

## **Structuring a Model for the Determinants of Vocational Teacher Burnout**

**I. Ioannou\* and L. Kyriakides\*\***

Department of Education, University of Cyprus

\* [taioann@cytanet.com.cy](mailto:taioann@cytanet.com.cy) \*\*[kyriakid@ucy.ac.cy](mailto:kyriakid@ucy.ac.cy)

The determinants of teacher burnout were investigated in a sample of secondary school teachers in Cyprus. Using a bunch of self-respond instruments a 10% sample of Cypriot teachers responded to scales that assessed various aspects of organizational and personal characteristics of burnout. A Greek version of the Maslach Burnout Inventory was also used to assess the level of burnout as indicated by its three facets: emotional exhaustion, depersonalization and personal accomplishment. A hypothesized model was tested using structural equation modeling techniques. The causal model examined the linkages that exist among organizational (professional demands and responsibility, student misbehaviour, time pressure, pupil's abilities and attitudes to work, professional status, school rules, school inspectorate) as well as personal – internal characteristics (professional efficacy, self-esteem) and vocational teacher stress. Implications of findings are drawn.

### **Introduction**

The concept of burnout was introduced in the mid seventies to describe emotions of depletion and loss of motivation and commitment that social workers experience after prolonged and extensive stress conditions (Freudenberger, 1974, 1975). Based on the pioneer work of Freudenberger, and Maslach (Maslach, 1976), Maslach and Jackson (1981) introduced and validated the MBI (Maslach Burnout Inventory) scale for the measurement of burnout. Ever since, the MBI is the most common used instrument for assessing burnout. The MBI construes burnout as a psychological syndrome that has three distinct but loosely coupled dimensions of manifestation: emotional exhaustion, depersonalization, and reduced sense of personal accomplishment. The emotional exhaustion component refers to feelings resulting from overextended depleting of one's emotional and physical resources. It constitutes the basic stress dimension of burnout. Depersonalization (or cynicism) represents the interpersonal context dimension of burnout and refers to negative, callous or uncaring attitudes towards others. The reduced personal accomplishment component refers to negative self-evaluation feelings such as loss of self-competence, dissatisfaction, or lack of achievement and productivity at the workplace (Maslach, Schaufeli, & Leiter, 2001).

The symptoms of burnout, both organizational and personal are quite important in education. Organizational symptoms include, increased absenteeism, performance decline, as well as poor interpersonal relationships both with colleagues and students. (Cunningham 1983). At the personal level burnout teachers have less sympathy toward students, have a lower tolerance for classroom disruption, are less committed to their job, are less apt to prepare their lessons adequately, and generally, are less productive (Farber & Miller 1981, Blase & Greenfield 1985). Furthermore, it has been argued that teachers experiencing burnout tend to be dogmatic about their practices and to rely rigidly on structure and routine (Cunningham 1983). Thus, burnout teachers are a setback to any attempts in school reformation, a pursuit common to many educational systems worldwide Cyprus included.

Though the profession of teaching has been viewed as a labor of love and devotion, numerous studies have shown that nowadays it has been transformed into a quite stressful occupation (Travers & Cooper, 1996; Dunham & Varma, 1998; Kyriacou, 2001; Kyriakides, Campbell & Christofidou, 2002). Survey data indicates that both in the western world and in some Eastern European countries about 10 to 40 percent of teachers are suffering under extreme stress or burnout (Otto, 1986; Friedman & Farber, 1992; Tuettemann & Punch 1992; ASTD, 1995; Kristensen, Borritz, Villadsen & Christensen 2005), while this percentage reaches the amazing 50 to 70 percent in Asian countries like Japan and Taiwan (Maslach, Schaufeli, & Leiter, 2001). Therefore, it becomes extremely important to investigate not only the sources or predictors of it but also their relationships. In other words, to develop a model that will give us an insight into the syndrome of teacher burnout. Such a model could help policy makers to provide support to teachers in order to reduce their burnout and become more effective.

Early attempts in the investigation of the predictors of stress and burnout gave emphasis on the demographic and personal trait characteristics (Maslach, Schaufeli, & Leiter, 2001). For example, it has been shown that younger employees tend to be more vulnerable towards the syndrome of burnout than their older colleagues. Moreover, the gender variable was not found to be related with burnout. That is, women and men are having about the same chances to manifest any of the burnout dimensions. On the other hand, married, especially men are less prone to burnout compared with singles.

Currently, studies on burnout give more emphasis to factors associated with burnout that are related with their beliefs of teaching. Specifically, it has been found that people who display higher levels of self-esteem score lower on all the three dimensions of the MBI, while those who have an external locus of control manifest higher levels of burnout (Dorman, 2003; Maslach, Schaufeli, & Leiter, 2001). In this context, many researches delineate the importance of self-efficacy theory on burnout. Teacher efficacy has been defined as “the extent to which the teacher believes he or she has the capacity to affect student performance” (Brouwers & Tomic, 2000). Chwalisz, Altmaier and Russell (1992) found that teachers who score low on self-efficacy reported a higher degree of burnout than their counterparts who score high on self-efficacy. Also, Brouwers and Tomic (2000) concluded that perceived self-efficacy in classroom management must be taken into consideration when devising interventions both to prevent and to treat burnout among secondary school teachers.

Organizational factors may also play a significant role in understanding burnout. Researches focused on both quantitative and qualitative job demands as well as job resources. Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive or emotional) effort. On the other hand, job resources refer to those physical, psychological, social or organizational aspects of the job that either reduce job demands, or are functional in achieving work goals, or stimulate personal growth, learning and development (Schaufeli & Baker, 2004). Examples of quantitative job demands are work overload, time pressure, difficult clients (misbehaved students), and poor physical working conditions. Qualitative job demands refer primarily on role conflict and role ambiguity. The study on the absence of job resources refer to variables like, social and supervisors support, peer support, access to information, lack of feedback, participation in the decision making process, and autonomy. Hence, job resources are not only functioning as compensates to job demands. There are findings verifying the general notion that all of the above-mentioned variables are consistently related to burnout

(Byrne, 1994a, 1994b; Dorman 2003a, 2003b; Hakanen, Bakker, & Schaufeli, 2006; Schaufeli & Baker, 2004).

Thus, burnout ought to be understood as a multi-factorial concept composed of factors within the individual, the organization, and specific situational factors in the work place, as well as, the receptiveness or not of the wider society towards the job in question. Many researches in the area of work related stress psychology (Baker, & Schaufeli, 2006; Byrne, 1994; Dorman, 2003; Otto, 1986) suggested models which describe stress as a lack of fit between the external demands of the situation, the external resources or constraints, the internal demands of the individual and the internal resources and constraints perceived by the individual. All these conceptions postulate that burnout involves the contribution of personal and external factors, the individual's perception of these and the individual's consequent reaction upon these factors. Maslach, Schaufeli, and Leiter (2001) assert that a model of job-person fit which states that burnout is the result of a lack of fit between environmental – external and personal – internal demands and resources would seem to be an appropriate framework for understanding burnout.

In this context, the aim of this study is to develop and test a model able to capture the notion of burnout in its multiplicity. That is, to take into account both organizational external stressors as well as personal internal coping styles. All these parameters need to be assessed in the environment of the teaching profession so as to meet the job-person fit paradigm. In the next section, we try to describe our hypothesized model that takes into account the above-mentioned characteristics.

### **The hypothesized model**

In this study we adopt a hybrid model comprising aspects of the Job Demands-Resources (JD-R) Model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Hakanen, Bakker, & Schaufeli, 2006), and the model for primary, intermediate and secondary school teachers proposed by Byrne (1994b). On the one hand, the JD-R model is constructed on the basis of the job-person fit theory, which we also adopt, and on the other hand, the Byrne's model offers the situational specificity, which we are also dealing with.

A basic proposition of the JD-R model is that work characteristics may evoke two distinct psychological processes. In the first process, high job demands exhaust employees' mental and physical resources and lead to burnout and/or health problems. In the second process, poor or lack of job resources make difficult or hard the meeting of job demands, obstruct the fulfillment of personal job accomplishment which consequently lead to feelings of failure and frustration. According to Hockey (1997), when job demands increase, regulatory – compensatory strategies evoke in order to deal with the increased demands and to maintain performance levels. When this is done, it has physiological and psychological costs. Long lasting compensatory effort drains the employee's energy and may lead to the appearance of burnout symptoms.

Demerouti et al. (2001), in their JD-R model used the Oldenburg Burnout Inventory (OLBI) scale instead of the MBI in measuring burnout levels. The main difference of the two scales lies on the omission of the third dimension of the burnout construct, namely that of PA (Personal Accomplishment). Demerouti et al. (2001) are citing three reasons for their decision to omit the third component of the MBI scale. First, numerous research findings illustrate that the core dimensions of burnout are those

of emotional exhaustion and depersonalization (Maslach, Schaufeli, & Leiter, 2001). Second, personal accomplishment, seems to be developed largely independently of emotional exhaustion and depersonalization (Lee, & Ashforth 1996). Thirdly, personal accomplishment is the weakest burnout dimension in terms of significant relationships with the other two variables of the MBI scale. On the other hand Byrne's model, when measuring burnout among teachers, takes into account the bunch of the three facets of the MBI structure.

Thus, based on the findings of Byrne (1994), Dorman (2003a), (2003b), and overmuch on Brouwers, & Tomic, (2000), it is argued that the personal accomplishment aspect of burnout when measured upon teachers, and especially secondary school teachers, is important to be taken into consideration. Brouwers, & Tomic (2000) found a strong synchronous effect of perceived self-efficacy on personal accomplishment while they have also demonstrated the existence of a longitudinal effect on depersonalization. Dorman (2003a), found a statistically significant path of teaching efficacy, of secondary school teachers, on personal accomplishment. As self-efficacy is an important factor for successful teaching performance we judge that personal accomplishment, which represents the consequences of that performance, should not be deducted from the burnout scale. Moreover, Byrne (1994) and Dorman (2003b) showed that the personal accomplishment aspect of burnout, when measured among secondary school teachers, is affected by the classroom climate, or environment. Teachers spend long periods of time in the classroom dealing, among other things, with high emotional situations that draw on the affective domain. Hence, it is essential to consider classroom climate and consequently personal accomplishment when investigating burnout among teachers. That also justifies our decision in using the MBI scale. Following the suggestion of Maslach, Jackson, and Leiter (1996), the three parameters of the MBI scale in our hybrid model were not linked to any latent variable (e.g. burnout). Instead, they were left to denote burnout separately.

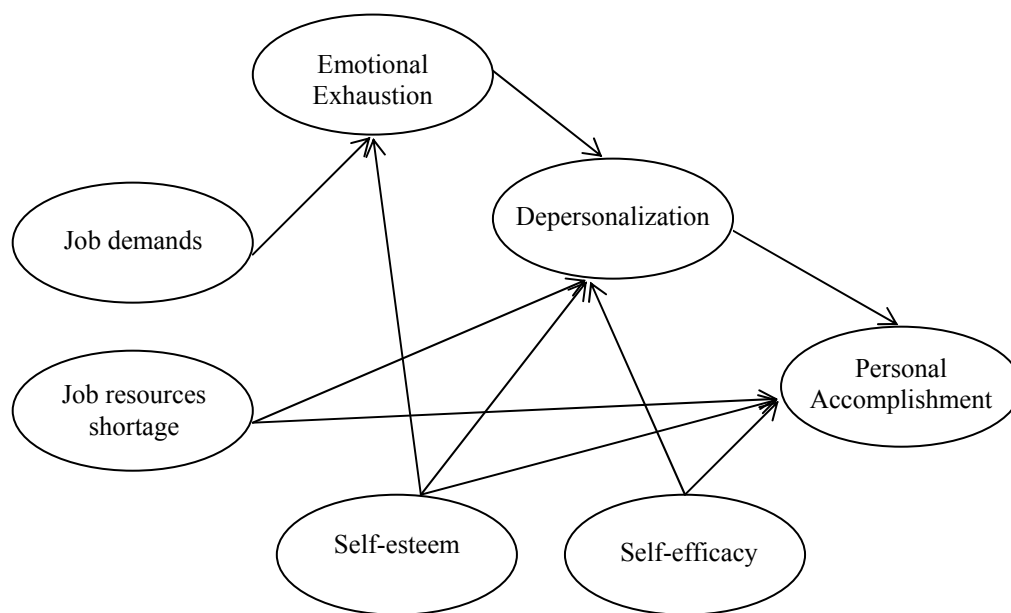


Figure 1. The hypothesized model

Furthermore, according to Otto (1986), demands and resources are distinguished into two categories: external and internal. External demands refer to role expectations in the workplace while internal demands are related to expectations arising from needs and values. External resources cover material resources like time, social support, or job-control. On the other hand, internal resources include professional efficacy, skills and knowledge, limits of physical energy and perceived power or powerlessness of self-esteem. Demerouti et al (2001), in their study of the JD-R model are focusing only on external resources on the basis that there is no general agreement regarding which internal resources can be considered stable or situation independent. This aspect has no ground in our case. On the contrary, there is evidence (Byrne, 1994; Dorman, 2003a, 2003b) that self-esteem has a moderating role on the level of burnout manifested by emotional exhaustion and depersonalization while it is also a predictor of personal accomplishment. As of the role of self-efficacy on teacher burnout, Brouwers & Tomic (2000) report that it has a negative effect on depersonalization and a positive effect on personal accomplishment. Similar findings are also cited by Dick and Wagner (2001). In their study they found a moderating role of self-efficacy on high levels of stress and strain in the teaching profession. Hence, self-esteem and self-efficacy constitute the main coping styles encountered in teacher burnout. In this context, our proposed hybrid model tries to capture both external and internal job demands and resources as possible predictors of teacher burnout.

## Methodology

### *Sample and procedure*

The sample employed in this study consisted of 319 secondary (middle and high) school teachers who teach in Greek-Cypriot public schools situated in urban and rural areas controlled by the Cyprus government. The discrimination among middle and high secondary school teachers is not of great importance in Cyprus public schools due to a regular rotation policy that is followed by the Ministry of Education. However, the set of questionnaires was delivered to seven middle schools and eight high schools. Four middle schools are located in urban areas and three in rural areas, whereas five of the high schools are in urban areas and three in rural ones. The response rate was 76%. The majority of the participants were female (62%), two without gender identification. As of the job tenure characteristics of the sample, 3.8% had less than one year, 13.5% between 1 to 4 years, 24.8% between 5 and 10 years, 43.7% between 11 and 24 years, and 14.2% more than 25 years. Looking at the age of the sample, 10% were younger than 30 years old, 22.6% were between 30 and 40 years, 43.3% were between 40 and 50 years, and 24% were 50 years of age.

<i>Age</i>	<i>&lt; 30</i>	<i>31 - 40</i>	<i>41 - 50</i>	<i>&gt; 50</i>	<i>Total</i>
<i>Male</i>	4	26	45	46	121
<i>Female</i>	28	46	93	31	198
<i>Total</i>	32	72	138	77	319

*Table 1.* Description of sample

### *Measurement instruments*

Each teacher in the sample was provided with a set of scales that assess both organizational and personal predictors of his/hers burnout, as well as burnout levels. More explicitly, the set of questionnaires consisted of four sections. The first section covered the demographic characteristics of the recipients, such as sex, age, length of teaching experience, and position held in the school. The second section captured the organizational stressors through a self-respond instrument. The third part was devoted in personal predictors of burnout, especially professional effectiveness, self-esteem and locus of control. The fourth section was formed by the MBI scale, which assessed the burnout level of the individual respondent.

### *Organizational stressors.*

The investigation of external causes of stress was carried out using an adapted version of the Questionnaire of Teacher Stress (QTS). The instrument was designed by Kyriacou & Sutcliffe (1978) under the assumption that teachers are able to provide valid reports of the sources of experienced stress. Specifically, the instrument consisted of 43 items, with a response format on a Likert-type scale with 5 thresholds labeled: “no stress” (0), “mild stress” (1), “moderate stress” (2), “much stress” (3), and “extreme stress” (4). In revising the questionnaire we took care of including aspects of the Cyprus teaching environment that previous studies revealed their importance (Kokkinos, 2002). In that respect the items, “the school inspectorate institution”, “the need to bring work at home”, “lack of any facilities for the teachers to do paper work during school hours”, “the parents union attitude towards teachers”, and “the intervention of parents union in schools’ internal affairs”, were also added in the questionnaire.

Organizational scales	Sample items
1. Student misbehavior	a. Pupils’ impolite behavior b. Maintaining class discipline c. Constant monitoring of pupils’ behavior
2. Physical work environment	a. Shortage of equipment b. Supervisory duties during breaks c. School too large
3. Work overload/time pressure	a. Too much work to do b. Not enough time to do the work
4. Social/peer support and job control.	a. Low status of the teaching profession b. Lack of recognition for good teaching c. Lack of participation in decision-making
5. Classroom climate	a. Pupils who show lack of interest b. Mixed ability classes

*Table 2.* Description of organizational scales

The instrument measured four broad categories of job demands: student misbehavior (ten items,  $\alpha=0.89$ ), physical work environment (nine items,  $\alpha=0.86$ ), classroom climate (four items,  $\alpha=0.76$ ), and work overload/time pressure, (five items,  $\alpha=0.84$ ). Two categories of job resources shortage were also measured: social/peer support and job control, (seven items,  $\alpha=0.82$ ), and the inspectorate institution (single-item).

### *Personal predictors*

Investigating the internal, personal predictors of teachers' burnout we focused on two aspects, namely, self-esteem and professional self-efficacy. Though many researches (Adams, 2001; Byrne, 1994; Dorman, 2003a, 2003b) have included locus of control in this realm, we choose not to do so for two reasons. First, the adapted version of Rotter's (1966) locus of control scale we have administered to our sample, have displayed serious positive kurtosis problems. Second, according to Dorman (2003a), locus of control has only indirect effect via self-esteem on the personal accomplishment facet of burnout. Moreover, self-esteem and self-efficacy constitute the bulk of the self-concept paradigm.

Rosenberg's (1989) Self-Esteem Scale (SES) assessed levels of Self-esteem in the sample. Self-esteem is positive or negative orientation toward one self. Basically is an overall evaluation of one's worth or value. Rosenberg's scale is a self-report instrument consisting of 10 items. Responds were measured on a six-threshold Likert-type scale ranging, from "strongly disagree" (0) to "strongly agree" (6). The reliability coefficient of this scale ( $\alpha=0.77$ ) measured on our sample is compared favorably with that reported by Blascovich & Tomaka (1993).

Perceived teachers' self-efficacy was measured using the short form of Teachers' Sense of Efficacy Scale developed by Tschannen-Moran and Woolfolk (2001), known as the Ohio State Teacher Efficacy Scale (OSTES). The developers have investigated both construct and discriminant validity for this instrument. The questionnaire includes twelve items measured on a nine threshold Likert-type scale, ranging from "nothing" (1) to a "great deal" (9). The instrument has three subscales namely: Efficacy in student engagement (SE), Efficacy in instructional strategies (IS) and, Efficacy in classroom management (CM). The internal validity of each of these subscales was satisfactory for our sample: (SE:  $\alpha=0.77$  ; IS:  $\alpha=0.72$ ; CM:  $\alpha=0.77$ ).

### *Burnout assessment*

To assess levels of burnout among the respondents, the Maslach Burnout Inventory Educators Survey (MBI-ES), (Maslach, Jackson, & Leiter, 1996) was also administered to our sample. The MBI-ES is designed to measure an educator's perceived levels of emotional exhaustion and fatigue, negative attitudes toward students, and feelings of personal accomplishment on the job. Specifically, the MBI-ES consists of 22 items that are divided into three subscales (emotional exhaustion, depersonalisation, and personal accomplishment) that reflect aspects of the burnout syndrome. Individuals are required to respond to each item by indicating the frequency in which they experience the feelings described in the items. A Likert-type scale ranging from "never" (0) to "every day" (6) was used to collect the data.

The MBI-ES has been translated and applied in many countries worldwide. Both its construct validity and internal reliability have been tested (Iwanicki & Schwab, 1981; Gold, 1984; Aluja, Blanch & Garcia, 2005, Catalan version; Schaufeli, Daamen & Van Mierlo, 1994, Dutch version). Specifically, the three-factor structure of the Greek version of the Maslach Burnout Inventory for teachers is confirmed in the study of Aventsian-Pagoropoulou, Koumpias, Giavrimis (2002). In the present study Cronbach internal reliability coefficients for the three subscales were satisfactory: (EE:  $\alpha= 0.84$ ; DEP:  $\alpha= 0,75$ ; PAC:  $\alpha= 0,77$ )

Teachers' efficacy subscales	Sample items
1. Efficacy in student engagement	a. How much can you do to motivate students who show low interest in school work? b. How mach can you do to help your students value learning?
2. Efficacy in instructional strategies	a. To what extent can you craft good questions for your students? b. How well can you implement alternative strategies in your classroom?
3. Efficacy in classroom management	a. How much can you do to control disruptive behavior in the classroom? b. How much can you do to get children to follow classroom rules?

*Table 3.* Description of personal stressor scales

### *Analysis*

A structural equation modeling (SEM) procedure was employed to test the hypothesized model used the Mplus statistical package (Muthen & Muthen, 2001). The input data for the analysis was the covariance matrix for the items or the scale scores since the Likert-type scales we used for the various questionnaires differed on the number of their thresholds. As for the estimation procedure we used the maximum likelihood method under the assumption of multivariate normality of the items or scales employed in the analysis, due to the fact that the sample size over exceeds ten times the estimated parameters in the model (Kline, 1998).

To test our hypothesized model several nested alternative models have been compared. Chi-square difference tests were used to compare the relative fit of the models. Moreover, the fit indices Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Square Residual (SRMR), the Comparative Fit Index (CFI), and the Tucker-Lewis Index (TLI) are reported in the assessment of the hypothesized model. Whereas values of the RMSEA of about 0.05 or less indicate a close fit of the model to the data, values in the range between 0.05 and 0.08 still indicate an acceptable fit (Cudeck & Brown, 1993). As of the SRMR index, Hu and Bentler (1999) suggest that values less than 0.08 are indicative of model acceptance. For the

other two indices, as a rule of thumb values greater than 0.9 are suggestive of good model fit.

## Results

### *Descriptive statistics*

Table 4 represents means, standard deviations, internal consistency measures (i.e. Cronbach's Alpha), and covariance matrix among the variables used in this study. The covariance matrix reveals a positive relation between emotional exhaustion and the four factors of the latent variable "job-demands". However, there is also a positive relation between the school inspectorate institution and social-peer support/job control with emotional exhaustion. As far as of the factors of the latent "job-resources shortage" is concerned, these are related to depersonalization. Noticeable is the absence of any clear relation between the organizational latent variables with the third facet of burnout, namely that of personal accomplishment. Looking at the three scales of self-efficacy, all of them are positively related to personal accomplishment and slightly negatively related to the other two facets of burnout. Closing, self-esteem clearly relates positively with personal accomplishment and negatively with both emotional exhaustion and depersonalization.

### *SEM analysis*

The hypothesized model was assessed through a sequence of nested models with the aim of identifying the alternative that provides for the best fit of the data without destroying the rationale of the theory on which the model lies. As can be seen from the first row of Table 5, the postulated model has only a fair fitting to the data. However, the RMSEA and SRMR meet the criterion of 0.08, while CFI exceeds the boundary of 0.9, and TLI drops slightly behind. It is also important to note that three paths in the hypothesized model turned not to be statistically significant ( $p \leq 0.05$ ). In particular, the not significant paths were those from "Job resources shortage" and "Self-esteem" to "Personal accomplishment", and the one from "Depersonalization" to "Personal accomplishment". Removing the first two non significant paths from the model, the fitness does not remarkably being improved as was expected.

Furthermore, the covariance matrix suggests a strong positive relation between "Job resources shortage" and "Job demands". Also the Job demands-resources model states (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) that when the external environment lacks resources, individuals cannot cope with the negative influences of environmental demands, and they cannot obtain their goals. Therefore, we reached the conclusion of trying adding a path from "Job resources shortage" to "job demands" thus actually turning "Job demands" into a mediator between "Job resources shortage" and "Emotional exhaustion". The change significantly improved the model, as can be seen from the fourth row in Table 5, ( $\Delta\chi^2(2)=2.16$ , RMSEA=0.073, SRMR=0.06 CFI=0.92, TLI=0.89). A similar attempt to make "Self-efficacy" a mediator between "Self-esteem" and "Personal accomplishment" failed. Comparison indices for this attempt are denoted in the fifth row of table 5.

Table 4.

Descriptive statistics and covariance table for the variables in the study

	$\alpha$	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Job demands &amp; resources shortage</i>																
1 Student misbehavior	0.89	2.11	0.76	0.569												
2 Physical Work Environment	0.86	2.63	0.78	0.348	0.611											
3 Social/peer support & job control	0.82	2.56	0.87	0.382	0.323	0.761										
4 Classroom climate	0.76	2.36	0.77	0.297	0.251	0.269	0.597									
5 Work overload/Time pressure	0.84	2.12	1.24	0.454	0.309	0.267	0.301	1.532								
6 School Inspectorate Institution	--	2.52	1.26	0.43	0.424	0.513	0.179	0.27	1.585							
<i>Burnout facets</i>																
7 Emotional Exhaustion	0.84	3.10	1.30	0.361	0.426	0.482	0.222	0.303	0.653	1.693						
8 Depersonalization	0.75	1.44	1.28	0.269	0.306	0.195	0.142	0.112	0.472	0.697	1.638					
9 Personal accomplishment	0.77	4.62	0.85	-0.003	-0.09	0.018	-0.02	0.029	-0.18	-0.15	-0.22	0.73				
<i>Perceived self-efficacy &amp; self-esteem</i>																
10 Classroom management	0.77	5.21	1.18	-0.09	-0.28	-0.04	-0.08	-0.01	-0.21	-0.28	-0.31	0.46	1.38			
11 Instructional strategies	0.72	5.95	0.91	-0.06	-0.06	0.002	-0.08	-0	-0.11	-0.09	-0.18	0.32	0.47	0.83		
12 Student engagement	0.77	6.70	1.49	0.031	-0.13	0.139	-0.09	0.003	-0.12	-0.01	-0.36	0.59	0.97	0.62	2.2	
13 Self-esteem	0.77	51.16	7.34	-0.30	-0.89	-0.37	-0.68	0.198	-1.11	-1.04	-2.1	2.08	2.07	1.7	2.53	53.72

Furthermore, we tried to see whether it is plausible to establish a significant path between “Personal accomplishment” and the other two facets of burnout. In that respect, we used the procedures followed by Taris, Le-Blanc, Schaufeli, & Schreurs, (2005) and that of Plana, Fabregat, & Gassio, (2003). More specifically, we tried drawing a path from “Emotional exhaustion” to “Personal accomplishment”. However, this alternative was not statistically justified as can be seen from the last row of Table 5.

	<i>Model description</i>	$\chi^2$	<i>df</i>	$\Delta\chi^2$	<i>CFI</i>	<i>TLI</i>	<i>SRMR</i>	<i>RMSEA (C.I. &amp; sign)*</i>
1	Hypothesized model	148.98	53	---	0.92	0.88	0.059	0.075 (0.06-0.09; 0.00)
2	Remove the effect of job resources on PAC.	149.14	54	0.16	0.92	0.88	0.059	0.074 (0.06-0.09; 0.00)
3	Remove the effect of self-esteem on PAC.	150.27	55	1.13	0.92	0.89	0.06	0.074 (0.06-0.09; 0.00)
4	Job demands as mediator of job resources on EE <sup>(**)</sup> .	154.58	57	2.16	0.92	0.89	0.06	0.073 (0.06-0.08; 0.00)
5	Self-efficacy as mediator of self-esteem on PAC.	155.45	58	0.87	0.92	0.89	0.07	0.073 (0.06-0.08; 0.00)
6	Add an effect of EE on PAC.	153.27	56	1.09	0.92	0.88	0.06	0.074 (0.06-0.09; 0.00)

(\*) Confidence interval for RMSEA is 90% with significance  $\leq 0.05$ .

(\*\*) Final model.

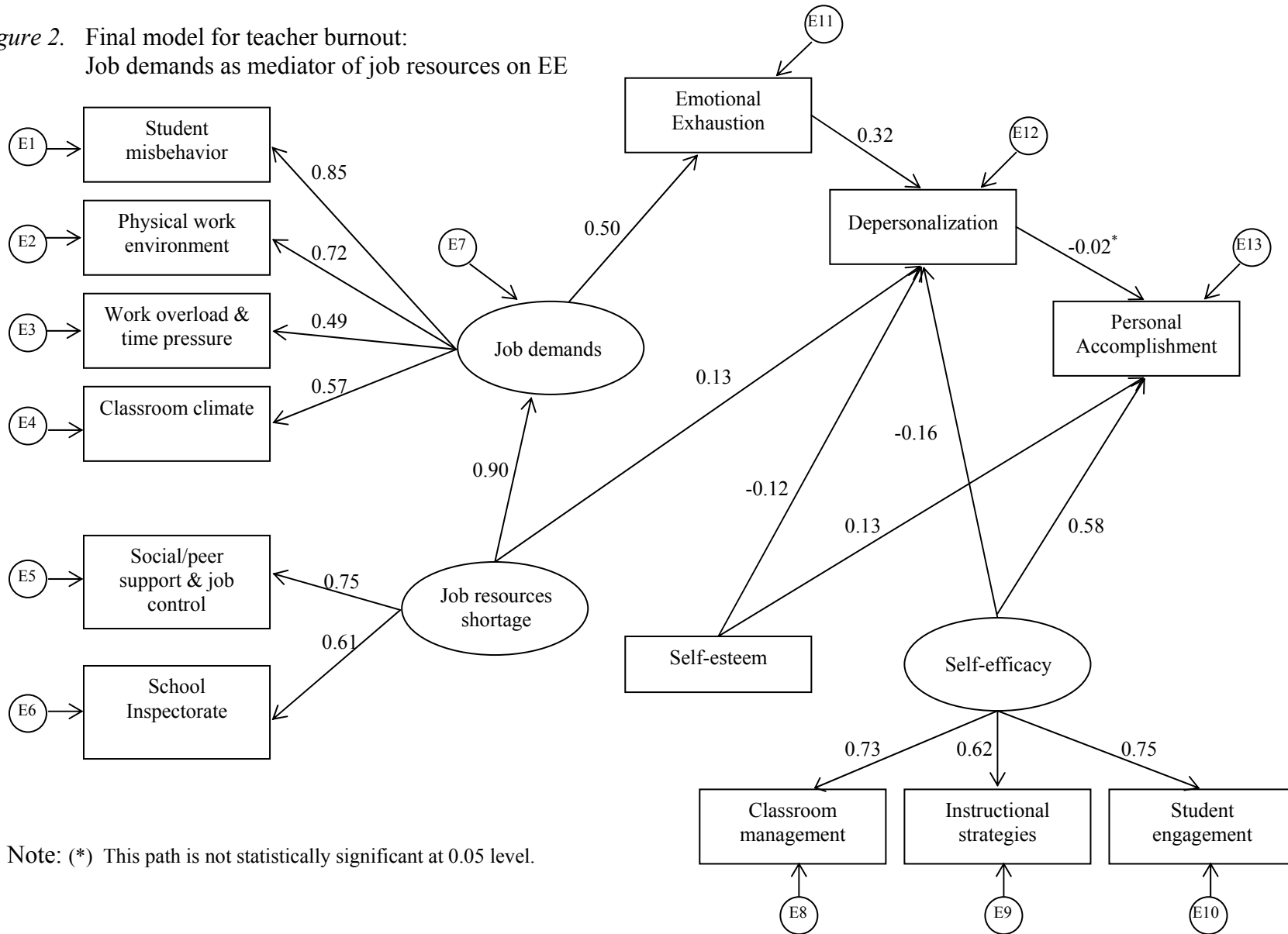
Table 5. Fit indices of the tested structural equation models.

## Discussion

Our proposed hybrid model tried to capture both organizational as well as personal factors in explaining the burnout syndrome. Especially, not only job demands and job resources are taken into account. Self-efficacy and self-esteem are also taken into account and the extent to which can be considered as the main possible stressors and coping styles are examined. The results provide support for the proposed model since it confirms the JD-R model as far as the job demands and job resources is concerned, while at the same time it shows that higher levels of self-esteem and self-efficacy seem to have a moderating effect on, the so called, core of burnout (emotional exhaustion and depersonalization) through depersonalization and a positive effect on the reduced sense of personal accomplishment.



Figure 2. Final model for teacher burnout:  
Job demands as mediator of job resources on EE



While job-demands and job-resources shortage trigger higher levels of emotional exhaustion and depersonalization respectively, the model reveals a strong effect of job resources shortage on job demands. This effect is interpreted by the notion that when the external environment is in shortage of resources, employees cannot compensate for the potentially negative effect of job demands. This in turn, stimulates higher feelings of emotional exhaustion. Moreover, as lack of job resources draw mainly on the affective domain of the teacher's personality, (e.g. feelings of disparagement) so is the implication of it, which as the model suggests, is callous feelings or depersonalization. The analogy of this on the JD-R model is the effect of job resources on disengagement. Disengagement though, refers primarily on attitudes related to work tasks, or devaluation and mechanical execution of the work (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). This constitutes one more reason that argues on the preference of using the MBI scale and not the OLBI alternative, in human services, as is the teaching profession.

The model reaffirms the causal order of the first two dimensions of burnout. That is, high levels of emotional exhaustion might lead to high levels of depersonalisation. As of the third dimension, that of personal accomplishment, it seems to be developed rather independently of the two other burnout components. This is justified not only by the non-significant path leading from depersonalisation to personal accomplishment, but by the very small loading of this path as well. Personal accomplishment seems to be related only with coping styles, (e.g. self-esteem and self-efficacy). This advocates for the idea of regarding personal accomplishment as an associated coping strategy rather than an essential part of the burnout syndrome. Viewing this on the opposite side, emotional exhaustion together with depersonalisation indeed constitutes the so-called core of burnout.

As the model suggests, any efforts towards the suppression of teacher's burnout should have two routes. Following the first route, actions should be taken at the direction of reducing job demands, (e.g. impose effective rules and actions to monitor student misbehavior, enhance the physical working conditions, establish coherent classrooms, reduce work overload and time pressure). The other way consists of activities, mainly at the individual level, aiming at the increase of job resources. More specifically, the school's inspectorate role should be redesigned in such a manner as to be supportive and give the necessary feedback, teachers should let to participate in the decision making processes, policy actions must be followed to enhance the status of teaching profession, etc. Therefore, reducing job demands and enhancing job resources, seems to be one promising approach in tackling the issue of burnout and may ultimately increase not only the well-being of teachers but also their effectiveness.

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