burnout process progresses. The relative validity of the four models depends on the location of the dimensions in the burnout process.

Antecedent and Outcome Variables of Burnout

Important antecedent and outcome variables have been identified in previous studies of burnout. *Self-confidence* is considered as an antecedent of burnout (Maslach, 1982, p. 63; Leiter, 1990; Pierce & Molloy, 1990; Cherniss, 1993; Gil-Monte *et al.* 1993a). Self-confidence is the belief or degree of certainty individuals possess about their ability to be successful in the task. This is related to Bandura's "individual's efficacy expectations" (Vealey, 1986; Gecas, 1989). According to Bandura (1986), people who have lower self-confidence will perceive more role stress because they exaggerate environmental difficulties, and people who have higher self-confidence will more frequently try active coping strategies. Therefore, self-confidence can be considered as an antecedent of both perceived role stress and burnout. Gil-Monte *et al.* (1993a) found the three MBI dimensions to be related to self-confidence. Personal accomplishment was the dimension more strongly associated with self-confidence.

In many studies *social support* appears to be linked to burnout. Social support at work has shown a significant positive association with personal accomplishment and a negative relationship with both emotional exhaustion and depersonalisation in nurses (Firth, McIntee, McKeown & Britton, 1986; Eastburg, Williamson, Gorsuch & Ridley, 1994). Moreover, perceived social support can reduce perceived role stress, and improve job satisfaction, and mental and physical health (Sutherland & Cooper, 1992; Peiró & Salvador, 1993, pp. 33-34).

Role stress (*role ambiguity* and *role conflict*) has been widely investigated in the burnout field. Both role ambiguity and role conflict have been found to be significantly related to the three

MBI dimensions. However, Gil-Monte, Valcárcel, and Zornoza (1993), using stepwise multiple regression analysis, show that role conflict explains more variability in emotional exhaustion responses, while role ambiguity accounts for more variability in personal accomplishment scores. Similar results were found in other studies (Schwab & Iwanicki, 1982; Crane & Iwanicki, 1986; Pierson-Hubeny & Archambault, 1987; Pierce & Molloy, 1990; Cash, 1991).

Coping is also an important variable in the study of burnout. Several studies show that control coping is positively correlated with personal accomplishment and negatively correlated with emotional exhaustion (Hare, Pratt & Andrews, 1988; Lee & Ashforth, 1990; Leiter, 1990, 1991, 1992). Nevertheless, the relationship between control coping and emotional exhaustion is not significant in several studies (Hare *et al.*, 1988; Leiter, 1990, 1992). Escapist coping has a significant positive relationship with emotional exhaustion (Maslach & Jackson, 1982; Leiter, 1991), but its relationship with personal accomplishment is not significant (Lee & Ashforth, 1990; Leiter, 1991, 1992). Linear structural models show non-significant relationship between both coping strategies and depersonalisation (Leiter, 1991). In this study, both escapist and control strategies are considered.

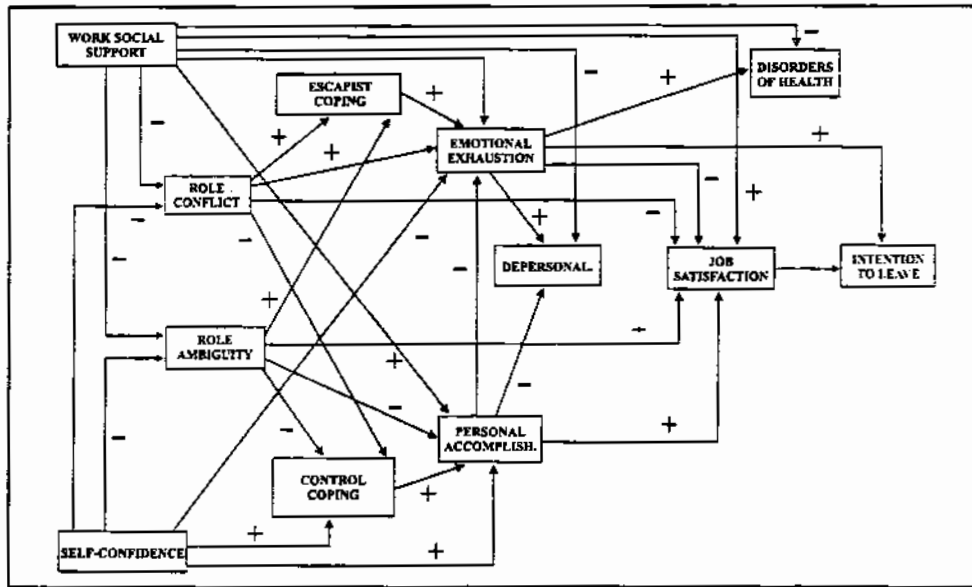
In a longitudinal study Wolpin, Burke, and Greenglass (1991) showed that psychological burnout causes lower *job satisfaction* and not vice versa. The conceptualization of burnout dimensions suggests that effects should derive from emotional exhaustion and lack of personal accomplishment as these dimensions are a kind of strain, while depersonalisation is a coping strategy. Job strain is a mediator variable between role stress and job satisfaction.

Disorders of health are a consequence of job stress. They show a significant positive association with burnout, particularly in relation to emotional exhaustion (Golembiewski *et al.*, 1986; Gil-Monte, Peiró, Valcárcel & Grau, 1996; Schaufeli & Dorenbosch, 1993). Finally, *intention to leave* has a significant positive relationship with burnout, and especially with emotional exhaustion (Jackson, Schwab & Schuler, 1986; Koeske & Koeske, 1989). In a longitudinal study, Jackson *et al.* (1986) showed that burnout scores at time-1, especially along the emotional exhaustion dimension, were significantly related to subsequently considering a new job.

To establish other relationships between antecedent and outcome variables, different studies of linear structural models of job stress were revised (Bedeian & Armenakis, 1981; Jackson, 1983, 1984; Kemery, Bedeian, Mossholder & Touliatos, 1985; Peiró, González-Roma, Martí & Gastaldi, 1992; Schaubroeck, Cotton & Jennings, 1989; Lloret, 1991). The general findings of these studies established that: (a) Both, role ambiguity and role conflict have a negative relationship with job satisfaction, (b) role ambiguity and role conflict have an indirect relationship with intention to leave through their relation with job satisfaction, (c) job satisfaction has a direct negative relationship with intention to leave. On the other hand, control and escapist coping are quite invariant across the role stress situations (Latack, 1986). In nursing, not all coping strategies are effective when chronic situations are considered and stressors are difficult to avoid (Shouksmith & Wallis, 1988, pp. 54-55). We assume that role stressors are positively related to escapist coping and negatively related to control coping.

The purpose of this research is to assess to what degree data from a non-experimental study are consistent with an underlying linear structural model on the burnout syndrome, and to test its goodness of fit in comparison with other models. On the basis of the previous theoretical account, it is predicted (hypotheses) that the relationships depicted in Figure 1 will be obtained.

Figure 1. Hypothesized model



Method

Sample

The sample for this study consisted of 196 nursing professionals ($N = 196$) from different hospitals in Tenerife (Spain), working in different wards. 20.4% of the total sample were men ($n = 40$), and 76.5% were women ($n = 150$), in the remaining 6 questionnaires gender was not identified. The average age of the whole group was 31.6 years (min. = 21 and max. = 57). 45.9% ($n = 90$) were married, and 52% ($n = 102$) were not married (single, divorced or widowed).

Measures

Self-confidence was measured by an adaptation of the Trait Sport-Confidence Inventory (TSCI) (Vealey, 1986). The word "athlete" was changed for "colleague". In this sample, the coefficient alpha was .97. *Social support* was measured by a translated version of the Organizational Stress Questionnaire (OSQ) (Caplan, Cobb, French, Van Harrison & Pinneau, 1975). This scale consists of ten items dealing with different kind of social support coming from supervisors and coworkers, and it offers a global score of social support. The reliability coefficient estimated by Cronbach's alpha in our sample was .85 for this scale. Both the *role conflict* and the *role ambiguity* levels were also measured by the translated version of the OSQ (Caplan *et al.*, 1975). The role conflict scale consists of three items. The reliability coefficient estimated by Cronbach's alpha was .64. The role ambiguity scale consists of four items and the reliability coefficient obtained was .68. Both *control* and *escapist coping* were measured by some items taken from the Occupational Stress Indicator (OSI) (Cooper, Sloan & Williams, 1988) translated into Spanish. To determine the

factor structure, the coping scale (twenty-eight items) of the OSI was factor analyzed using principal components analysis and Varimax rotation. Ten items were retained, and a second factor analysis was performed on them. Varimax rotation yielded two factors with eigenvalue of at least 1, accounting for 49.4% of the variance. The first factor (six items) was labeled Control coping (e.g., effective time management, reorganise my work) (Cronbach's alpha was .79), and the second factor (four items) was labeled Escapist coping (e.g., try to avoid the situation, try to stand aside and think through the situation) (Cronbach's alpha was .60).

Burnout dimensions were measured by a translated version of the Maslach Burnout Inventory (M.B.I.) (Maslach & Jackson, 1986). This questionnaire consists of twenty-two items which provide a measure of perceived burnout. The response format of frequency was used. The instrument is made up of three subscales: emotional exhaustion (EE), depersonalisation (D), and personal accomplishment (PA). The reliability coefficients for the subscales, estimated by Cronbach's coefficient alpha in this sample, were as follows: emotional exhaustion, .88, depersonalisation, .57, and personal accomplishment, .70.

Job satisfaction was measured by global score obtained by a Spanish Questionnaire on job satisfaction (Meliá & Peiró, 1989). This questionnaire consists of twenty-three items, which provide a global composite measure of perceived job satisfaction. The reliability of the global scale was .91.

Disorders of health was measured by a translated version of the OSQ scale (Caplan *et al.*, 1975). This scale consists of fourteen items. The subject must respond within a five-point scale to the frequency of headaches, insomnia, gastrointestinal disorders, heart irregularities, etc, that s/he has experienced within the last month or so (Cronbach's coefficient alpha was .86). *Intention to leave* was measured by a single item: "With what degree of certainty do you intend to leave this hospital within one year and change for another nursing job?"

Procedure

A questionnaire, made up of different scales and items, was handed out to supervisors from different wards. Then, these supervisors gave the questionnaire to his/her ward staff. The results, introduced in envelopes and sealed, were returned to the supervisors that in turn delivered them to the researcher. 600 questionnaires were handed out and 196 valid questionnaires were returned, making up a response rate of 33%.

Results

Descriptive statistics, estimates of internal consistency, and the intercorrelations of the variables are shown in table 1. Determinant for correlations matrix was |.053|.

Using LISREL VII (Jöreskog & Sörbom, 1989), models were evaluated by structural equation analysis. Data met LISREL assumptions (normality of the variables, no multicollinearity, no interactive effects). Figure 2 shows the standardized parameter estimates for the alternative model proposed after removing non-significant paths¹. The measures of goodness of fit for the model were:

¹ Social support-disorders of health, self-confidence-role conflict, role conflict-control coping, role ambiguity-escapist coping, personal accomplishment-emotional exhaustion, and emotional exhaustion-job satisfaction, paths were not significant.

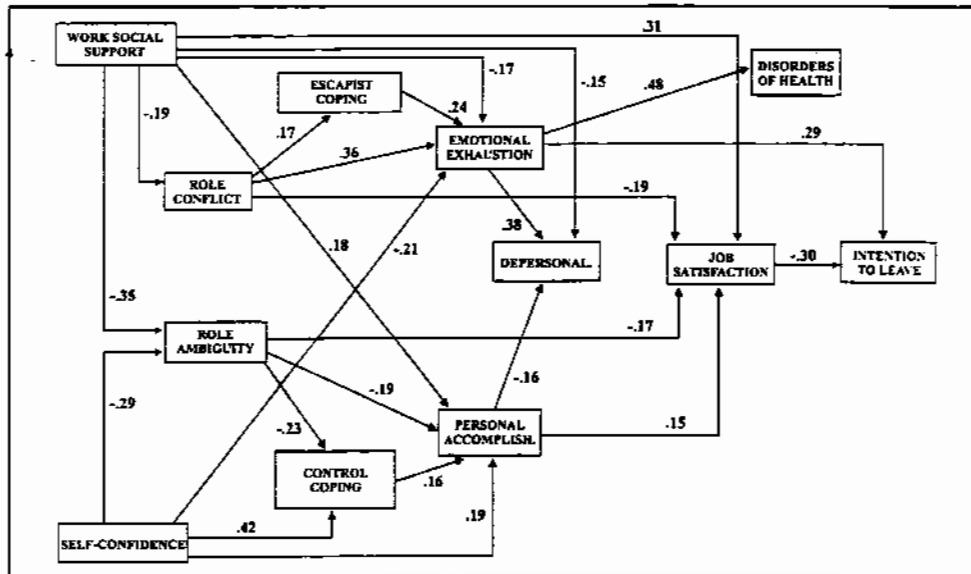
Table 1
Descriptive Statistics, Reliability Estimates, and Intercorrelations of Variables

	M	SD	Range	alpha	1	2	3	4	5	6	7	8	9	10	11	12
1. Self-confidence	6.37	1.31	1-9	.97	—											
2. Social Support	3.12	.45	1-4	.81	.08	—										
3. Role conflict	2.76	.70	1-5	.64	-.11	-.19**	—									
4. Role ambiguity	2.28	.63	1-5	.68	-.32***	-.37***	.15*	—								
5. Control coping	4.80	.68	1-6	.79	.49***	.18**	-.17**	-.36***	—							
6. Escapist coping	2.61	.81	1-6	.60	.02	-.19**	.17**	.05	-.03	—						
7. Personal accomplishment	36.76	6.41	0-48	.70	.35***	.30***	-.13*	-.38***	.36***	-.11	—					
8. Emotional exhaustion	23.55	11.29	0-54	.88	-.27***	-.30***	.46***	.20**	-.23***	.34***	-.27***	—				
9. Depersonalisation	6.60	5.01	0-30	.57	-.21**	-.31***	.31***	.18**	-.24***	.25***	-.31***	.47***	—			
10. Job satisfaction	4.00	.91	1-7	.91	.04	.45***	-.29***	-.37***	.16*	-.08	.33***	-.34***	-.15*	—		
11. Disorders of health	1.59	.39	1-4	.86	-.18**	-.10	.25***	.01	-.11	.30***	-.13**	.48***	.18**	-.16*	—	
12. Intention to leave	2.87	1.81	1-6	—	-.04	-.30***	.24***	.21**	-.01	.22***	-.21***	.39***	.29***	-.40***	.20**	—

*p < .05, **p < .01, ***p < .001

$\chi^2(41) = 59.96$ ($p = .028$), $GFI = .952$, $AGFI = .909$, $RMSR = .062$. This indicates that the fit of this model was quite satisfactory. The coefficient of determination for structural equations was .50.

Figure 2. Estimated structural coefficients of the alternative after removed nonsignificant paths.



The next step was to test the burnout models proposed by Golembiewski *et al.* (1983), Leiter and Maslach (1988), and Lee and Ashforth (1993b). Table 2 shows the parameter estimates of the Golembiewski *et al.* (1983) model after constraining to zero non-significant paths. The measures

of goodness of fit for the model were: $\chi^2(43) = 141.87$ ($p = .000$), GFI = .902, AGFI = .822, RMSR = .114. This indicates that the fit of the Golembiewski and colleagues model was somewhat low. The coefficient of determination for structural equations was .51. A revised model following the Golembiewski and colleagues perspective was disregarded because, based on Golembiewski *et al.* (1983), there is no theoretical support to release paths that show significant standardized residuals. Nineteen standardized residuals (sr) were significant. Role conflict-emotional exhaustion (sr = 5.95), depersonalisation-emotional exhaustion (sr = 5.69), and escapist coping-emotional exhaustion (sr = 4.60), relationships showed the highest significant standardized residuals.

Table 2
LISREL Estimates (Maximum Likelihood) to Golembiewski *et al.* (1983)
Model After Removing Paths not Significant

Variables	Self-Confidence'	Social Support'	1	2	3	4	5	6	7	8	9	10
1. Role conflict	---	-.19										
2. Role ambiguity	-.29	-.35	---									
3. Control coping	.42	---	---	-.23								
4. Escapist coping	---	---	.17	---	---							
5. Depersonalisation	---	-.26	.26	---	---	---						
6. Personal accomplishment	.21	.20	---	---	.18	---	-.16					
7. Emotional exhaustion	-.25	-.28	---	---	---	---	---	---				
8. Job satisfaction	---	.29	-.14	-.17	---	---	---	.13	-.12			
9. Disorders of health	---	---	---	---	---	---	---	---	.48	---		
10. Intention to leave	---	---	---	---	---	---	---	---	.40	-.26	---	

Note. Social support-disorders of health, self-confidence-role conflict, role conflict-control coping, role ambiguity-escapist coping, role ambiguity-depersonalisation, escapist coping-personal accomplishment, personal accomplishment-emotional exhaustion, and emotional exhaustion-job satisfaction, paths, were not significant and constrained to zero.

'Self-confidence and social support were exogenous variables.

The model devised by Leiter and Maslach did fit the data quite satisfactorily. After removing non-significant paths, the measures of goodness of fit for the model were: $\chi^2(42) = 68.60$ ($p = .006$), GFI = .946, AGFI = .899, RMSR = .063. Table 3 shows the parameter estimates of the Leiter and Maslach model after constraining to zero these non-significant paths. The coefficient of determination for structural equations was .50. Seven standardized residuals were significant. Role ambiguity-personal accomplishment (sr = -2.60) relationship showed the highest significant standardized residual.

Table 4 shows the parameter estimates of Lee and Asforth (1993b) model after constraining to zero non-significant paths. The measures of goodness of fit for the model were: $\chi^2(44) = 81.72$ ($p = .000$), GFI = .936, AGFI = .887, RMSR = .072. The coefficient of determination for structural equations was .57. A revised model based on this perspective was disregarded because there is no theoretical support to release paths that show significant standardized residuals. Eleven standardized residuals were significant. Depersonalisation-personal accomplishment (sr = -2.94), and role

Table 3
LISREL Estimates (Maximum Likelihood) to Leiter and Maslach (1988)
Model After Removing Paths not Significant

Variables	Self-Confidence ^a	Social Support ^a	1	2	3	4	5	6	7	8	9	10
1. Role conflict	---	-.19										
2. Role ambiguity	-.29	-.35	---									
3. Control coping	.42	---	---	-.23								
4. Escapist coping	---	---	.17	---	---							
5. Emotional exhaustion	-.22	-.17	.36	---	---	.25						
6. Despersonalisation	---	-.19	---	---	---	---	.41					
7. Personal accomplishm.	.21	.20	---	---	.18	---	---	-.16				
9. Job satisfaction	---	.31	-.19	-.17	---	---	---	---	-.15			
9. Disorders of health	---	---	---	---	---	---	.48	---	---	---		
10. Intention to leave	---	---	---	---	---	---	.29	---	---	-.30	---	

Note. Social support-disorders of health, self-confidence-role conflict, role conflict-control coping, role ambiguity-escapist coping, role ambiguity-emotional exhaustion, escapist coping-personal accomplishment, and control coping-emotional exhaustion, paths, were not significant and constrained to zero.
^a Self-confidence and Social support were exogenous variables.

ambiguity-personal accomplishment ($sr = -2.86$), relationships showed the highest significant standardized residuals.

Table 5 shows the fit indices for the four models. Chi square difference, Normed Fit Index (NFI) (Bentler & Bonett, 1980), Tucker-Lewis Index (TLI), Relative Noncentrality Index (RNI) (McDonald & Marsh, 1990), and Parsimonious Fit Index (PFI) (James, Mulaik & Brett, 1982), were used to compare the models. The model proposed by Golembiewski and colleagues shows

Table 4
LISREL Estimates (Maximum Likelihood) to Lee and Ashforth (1993b)
Model After Removing Paths not Significant

Variables	Self-Confidence ^a	Social Support ^a	1	2	3	4	5	6	7	8	9	10
1. Role conflict	---	-.19										
2. Role ambiguity	-.29	-.35	---									
3. Control coping	.42	---	---	-.23								
4. Escapist coping	---	---	.17	---	---							
5. Emotional exhaustion	-.22	-.17	.36	---	---	.25						
6. Despersonalisation	---	-.19	---	---	---	---	.41					
7. Personal accomplishm.	.33	.27	---	---	---	---	---	---				
9. Job satisfaction	---	.31	-.19	-.17	---	---	---	---	.15			
9. Disorders of health	---	---	---	---	---	---	.48	---	---	---		
10. Intention to leave	---	---	---	---	---	---	.29	---	---	-.30	---	

Note. Social support-disorders of health, self-confidence-role conflict, role conflict-control coping, role ambiguity-escapist coping, role ambiguity-emotional exhaustion, and emotional exhaustion-personal accomplishment, paths, were not significant and constrained to zero.
^a Self-confidence and Social support were exogenous variables.

the worst fit to data. On the other hand, the one proposed by Lee and Ashforth shows a better fit to data. The alternative model, and the Leiter and Maslach model show a similar fit to data. Values are similar in every index for these two models, so, they account similarly for the relationship between variables. However, the difference in χ^2 of these two models was significant ($\chi^2(1) = 8.64$, $p < .01$), suggesting that both models are not equivalent: alternative model shows a significant improvement on the Leiter and Maslach model with respect to the fit of the data to the model.

Table 5
Fit Indices of All Models

	χ^2	df	p	GFI	AGFI	RMSR	NFI	TLI	RNI	PFI
Null-model	567.38	66	.000	.569	.482	.224	—	—	—	—
Alternative model proposed	59.96	41	.028	.952	.909	.062	.89	.94	.89	.55
Golembiewski and col. (1983)	141.87	43	.000	.902	.822	.114	.75	.70	.75	.49
Leiter and Maslach (1988)	68.60	42	.006	.946	.899	.063	.88	.92	.88	.56
Lee and Ashforth (1993b)	81.72	44	.000	.936	.887	.072	.86	.89	.86	.58

Note. GFI = Goodness Fit Index, AGFI = adjusted Goodness Fit Index, RMSR = root mean square residual, NFI = normed fit index, TLI = Tucker-Lewis index, RNI = relative noncentrality index, PFI = Parsimonious Fit Index.

Discussion

Four models of the burnout process, as conceptualized by the MBI dimensions, have been examined. Our results indicate that the Golembiewski and colleagues model (i.e., $D \rightarrow PA \rightarrow EE$) is a poor representation of the burnout process. In this model, the analysis of significant standardized residuals shows that: (a) Role stress has a significant relationship with both personal accomplishment and emotional exhaustion, (b) there is a significant relationship between escapist coping and emotional exhaustion, (c) in the burnout process there is a significant relationship between emotional exhaustion and depersonalisation, and (d) personal accomplishment is not a mediator variable between depersonalisation and emotional exhaustion. In comparison with the Golembiewski and colleagues model, the Leiter and Maslach model, and the Lee and Ashforth model can offer a good representation of the burnout process. These models show a satisfactory goodness of fit and they are somewhat superior, in our sample, to the Golembiewski and colleagues model. The alternative model shows a satisfactory goodness of fit, which indicates that this model can also be a good representation of the burnout process. This is possible as various models could fit the data equally well (e.g., Cliff, 1983).

Regarding the Lee and Ashforth model (i.e., $EE \rightarrow D$ and $EE \rightarrow PA$), the relationship between emotional exhaustion and personal accomplishment is not significant. This result is similar to the results shown in Lee and Asforth (1993a). Moreover, it must be considered that this model is a post hoc model. It seems that Lee and Ashforth (1993b) proposed to fit the data modifying the Leiter and Maslach (1988) model, but no theoretical basis that suggested to release the emotional exhaustion-personal accomplishment path was proposed (e.g., see James *et al.*, 1982, pp. 27, 34-36).

On the other hand, in reference to the Leiter and Maslach (1988) model (i.e., $EE \rightarrow D \rightarrow PA$), it can offer an adequate specification of the burnout process. However, Leiter (1993, pp. 244-245) asserted that, in contrast to the original Leiter and Maslach (1988) model, it seems more adequate to depict depersonalisation as a function of emotional exhaustion that mediates the impact of environmental conditions on depersonalisation, and to depict personal accomplishment as a function of the work environment and of the resources (social support and opportunities for skill enhancement), without any significant relationship with depersonalisation.

On the contrary, our results show that it seems adequate to establish a relationship between personal accomplishment and depersonalisation. In the alternative model this relationship could be explained from theory on the frustration and aggression relationship (Mummendey, 1990). The results of the alternative model are consistent with the structural model assumed. Our alternative model approach is in line with the theoretical perspective developed by Lazarus and Folkman (1984) and Cox *et al.* (1993, pp. 186-188). In the burnout process workers experience a lack of personal accomplishment (cognitive/aptitudinal variable) and an increase in their feeling of emotional exhaustion (affective/emotional variable) when encountering stressful situations at work as job-related demands chronically outweigh resources, and coping strategies fail. The third component of depersonalisation corresponds to the notion of coping and it must be considered as a disengagement response of problem-focused cognitive coping. After reappraisal, the individual attempts to cope with both the lack of personal accomplishment and the depletion of emotional energy by treating others as objects or numbers rather than people.

Nevertheless, it must be noted that any inference about the causal relationship between variables would be premature. Our research does not provide definitive answers concerning the direction of causality. It should be noted that the results of this research must be interpreted with caution, in especial due to the moderate size of the sample and the process of data gathering, which, although the envelopes were sealed, required the subjects to return the filled questionnaires to the supervisor.

For future research, we suggest the necessity of testing the goodness of the different models presented in this paper. Models must be replicated with both similar and different variables, in longitudinal studies, and across different countries, with different kind of samples, to ensure that the established relationships are in fact significant.

Título: Um modelo de desenvolvimento do processo de *burnout*: Uma alternativa aos modelos avaliativos do stress.

Resumo: De acordo com o Maslach Burnout Inventory (MBI), o *burnout* é uma síndrome de exaustão emocional, despersonalização e redução da sensação de realização pessoal. Neste artigo, quatro modelos do processo de *burnout*, conceptualizados pelas dimensões do MBI, são examinados e avaliados pelo LISREL VII: os modelos de Golembiewski, Muzenrider e Carter (1983), de Leiter e Maslach (1988), de Lee e Ashforth (1993b), e um modelo alternativo. A amostra era constituída por 196 enfermeiras profissionais de diferentes hospitais de Tenerife (Espanha). Os resultados indicam que o modelo de Leiter e Maslach e o modelo alternativo podem proporcionar uma boa representação do processo de *burnout*. O modelo alternativo indica que o processo de *burnout* progride de forma paralela à passagem da realização pessoal à despersonalização e da exaustão emocional à despersonalização. O alcance teórico desta sequência é enfatizado.

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