

Title: Personality and contextual variables in teacher burnout

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Summary

Although several papers have shown the importance of personality structure in the disposition to burnout, its role remains controversial, especially in relation to contextual variables of an organizational and environmental type. In this sense, we have first considered describing and then predicting the burnout levels of 99 teachers in the province of Seville (Spain). In addition to a structured, self-applied interview, we have used the Spanish adaptation of the reduced version of NEO-PI-R (NEO-FFI) (Costa and McCrae, 1999) and the Spanish teachers' version of the Maslach Burnout Inventory (MBI) (Ferrando and Pérez, 1996). We have used Homogeneity Analysis and Multiple Linear Regression (SPSS 11). The results allow us to appreciate the important role of personality structure in combination with some of the selected contextual variables, both in the description and prediction of teacher burnout. Most results confirm what has been achieved in similar research, and they especially emphasize the role of agreeableness as a protective factor (high scores) and, at the same time, as a vulnerability factor (low scores). These results are discussed from the perspective of interaction between disposition and contextual variables.

Keywords

Teacher burnout; personality; Big Five Models; Maslach Burnout Inventory, Homogeneity Analysis.

Introduction

Since the pioneer papers about burnout (Maslach and Jackson, 1981; Freudenberger, 1974) up to now, research into this subject has gotten stronger. Many studies have shown the importance of this syndrome concerning productivity and working efficacy, working absenteeism, illness casualties, and psychopathology, in addition to an important deterioration produced in social and family relationships (Dick and Wagner, 2001).

In the educational area, studies of occupational stress and burnout have found data that stir concern and justify the need to continue research (Kyriacou, 2001; Borg, Riding and Falzon, 1991; Capel, 1991). Indicating this is the high percentage of teachers (between 30% and 75%) who are aware of a moderate to high degree of stress in their work (Borg et al., 1991; Capel, 1991). Stress leads teachers to express in a significant way the typical characteristics of this disturbance (Maslach and Jackson, 1981; 1986): problems in personal accomplishment, emotional exhaustion and depersonalization.

The appearance of burnout has been both related to contextual and individual variables. Most of the explanatory models introduce both groups of variables within a net of multiple relationships (Peiró, 1993; Schaufeli, Maslach and Mareck, 1993; Shirom, 1993). Burnout could be explained as the transactional outcome of triggering contextual variables and the facilitating or inhibiting effect on personality variables (Shirom, 1993). However, personality has been less studied and even ignored for some time.

Among contextual variables, the most considered have been those which deal with working or organizational characteristics, such as role stressors, working conditions, students' behaviour problems, the need for professional recognition or prestige, level of specialization, teacher-student ratio, lack of resources, relationship with colleagues, social support, type of centre, etc. (Dick and Wagner, 2001; Abel and Sewell, 1999; Griffith, Steptoe and Cropley, 1999; Boyle, Borg, Falzon and Baglioni, 1995; Borg et al., 1991). Among individual variables, some demographic variables have been studied, such as age, sex or marital status (Billingsley and Cross, 1992), personality structure (Burisch, 2002; Zellars,

Perrewé and Hochwarter, 2000; Mills and Huebner, 1998; Fontana and Abouserie, 1993), coping strategies (McElfatrick, Carson, Annett, Cooper, Holloway and Kuipers, 2000; Griffith et al., 1999) or perceived self-efficacy (Dick and Wagner, 2001).

The relevance and significance of each of these groups of variables do not always point in the same direction, and in the majority of papers the study of contextual variables takes priority over that of individual variables. While the role of demographic variables turned out to be contradictory, the same did not happen in the role of contextual variables, where the majority of the results support the appearance of working stress and burnout (Griffith et al., 1999; Mills and Huebner, 1998).

As regards to personality, there have been fewer papers. For example, Fontana and Abouserie (1993), using Eysenck model (Eysenck and Eysenck, 1985), have found associations between burnout and high scores in neuroticism, introversion and psychoticism, respectively. Using Big Five Models (Costa and McCrae, 1999), Mills and Huebner (1998) have shown that neuroticism and introversion correlate with the three factors of burnout. Moreover, emotional exhaustion was associated with the dimensions of conscientiousness and agreeableness; depersonalization was associated with agreeableness; and personal accomplishment with conscientiousness. Extraversion explained 10% of emotional exhaustion and 24% of personal accomplishment. On the other hand, agreeableness predicted 12% of depersonalization. With a sample population of nursing workers, Zellars et al. (2000) found that neuroticism predicted emotional exhaustion; extraversion and agreeableness predicted depersonalization; openness and extraversion predicted personal accomplishment.

Burisch (2002) carried out a three-year longitudinal study on the predictive importance of numerous contextual and disposition variables in burnout. He found that neuroticism became relevant in emotional exhaustion; whereas extraversion in personal accomplishment; and openness and neuroticism in depersonalization. Among contextual variables, being overburdened and supervised became the most outstanding variables.

Personal accomplishment and depersonalization were better predicted by disposition variables whereas contextual variables better predicted emotional exhaustion. These results are consistent with the information above.

Gil-Monte and Peiró (1998) suggest an explanation to the fact that these basic personality dimensions are associated with all facets of burnout: it is made up of two dimensions, one being cognitive-aptitudinal, personal accomplishment, another emotional, comprised of emotional exhaustion and depersonalization. The lack of personal accomplishment will lead to experiencing high levels of emotional exhaustion, that at the same time will result in depersonalization.

As to the predictive importance of each of the variables, some authors have found that contextual variables are more appropriate predictors than demographic ones (Billingsley and Cross, 1992). Other authors consider that contextual variables have more predictive value than those of personality (Burisch, 2002; Zellars et al., 2000). However, other papers on personality (Griffith et al., 1999; Mills and Huebner, 1998; Fontana and Abouserie, 1993) have shown that personality variables have contributed to explaining a higher percentage of variance than contextual aspects.

In this paper we have considered two goals. Firstly, we aim at describing the association between teacher burnout level, basic personality structure and some selected specific contextual variables. Next, we have attempted to predict the teacher burnout level starting from the combination between basic personality structure and the above-mentioned contextual variables. These objectives are no different from other studies that have included personal and contextual variables. Our wish is to contribute towards establishing the need to consider both types of variables and to clarify the roles different factors play in teaching burnout, taking into account that previous studies have obtained discrepancies in the results.

As regards the first goal, we have adopted the general hypothesis that both personality variables and contextual ones would be associated with burnout. Thus, we expected to find that high scores in neuroticism and introversion would be related to the three

facets of burnout; on the other hand, low scores in agreeableness would be specifically related to depersonalization, and high scores in conscientiousness would be specifically related to personal accomplishment. Moreover, as to the set of selected contextual variables, we expected to find a burnout profile characterized by working at urban and public places¹, holding positions of responsibility, having fewer possibilities of promotion, being aware of little social prestige from the profession, attributing little value to relationships with students and being a professional who holds the same position at the same centre for a long time.

As to the second goal, our hypotheses were that the prediction regarding all three facets of burnout would be meaningful, that this prediction would include combinations of personality and contextual variables, and that these variables would have an influence on the orientation that was stated in the above mentioned hypothesis.

Method

Participants

The sample was composed of 99 teachers –42 from special education and 57 from elementary education- who worked at public and private educational centres in the province of Sevilla (Spain). We combined both groups of teachers because their concepts were not statistically different in any of the facets of burnout. The only statistical difference was that special education teachers had fewer students (12 ± 5) than elementary school teachers (24 ± 6) (ANOVA, $p < 0.01$). 74% were women, with ages between 24 and 58 years old, with a mean age of 42.5 years old (± 8.5). 61% had taken an intermediate level degree, 36% had taken an upper level degree and 3% had qualified as Ph.Ds.

The mean length of their professional teaching career was 18 years (± 8.7) with time spans between 1 and 34 years. The mean time of permanency at an educational centre was 11 years (± 8.2), with time spans between 1 and 24 years. The length of their workweek ranged between 4 and 35 hours per week, with a mean of 27 hours per week (± 25).

¹ Though we didn't find any reference in the literature about public/private centres and burnout, we could get 21

Measures

We used two standardized inventories and one structured interview.

The Personality Inventory NEO-FFI is the reduced version of the NEO-PI-R, one of the most frequently used instruments in the evaluation of Big Five Factors, these being basic elements of personality structure. We have used the Spanish adaptation by TEA Editorial applied to 2,000 people, which has displayed accurate indexes of reliability and validity (Costa and McCrae, 1999): high Cronbach's Alpha coefficient between 0.82 and 0.90, and five factor structure identical to the original inventory. It consists of 60 items that score according to a Likert-type scale of five points. In brief, the five scores offered by the inventory are neuroticism (emotional instability level), extraversion (sociability and energy level), openness (intellectual curiosity and aesthetic sensitivity level), agreeableness (level of interpersonal trends towards coming close to or rejecting others) and conscientiousness (level of self-control and self-determination).

The Maslach Burnout Inventory (MBI) is the most frequently used instrument for assessing burnout (Maslach and Jackson, 1986). We have chosen a Spanish adaptation specifically designed for teachers (Ferrando and Pérez, 1996). It was applied to a sample of 1,474 elementary and high school teachers in Barcelona. It presented Cronbach's Alpha reliability coefficients from 0.61 to 0.88, a factorial structure congruent with the original version, acceptable concurrent validity with regards to the Teacher Stress Inventory, and acceptable predictive validity with regards to the GHQ-28. It is made up of 22 items that are scored according to the Likert-type scale of 7 points. In the same way as in the original inventory, three scores are obtained: Emotional Exhaustion (feelings of fatigue produced by working activity), Depersonalization (impersonal type replies and negative attitudes toward users), and Personal Accomplishment (feelings of satisfaction, success and competence in everyday working).

teachers from private centres to explore the influence of this variable.

In order to evaluate demographic and contextual variables, which had been previously selected after consulting the appropriate literature, we had to develop a self-applied structured interview. It included the following items: seniority at the centre, seniority in holding one position as well as in teaching, different positions held (yes/ no); length of working day; number of students; awareness of professional prestige (minimum/ limited/ acceptable/ good/ maximum); possibilities of professional promotion (yes/ no); relationship with the Administration (very unsatisfactory/ unsatisfactory/ indifferent/ satisfactory/ very satisfactory), location of the centre (rural/ urban), type of centre (private/ public), and value assigned to relationship with students (yes/ no).

Procedure

To recruit the sample we required the help of students from a Teacher's Training Course and Psycho-Pedagogy who were carrying out their practices in high schools and institutes. They were in charge of delivering and collecting the sealed test batteries, which were answered in an anonymous way by teachers.

Subsequently, the data were entered into and processed with the SPSS 11 program (Pardo and Ruiz, 2002). As statistical analyses were applied to both quantitative and qualitative variables, it was necessary to codify again the NEO-FFI and the MBI scoring. In both cases re-codification was carried out using the scales available in adaptations. Thus, low scores (up to percentile 33), medium scores (from percentiles 33 up to 66) and high scores (percentile 66 and higher) were achieved from the various factors of both instruments.

In addition to basic descriptive analyses such as frequency, mean and standard deviation, the fundamental statistics in the current study were multivariate: Homogeneity Analysis and Multiple Linear Regression Analysis.

We used Homogeneity Analysis to describe the relationships between personality structures, the contextual variables and the level of burnout. In this analysis, objects belonging to the same category are represented close to each other, whereas objects from

different categories are represented far away from one another. Every object is situated as close as possible to the category scores for the categories that such an object belongs to. Homogeneity Analysis may be understood as a Multiple Correspondence Analysis or as a Principal-Components Analysis for nominal data.

On the other hand, the Multiple Linear Regression Analysis operates with quantitative variables, though it admits nominal variables with 0 and 1 values. This being a capacity we have taken advantage so as to include contextual variables. We used Multiple Linear Regression Analysis with a Stepwise Method to predict scores in burnout in terms of personality structure scores and scores in the contextual variables.

Results

Though it was not a goal of our study, we verified that none of the demographic variables (age, sex, marital status, academic level, teacher specialty, etc.) were associated with burnout in previous bivariate analyses. As some of the contextual variables were not associated either, they were not used in multivariate analyses. They were: seniority at the centre, seniority in holding one position, seniority in teaching and the various positions held.

Though we first meant to describe all the variables together through the Homogeneity Analysis, the interpretability of results was a delicate issue owing to the number of variables taken into account. This was the reason why we chose to divide this analysis into three sections. In the first one, we considered the variables related to personality structure. In the second and the third sections, we took into account the contextual variables.

Description of the relationship between personality and burnout level

Figure 1 shows the graphic representation of the Homogeneity Analysis using the scores in personality structure and in burnout facets. The analysis presented a 51% level of adjustment. We have highlighted five groupings that were isolated and named them from

Group A up to Group E, so as to make interpretation easier. This process of highlighting and naming groupings has been repeated in the following analyses.

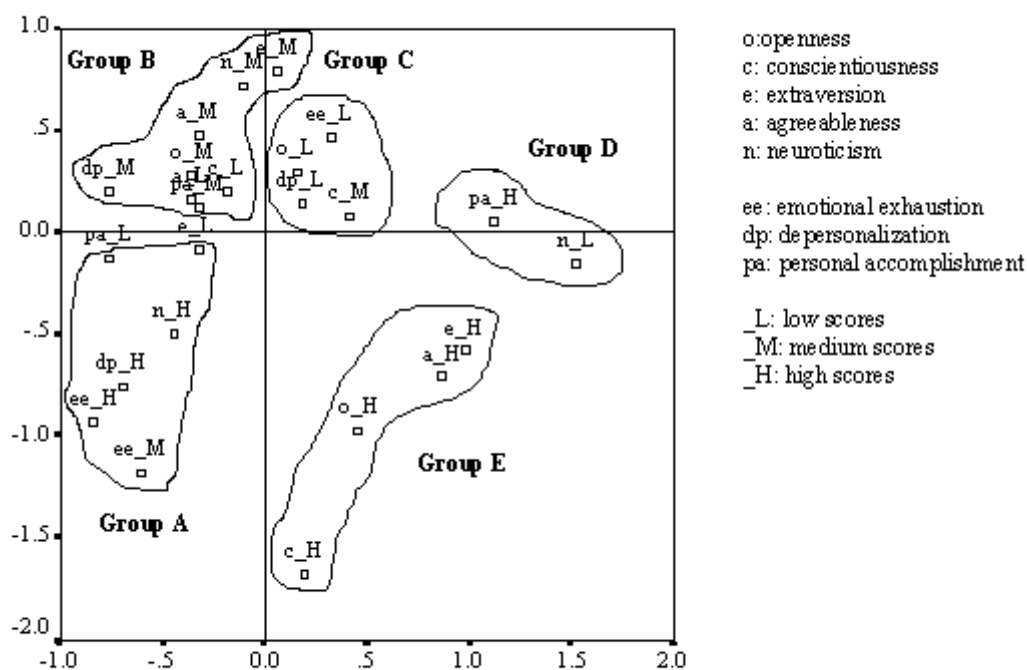


Figure 1: Joint description of personality and burnout level (Homogeneity Analysis)

Group A represents teachers with high scores in emotional exhaustion, depersonalization and low scores in personal accomplishment in association with high scores in neuroticism, and to a lesser degree with low scores in extraversion.

Group B represents teachers with intermediate scores in the five factors of personality structure (except in that of conscientiousness), which are associated with intermediate scores in personal accomplishment and depersonalization.

Group C stands for teachers with low scores in emotional exhaustion and depersonalization in association with intermediate scores in conscientiousness and low scores in openness.

Group D stands for teachers with the highest scores in personal accomplishment and who are at the same time those who presented the lowest scores in neuroticism.

Group E represents teachers with high scores in personal features (with the exception of neuroticism), who do not appear to relate to any measure of burnout.

Description of the relationship between contextual variables and burnout level

Figure 2 shows the graphic representation of the Homogeneity Analysis using scores at the burnout level, the centre location and the type of centre studied. The analysis revealed a 72% level of adjustment, thus emphasizing three groupings.

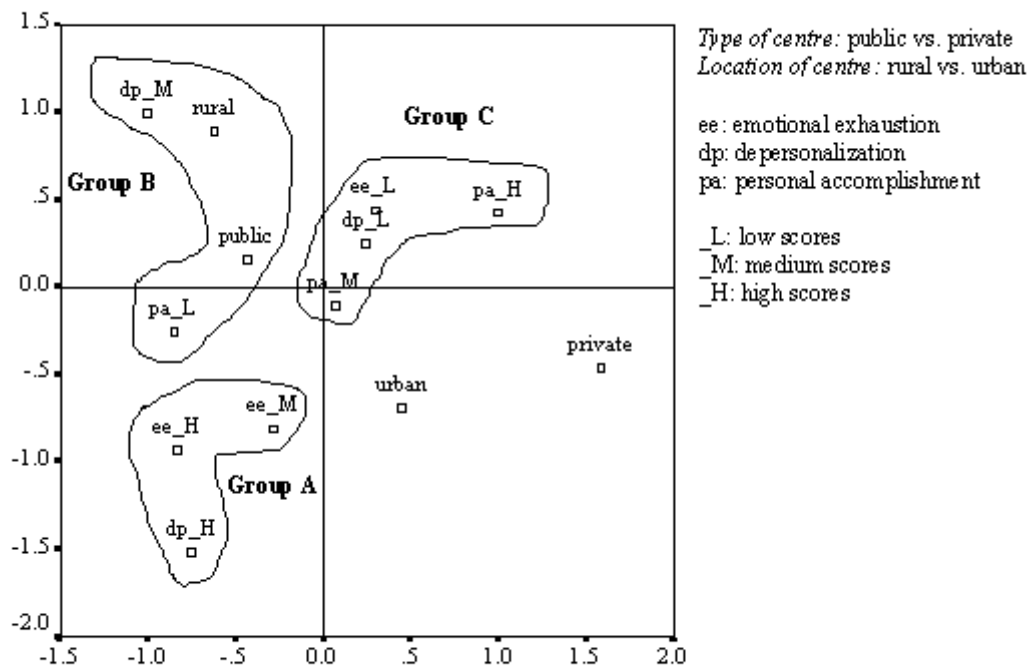


Figure 2: Joint description of location and type of centre and burnout level (Homogeneity Analysis)

Group A stands for teachers with high scores in burnout in all its facets, without being related to any of the contextual variables considered in this analysis.

Group B represents the relationship between giving classes at rural public centres, with low scores in personal accomplishment, and medium scores in depersonalization.

Group C stands for teachers with a higher degree of personal accomplishment and less burnout, without being related to any of the contextual variables considered in this analysis.

Figure 3 shows the graphic representation of the Homogeneity Analysis using the scores at the burnout level, perceived professional prestige, relationship with the Administration, the value assigned to the relationship with students and the possibility of professional promotion. The analysis revealed a 50% level of adjustment, thus four groupings become outstanding.

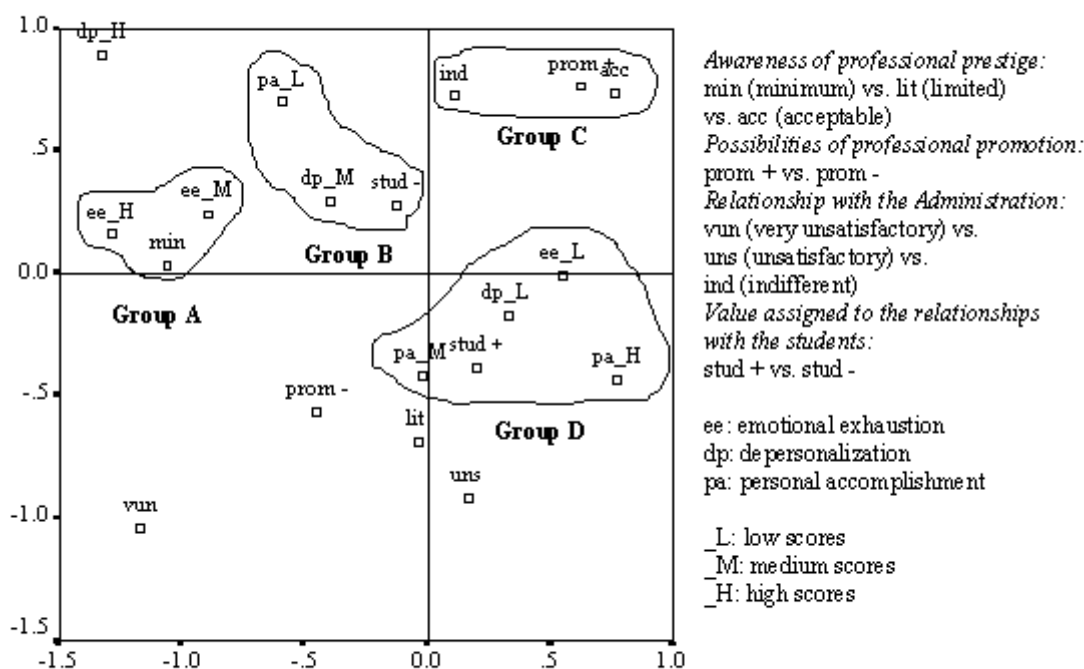


Figure 3: Joint description of the burnout level and awareness of professional prestige, possibilities of professional promotion, relationship with the Administration and value assigned to the relationships with the students (Homogeneity Analysis)

Group A represents teachers with high and medium scores in emotional exhaustion, in association with awareness of negligible social prestige derived from their profession.

Group B stands for teachers with low scores in personal accomplishment and medium scores in depersonalization, related to little value assigned to relationship with students.

Group C represents teachers who perceive the possibility of personal promotion, who hold an indifferent relationship with the Administration and who think that their profession bears acceptable prestige, with no association at all to burnout measurements.

Group D represents the most accomplished and less burnt-out teachers, who are characterised by assigning value to their relationship with students.

Prediction of burnout level in terms of personality structure and contextual variables

Table 1 puts forward a summary of the results obtained through the Multiple Regression Analysis using as criteria the three facets of burnout and as predictors, the five elements of personality structure, and all significant contextual variables in the bivariate analyses. As already stated, the contextual variables measured in the nominal scale became dichotomous variables.

Predictors	R	Adjusted R ²	F	p	B
<i>(Criterion: emotional exhaustion)</i>					
1 Relationship with the Administration	0.30	0.28	14.27	0.001	-0.35
2 Neuroticism	0.44	0.41	12.69	0.001	0.72
3 Perceived promotion possibilities	0.58	0.54	14.34	0.001	0.35
4 Awareness of professional prestige	0.64	0.59	13.38	0.001	0.34
5 Seniority in holding one position	0.69	0.64	13.09	0.001	0.37
6 Number of students	0.77	0.72	15.41	0.001	-0.29
<i>(Criterion: depersonalization)</i>					
1 Agreeableness	0.14	0.11	5.15	0.03	-0.37
<i>(Criterion: personal accomplishment)</i>					
1 Agreeableness	0.36	0.34	18.82	0.001	0.58
2 Type of centre	0.51	0.47	16.45	0.001	-0.33

Predictors	R	Adjusted R ²	F	p	B
3 Value assigned to the relationships with the students	0.57	0.53	13.58	0.001	-0.25

Table 1: Prediction of burnout by personality and contextual variables (Multiple Linear Regression Analysis)

As may be seen in Table 1, the level of emotional exhaustion constituted 72% of the total variance, using a combination of six variables. Having a deficient relationship with the Administration, bearing a high level of neuroticism, lacking possibilities of promotion, being aware of little professional prestige, holding the same position for a long time and having few students were the best predictors of high scores in emotional exhaustion.

The level of depersonalization constituted 11% of the total variance, including a unique variable: agreeableness. In this sense, low scoring in agreeableness was the best predictor of high scores in depersonalization.

The level of personal accomplishment constituted 53% of the total variance, using a combination of three variables. Having a high score in agreeableness, giving classes in a private centre and assigning value to the relationship with students were the best predictors of high scores in personal accomplishment.

Discussion

The two goals put forward by this study were, in the first place, to verify the association of both personality variables and contextual variables that are specific to the educational area in teacher burnout, and in the second place, to highlight the most predictive combinations for both types of variables.

With regard to the first goal, we may confirm our hypothesis stating that both basic personality structure and specific contextual variables were related to burnout, thus agreeing with the outcome in other studies (Schaufeli et al., 1993; Shirom, 1993; Peiró, 1993).

As to personality structure, we may confirm the hypothesis stating that the highest scores in burnout (greater emotional exhaustion, greater depersonalization and less personal

accomplishment) were obtained by teachers with a high degree of neuroticism and introversion. These results are similar to those obtained in other studies (Zellars et al., 2000; Fontana and Abouserie, 1993; Mills and Huebner, 1998). Neurotic people express more negative emotions, emotional instability and stress reaction and, therefore, they become more vulnerable to both burnout and the majority of psychopathological disturbances (Watson, Clark and Harkness, 1994). Introversion means passivity, lack of interest in social exchanges and less disposition towards positive emotionality; all of these being characteristics that foster emotional exhaustion and depersonalization while they diminish personal accomplishment. The opposite trends, which characterise extraverts, contribute to good performance in teaching activities, these being essentially interpersonal (Griffith et al., 1999).

We have also been able to confirm the relationship between low scores in agreeableness and medium in depersonalization; and between medium scores both in conscientiousness and in personal accomplishment, respectively. Though associations were produced in the predicted orientation, we expected even higher scores in these elements of personality structure. Low scores in agreeableness are representative of a distrustful attitude, easily transferable into dehumanized handling that is implied by depersonalization. This outcome is similar to that obtained by Zellars et al. (2000) and Mills and Huebner (1998). Conscientiousness is a dimension related to involvement, persistence, fulfilment of rules and efficacy. All these aspects are very relevant in holding a position, and pave the way for goal attainment (greater personal accomplishment) and stressors' control (less emotional exhaustion) (Zellars et al., 2000; Mills and Huebner, 1998). Nevertheless, in our study, medium scores in conscientiousness are those associated with higher scores in personal accomplishment; perhaps, owing to the fact that excessive conscientiousness presupposes a higher level of expectancy and involvement than those allowed for by these teachers' professional reality. The same reason would help to explain open behaviour, which has not been hypothesized by us, according to which, those teachers who are less receptive to new

experiences, though being less personally accomplished, do not exhibit either emotional exhaustion or depersonalization, and they adequately accept their work conditions (Zellars et al., 2000).

As regards the association between contextual variables and burnout, not every contextual variable came to be significant. Generally speaking, we could state that the most burnt-out teachers in our study were characterised by being aware of little prestige in their profession and by not assigning value to a personal relationship with their students. Moderately burnt-out teachers were characterized by giving classes in rural public centres. On the other hand, less burnt-out teachers gave importance to their personal relationship with students. All these results coincide with those achieved by other studies. The relevance and value attributed to the relationship with students probably improves the atmosphere in class, helps to diminish the amount of conflict, and increases the individual's self-esteem as teacher; all these elements being associated with burnout according to Boyle et al (1995). There are also data concerning the greater prevalence of burnout at urban centres (Abel and Sewell, 1999). On the contrary, moderately burnt-out teachers in our study gave classes in rural centres. It could be owed to the fact that rural centres are public in our province. Therefore, burnout could be associated with the public nature of rural centres (personal accomplishment was lesser in public centres). We couldn't find any reference about the influence of the kind of centre in burnout. We think that our teachers in public centres could be more burnt-out because of their relation with Public Administration –the best predictor of emotional exhaustion-. However, this finding should be verified in future studies.

As regards the second objective, we should recognize that the conclusions are limited due to the relatively scarce number of cases for Multiple Linear Regression. Taking that into account, we may confirm the hypothesis that a combination of personal and contextual variables significantly predicted scores in emotional exhaustion and in personal accomplishment, but it could not predict to the same extent those of depersonalization. In the latter case, prediction was less significant and, moreover, both types of variables did not

interact. Various studies confirm the predictive importance of the combination of both personal and contextual variables in the appearance of burnout (Burisch, 2002; Schaufeli et al., 1993; Peiró, 1993). The best prediction of high scores in emotional exhaustion was produced by the combination of a deficient relationship with the Administration, high scores in neuroticism, lacking possibilities of promotion, being aware of little professional prestige, holding the same position for a long time and having few students. This combination went beyond the predictive capacity of other studies, such as those of Burisch (2002) and Zellars et al. (2000). All the included variables have been mentioned as dispositional factors to burnout in different jobs (Friedman, 2002; Griffith et al. 1999). However, the influence of the number of students in our study has turned out to be contrary to what was hypothesized, because the fewer the students, the higher the level of emotional exhaustion predicted. This finding was not directly related to teacher specialty, or in interaction with other variables like type of centre, awareness of professional prestige, length of working day, etc. Probably, this is due to the fact that the more difficult students are grouped in smaller classes; this possibility should be verified in future studies.

The prediction of high scores in depersonalization was based on low scores in teachers' personal agreeableness, and this was a result very similar to that obtained by Zellars et al. (2000) and Mills and Huebner (1998), which we have already justified in the discussion of the previous goal. As the above quoted studies have already stated, scores in this facet may be better predicted through dispositional rather than contextual variables. Probably this may be accounted for by the fact that lack of agreeableness, rather than actual situations, promotes generalised attitudes of distrustful and even hostile interpersonal contact.

The best prediction regarding high scores in personal accomplishment supplied us with a profile of an agreeable professional who works at a private centre and assigns importance to the relationship with students. Again, the predictive power of this combination exceeded that attained by Zellars et al. (2000) and Mills and Huebner (1998), and all the

variables acted in agreement with the hypothesized orientation, justified in the discussion on the previous objective. However, in the consulted studies, the other elements of personality structure normally appear in the prediction, namely extraversion and openness. We think that the interpersonal content in the former and the level of expectancy, creative and intellectual concerns and the search for feelings in the latter may account for this result.

We would like to add a further reflection that might serve as a conclusion. All the elements of personality structure have been useful in the description of teacher burnout. Not only has one of them always been present in all predictions of burnout, but it has also been the first or second in importance as well. Moreover, in two of the three facets of burnout, personality structure has exhibited more predictive power than contextual variables, such as occurred in Burisch's study (2002). We consider that these results support the need to take into account the personality structure to understand and approach teacher burnout.

From our viewpoint, research into teacher burnout should go deep into those variables of a contextual nature, such as the role of educational specialty or other variables and how these variables interact with personal vulnerability factors. Ideally, studies should have a longitudinal design, include wider samples; and self-report measures should be complemented by data of a different nature, such as those coming from life or behavioural data.

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