

## **Stressors rendering school coexistence difficult, personal variables and burnout: towards an explanatory model**

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The main objective of this study is analyze the inter-relationships between the main stressors posing difficulties for school coexistence (students' disruptive behavior, the teachers' perception of a lack of social support and conflict), different personal variables (Type A behavior pattern, optimism, hardiness) and burnout. Furthermore, personal variables will be tested to see whether they mediate the influence of the different sources of stress analyzed in burnout. From the results obtained, using a sample of 1537 secondary education teachers, the co-variation between the different sets of variables analyzed is not only confirmed but also significant support is given for the mediation hypothesis (stressors would have an indirect influence on burnout through personal variables). Another interesting finding is the need to include in the resulting model a direct effect between the students' disruptive behavior and the teacher's burnout experience. In short, the resulting path confirms the personal variables analyzed as a necessary filter in the analysis of the stressors-burnout link, while at the same time integrating the direct effect that students' disruptive behavior has on teacher's occupational malaise.

*Key words:* School coexistence, stress, personality variables, burnout, causal models.

*Estresores que dificultan la convivencia escolar, variables personales y burnout: hacia un modelo explicativo.* El principal objetivo de este trabajo es analizar las inter-relaciones entre los principales estresores que dificultan la convivencia escolar (conductas problemáticas de los alumnos, percepción de los docentes de ausencia de apoyo social y conflicto), distintas variables personales (patrón de conducta Tipo A, optimismo, personalidad resistente) y el burnout; además, se comprobará si las variables personales median la influencia de las distintas fuentes de estrés analizadas en el burnout. A partir de los resultados obtenidos, utilizando una muestra de 1.537 profesores de enseñanza secundaria, no sólo se confirma la covariación entre los distintos conjuntos de variables analizados, sino que también se constata un importante apoyo para la hipótesis mediacional (los estresores influirían indirectamente en el burnout a través de las variables personales); otro hallazgo de interés es la necesidad de contemplar en el modelo resultante un efecto directo entre los comportamientos problemáticos de los alumnos y la experiencia de burnout del profesor. En definitiva, el *path* resultante confirma a las variables personales analizadas como un filtro necesario en el análisis del vínculo estresores-burnout, integrando asimismo el efecto directo que el comportamiento problemático de los alumnos tiene en el malestar laboral del profesor.

*Palabras clave:* Convivencia escolar, estrés, variables de personalidad, burnout, modelos causales.

Burnout has become over the last few decades one of the major challenges for those in the scientific community working on occupational health. The growing incidence and prevalence of the phenomenon, the high costs it entails (whether in the personal, the family or the health purview) and the not least pressing need to design prevention and intervention strategies that ensure their effectiveness are just some of the arguments that explain why this phenomenon has become the focus of a myriad of contemporary studies.

Indeed, and from the sound retrospective approach that introduces us to the *status quo* of the phenomenon under study, it should be noted that this field of study is living a period of intense vitality and expansion resulting from the consolidation of a variety of findings. We will begin by commenting some of these breakthroughs and then we will move on to echo some of the main demands in the field.

A first consideration has to do with the empirical evidencing that those in the teaching profession, notably secondary education teachers, are particularly vulnerable to burnout (e.g., Maslach & Leiter, 1999; Otero-López *et al.*, 2006).

Also among the most solid and documented findings in the literature is the unquestionable relation both at an associative and a predictive level, between occupational stressors and the phenomenon under study (Maslach, Schaufeli & Leiter, 2001). In this regard, a wide scope of sources of stress (students' diminished motivation, increased behavioral problems, school conflicts, cultural diversity among students, changes to the learner-teacher interaction, displacement of parental duties towards the educational system, overwork, the raising of the school leaving age, legal reforms...) seem to vie for an explanatory niche in accounting for occupational malaise in secondary education teachers. Empirical results are highly consistent as far as which stressors – such as students disruptive behavior (notably aggressive behavior and vandalism), the lack of consensus amongst teacher on disciplinary issues, the lack of support among the different parties involved in the educational task and the student-parent-teacher troubled relationship-take on a very prominent role when predicting teacher burnout (Kyriacou, 2003; Otero-López *et al.*, 2008b). It seems, therefore, that it is precisely those sources of stress that have ruined the desired school coexistence (students' disruptive behavior, teachers perception of conflict and of a lack of social support) and which directly involve the protagonists of the educational scene (students, parents, teachers), that are the main risk factors in secondary education teacher burnout (Castelló, Gotzens, Badía & Genovard, 2010; Otero-López *et al.*, 2009; Santiago *et al.*, 2008).

The marked sensitivity and subsequent empirical evidencing of the key role played by “the personal” (or, more precisely, by personality variables) in explaining burnout is yet another strength that characterizes previous research. Thus, many studies have been designed whose essential aim was to clarify the role played by a specific variable (self-efficacy, Type A behavior pattern, locus of control, self-esteem, the Big

Five, coping strategies, etc.) in predicting teacher burnout (e.g., Kokkinos, 2007). In other words, the characteristics of the teacher's personal background occupy a prominent place in the showcase of variables associated to secondary education teacher burnout.

In spite of the above and despite the undeniable progress in this field of study, one of the main demands in the field is still the need noted by a variety of writers (e.g., Maslach & Leiter, 1999; Otero-López *et al.*, 2010) of integrating the variables that have a predictive potentiality for the phenomenon under study into explanatory models that explain what the trajectories and or "paths" are for the diversity of influences operating on burnout. To put it differently, once the pieces have been isolated, the next necessary step is to solve the puzzle by fixing the position of the pieces so that the direction of the effects may be known. The empirical evidencing of these issues by throwing light into the role of "exogenous" and "mediating" factors will be, to our mind, a welcome breakthrough in the state of the art.

On the basis of the latter considerations and taking into account the solidity of the connections between the variables mentioned, this study seeks to analyze the relationship between the different stressors (students' disruptive behavior, teachers perception of conflict and lack of social support), personal variables (Type A behavior pattern, optimism and hardiness) and burnout. Furthermore, it is also our aim to elucidate to what extent the personal variables analyzed mediate the impact of the different sources of stress in burnout.

Once our proposal has been put forward, it seems reasonable to argue some issues connected to it. Firstly, and essential to our aim, we need to tie our mediating variable model in with the previous literature, in other words, some questions need to be validly addressed: Why do personal variables play that role? Why these personal variables and not others? As far as the first question is concerned, it does not seem that it admits discussion from a contemporary standpoint that personality characteristics do filter and/or sift through exogenous influences (stressors, in this case) to give them a meaning (see for instance the thesis advocated by Lazarus, 2000) and, on the basis of this process, health will be impacted on a very specific way. Indeed, in the last decade, many scholars have advocated the notion of a mediating effect of personal variables in the stress-burnout connection (e.g., Chan, 2003; Kokkinos, 2007; Mäkikangas & Kinnunen, 2003; Moreno *et al.*, 2000). It is also true that in the most recent work structural equation models are being tested where a variety of personal variables such as self-efficacy (Llorens, García & Salanova, 2005), self-esteem and optimism (Mäkikangas & Kinnunen, 2003) are seen as mediating variables between the impact of stressors and burnout. It seems therefore both legitimate and plausible to put forward a study where personality is given the "mediator role" between the exogenous (stressors) and endogenous (burnout).

As to the selection of variables, several arguments may be adduced. The first one has to do with the need to strike a balance between integration (there are many variables that can be introduced) and a reasonably parsimonious model. The need, on the one hand, to combine constructs with a long tradition in the field (Type A behavior pattern) and, on the other, to resort to other ones from the new trend of “Positive Psychology” (optimism and hardiness) is also at the heart of our selection. The final criterion the selected variables must satisfy is that their mediator role between stress and burnout has been underscored by scholars from the field. In this regard, while, Riolli & Savicki (2003) confirm “optimism” as a moderating variable between occupational stressor and the three dimensions of burnout, Moreno, Arcenillas, Morante & Garrosa (2005) establish that “hardiness” acts as a modulator of the said connection. There are also those who (e.g., Sharpley, Dua, Reynolds & Acosta, 1995) point that Type A behavior pattern filters the impact of stressors on health.

Once we have identified the main findings, the new demands posed by this field of study and the boundaries of our proposal, there only remains for us to indicate the objectives (and hypotheses) that drive this study. At an initial stage, it is our intention to examine the connections between some stressors rendering coexistence at schools difficult (students behavior, conflict and lack of social support), personal variables (Type A behavior pattern, optimism and hardiness) and burnout in secondary education teachers. As to the hypotheses that, on the basis of previous literature, should be put forward, these would be: a) all the sources of stress are expected to positively and significantly associate with Type A behavior pattern and negatively with optimism and hardiness, and b) significant associations are expected between the different types of stressors, personal variables and burnout. Another central objective of this study is to submit to empirical confirmation a model of causal relations that encompasses the network of connections existing between the sources of stress that make school coexistence difficult, personal variables and burnout. Specifically, our model proposal, on the basis of previous literature, is supported by the hypothesis that the personal variables analyzed have a mediating role on the influence of stressors rendering school coexistence difficult in teacher burnout.

## METHOD

### *Participants*

This study is part of a wide spectrum study on occupation stress and burnout in compulsory secondary education teachers. A total of 1.537 compulsory secondary education (ESO) teachers were recruited. The sample is representative for the Autonomous Community of Galicia and was distributed on the basis of school typology (IES and CPI), habitat (urban, coastal rural and interior rural) and gender (for further details see Otero-López *et al.*, 2006). As to the characteristics of respondents, the

following are the most relevant: 1006 are female teachers (65.5%) and 531 male teachers (34.5%), the range of ages is between 26 and 65 (mean: 43.9 years), and 39.7% teach in the first cycle of ESO while 60.3% do so in the second cycle.

#### *Instruments*

*Maslach Burnout Inventory-Educators Survey* (MBI-ES), developed by Maslach & Jackson (1986), was used to evaluate the burnout syndrome. MBI-ES consists of 22 items dealing with the frequency (Likert-type scale ranging between 0 “never” and 6 “daily”) with which teachers experience specific feelings, thoughts or attitudes regarding their job and their students. Cronbach’s alpha coefficient was 0.85.

Type A behavior pattern has been measured using the *Bortner Rating Scale -BRS-* (Bortner, 1969). BRS consists of 14 bipolar items with continuous scores ranging from 1 to 11, which yield a total score for Type A. Reliability (Cronbach’s alpha) was 0.77.

The self-report used to evaluate hardiness was the *Personal Views Survey* (PVS) designed by the “Hardiness Institute” (1985). It consists of 50 items (answers range from 1 “totally disagree” to 3 “totally agree”). The Cronbach’s alpha coefficient for the scale was 0.88.

The reviewed version of *Life Orientation Test -LOT-R-* (Scheier, Carver & Bridges, 1994) was the instrument chosen to measure the optimism variable. The LOT-R consists of 10 items. The Likert-type response scale ranges between “totally disagree” (value 0) up to “totally agree” (value 3). Cronbach’s alpha coefficient was 0.78.

Teachers filled in the *Inventario de Estresores Laborales para Profesores de Secundaria -IELPS-* [Inventory of Occupational Stressors for Secondary Education Teachers] (for further details see: Otero-López *et al.*, 2006). It had a Likert-type response scale (ranging from 0 “it causes me no tension” up to 4 “it causes me a lot of tension”). The selection of the items for the current research was made, in keeping with the objectives of the study, on the principle that all stressors should fulfill two requirements: first, that teachers reported that they caused them “a lot of tension” and, second, that they represented (both on the basis of previous literature and from an interjudge agreement) the conceptual domains addressed by this study (students’ disruptive behavior, perceived social support, conflict). In other words, the objective was to include those sources of stress that, in keeping with previous research in the field, (e.g., Travers & Cooper, 1997), were valid indicators of “clusters” of stressors rendering school coexistence difficult. In short, the selected items (see table 1) potentially representative of the different conceptual domains (the “empirical groupings”) will be analyzed using factorial analysis in the following section.

## RESULTS

### *Stressors rendering school coexistence difficult and personal variables*

One of the questions tackled by this study was to examine to what extent the perception of the stress generated by the different circumstances that render coexistence difficult in secondary schools is associated to different personal variables. Firstly, and prior to the correlation analysis, a factorial analysis was conducted to identify the “empirical” dimensions underlying the different stressors analyzed.

Table 1 shows the results of factorial analysis (main components with Varimax Rotation) which indicate a three-factor solution that accounts for 64.4% of total variance. Indicators dealing with students’ disruptive behavior (aggression, vandalism, racist attitudes, classroom passivity, defying behavior) constitute the first factor that we will label as “students’ disruptive behavior” (40.19% of the variance explained). The aspects associated to the perception of a lack of support from potential providers (friends, family, the principal, extra-academic authorities) are considered separately and grouped into a second factor (“lack of social support”), accumulating 13.31% of the variance explained. Those items evaluating conflict perception, lack of consensus and negative relational aspects with other educational agents (parents and teachers, for instance) are bundled into a third factor (“conflict”), with a value of explained variance of 10.93%.

*Table 1.* Results of the factor analysis on classroom coexistence-related aspects (items, factors and factor loads). *Matrix of rotated components*

	Factor I	Factor II	Factor III
Increase in aggressions among students	.869		
Verbal abuse on the part of students	.858		
Vandalism within the school premises	.832		
Students taking a passive attitude in the classroom	.827		
Racist attitudes and/or behavior within the school	.621		
The fact that students are constantly putting you “to the test”	.500		
Lack of peer “social support”		.808	
Lack of family support regarding disciplinary issues		.807	
Lack of support from the management of the school		.789	
Not having anyone to resort to when a problem arises		.739	
Lack of support from my head of department regarding some “issues”		.649	
Relationship with the parents of my students			.822
“Conflicts” between my department and others in the allocation of resources			.785
Competitiveness among teachers in the school			.709
Having to meet the parents of disruptive students			.707
Lack of consensus among teachers in disciplinary issues			.451
<i>% of Variance Explained</i>	<i>40.19</i>	<i>13.31</i>	<i>10.93</i>

*Note:* saturations higher than .40 are shown

Indeed, and on the basis of the factor analysis results, teachers seem to agree on the cognitive structuring of the main themes that generate stress and make an adequate coexistence in the school difficult, which hinges on three issues: students’

behavioral problems, the perception of a lack of social support and the existence of conflicts within the school domain.

After empirically establishing the dimensions underlying the different indicators of occupational stress in secondary education teachers, we go on to introduce the correlations between stressors and the different personality variables (Type A behavior pattern, hardiness, optimism). As it can be gathered from the results shown in table 2, all the stressors, whether considered in isolation or grouped in dimensions, significantly correlate ( $p < .001$ ) with personal variables.

Table 2. Correlations between stressors rendering school coexistence difficult and personality variables

	Type A Behavior Pattern	Optimism	Hardiness
Increase in aggressions among students	.20***	-.20***	-.13***
Verbal abuse on the part of students	.24***	-.26***	-.15***
Vandalism within the school premises	.24***	-.24***	-.14***
Students having a passive attitude in the classroom	.28***	-.19***	-.17***
Racist behavior and/or attitudes within the school	.08**	-.11***	-.10***
The fact that students are constantly putting you "to the test"	.29***	-.26***	-.18***
Lack of peer "social support"	.26***	-.31***	-.11***
Lack of family support in some disciplinary issues	.20***	-.19***	-.10***
Lack of support from the school management	.17***	-.11***	-.12***
Not having anyone to resort to when a problem arises	.22***	-.19***	-.26***
Lack of support from my head of department regarding certain "issues"	.15***	-.10***	-.13***
The relationship with the parents of my pupils	.19***	-.25***	-.25***
"Conflicts" between my department and others in the allocation of resources	.12***	-.18***	-.11***
Competitiveness among the teachers within the school	.12***	-.14***	-.10***
Meeting the parents of disruptive students	.32***	-.32***	-.23***
Lack of consensus amongst teachers on disciplinary issues	.31***	-.26***	-.18***
<i>Students' disruptive behavior</i>	.27***	-.27***	-.23***
<i>Lack of social support</i>	.32***	-.24***	-.23***
<i>Conflict</i>	.26***	-.26***	-.19***

\*\*\* $p < .001$

It is likewise established, as expected, that while Type A behavior pattern positively co-varies with all the sources of stress, optimism and hardiness show negative associations. More specifically, those teachers scoring higher on Type A behavior pattern are also those perceiving greater stress ( $r$  coefficients higher than .20) from the behavior of their students (verbal abuse addressed to them, aggression among students, vandalisms, classroom passivity, defying behavior). Pessimism among teachers is markedly associated (coefficient  $r$  higher than .30) with the perception of elevated stress due to the "lack of social support on the part of peers" and "meeting the parents of disruptive students". Hardiness diminishes the teachers' perceived severity of the different stressors, particularly as regards "the relation with the parents of my students" and "not having anyone to resort to when a problem arises" ( $r$  coefficients -.25 and -.26, respectively). If we pay attention to the correlations between the three factors and the personal variables analyzed, we can establish that both the "lack of social support" and "students' disruptive behavior" show greater correlation coefficients with Type A behavior pattern (.32 and .27,  $p < .001$ ) and hardiness (-.23, for both behaviors), while the

dimensions of “students’ disruptive behavior” and “conflict” are those greatly associated with optimism ( $r = -.27$  and  $r = -.26$ ). In short, these findings seem to demonstrate that teachers scoring high on Type A are vulnerable to the impact of the stress generated by the behavior of their students, the lack of social support and the conflict associated to their teaching job, while those who are optimist and “have hardiness” seem to be more immune to these stressor.

*Stressors, personal variables and burnout*

After demonstrating the existence of co-variation between stressors and personal variables, whose mediating role in the burnout experience is addressed in this study, it seems also necessary to look into whether there is also a statistical association between both sets of variables and burnout (see table 3).

Table 3. Correlations between stress indicators rendering school coexistence difficult, personality variables and burnout

	Burnout
Increase in aggressions among students	.28***
Verbal abuse on the part of students	.37***
Vandalism within the school premises	.32***
Students taking a passive attitude in the classroom	.24***
Racist attitudes and/or behavior within the school	.11***
The fact that students are constantly “putting you to the test”	.13***
Lack of peer “social support”	.31***
Lack of family support on disciplinary issues	.13***
Lack of support from the school management	.15***
Not having anyone to resort to when a problem arises	.21***
Lack of support from my head of department regarding certain “issues”	.10***
Relationship with the parents of my students	.24***
“Conflicts” between my department and others in the allocation of resources	.18***
Competitiveness among teachers within the school	.19***
Meeting the parents of disruptive students	.36***
Lack of consensus among teachers on disciplinary issues	.35***
<i>Students’ disruptive behavior</i>	.40***
<i>Lack of social support</i>	.32***
<i>Conflict</i>	.35***
<i>Type A behavioral Pattern</i>	.48***
<i>Optimism</i>	-.46***
<i>Hardiness</i>	-.40***

\*\*\* $p < .001$

As table 3 shows, and as expected, both stressors and the different personal variables analyzed significantly co-vary ( $p < .001$ ) with burnout. As to stressors, it should be noted that when analyzed whether in isolation or grouped in dimensions, a positive associative pattern with the experience of occupational distress is confirmed. Particularly, vandalism and aggression (verbal abuse to teachers), lack of peer support and discipline-related issues (“having to meet the parents of disruptive students” and the “lack of consensus amongst teachers in disciplinary issues”) are the stressors with greater statistical association ( $r$  coefficients higher than a .30) with burnout. If we focus on the dimensions grouping stressors, the co-variation range with burnout is between

$r = .32$  for the lack of social support and  $r = .40$  for student disruptive behavior. As to the personal domain, important associations are also found between the variables analyzed and burnout: Type A behavior pattern shows the greater coefficient ( $r = .48$ ), followed by optimism ( $r = -.46$ ) and hardiness ( $r = -.40$ ). If we take into account the sign of the correlations it seems appropriate to underscore that, as documented in the literature, while the presence of a Type A behavior pattern accentuates the experience of burnout, optimism and hardiness seem to inhibit such manifestation.

On the basis of the previous results, it is confirmed that stressors significantly correlate with the personal variables included in this study (Type A, optimism and hardiness) and, it is also found that both stressors and personal variables significantly correlate with burnout. Thus, in order to validly respond to the fundamental objective of this study, which was specifically to clarify whether personal variables mediated the relationship between stress and burnout, the following step consists in seeing whether: a) stressors predict burnout, b) stressors contribute to explaining personal variables and c) when stressors are jointly included with personal variables in the same regression equation, it is personal variables that best explain burnout by diminishing or annulling the predictive contribution of stressors. Following the suggestions of Baron and Kenny (1986), and as shown in table 4, we have included the variables simultaneously (*least squares method*) making a variety of analyses. Firstly, burnout is predicted from stressors, next stressors were the predictors of the different personal variables. Finally, stressors and personal variables were jointly included to explain burnout. To conduct these analyses, on the grounds of parsimony, only the dimensions grouping stressors were included.

Table 4. Regression analyses conducted to test the mediating effect of personal variables

	Stressors as predictors of burnout	Stressors as predictors of personal variables		Stressor and personal variables as predictors of burnout
	Beta	Beta		Beta
		Type A behavior Pattern	Optimism	Hardiness
Students' disruptive behavior	.28***	.13***	-.17***	-.13***
Lack of social support	.13***	.20***	-.10***	-.13***
Conflict	.18***	.12***	-.15***	-.10***
Type A behavior Pattern				.28***
Optimism				-.22***
Hardiness				-.19***
Explained variance (R <sup>2</sup> adjusted)	22.2	13.6	11.5	8.1
	43.6			

\*\*\* $p < .001$

The results of the first analysis, and as expected on the basis of the correlation analysis, confirm that students' disruptive behavior, lack of social support and conflict are valid predictors of burnout.

As to the second regression equation (stressors as independent variables and personal variables as the criterion), it is found that all the dimensions of stress predict personal variables at statistically significant levels. Specifically and in keeping with the results of the correlation analysis, it should be noted that while the absence of social support is the best predictor of Type A behavior pattern, students' disruptive behavior is the stressor that best explains optimism. Type A behavior pattern and optimism are also the dimensions with greater percentages of variance explained (13.6 and 11.5, respectively).

When the different facets of stress and personal variables are brought together (see table 4) the mediation hypothesis is found to be partially supported. Specifically, the values of the coefficients of the dimension of "lack of social support" and "conflict" considerably diminish to the point of not reaching statistical significance. "Students' disruptive behavior", however, seems to have, in the light of these results, a direct impact on burnout. In short, it could be argued that although all the dimensions of stress (students' disruptive behavior, lack of social support and conflict) could channel its influence on burnout through the personal dimensions analyzed, students' disruptive behavior has also a complementary "route" (direct effect on burnout). In other words, personal variables seem to capture the influence on burnout of all the dimensions except students' disruptive behavior.

With the ultimate goal of accounting for the associations between stressors, personal variables and burnout, and logically guided by the results obtained in the previous regression analyses, we have come up with a model that has been subject to empirical checking from the analysis of structural equations (AMOS v. 4.0). Table 5 shows the means, typical deviations and correlations between variables.

Table 5. Correlations, means, and typical deviations of the variables included in structural equations

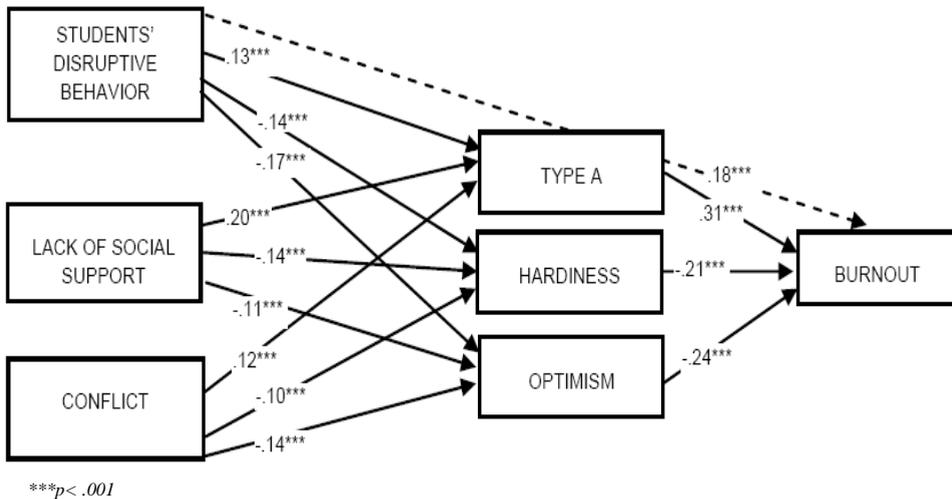
	I	II	III	IV	V	VI	VII
I. Type A behavior Pattern	1						
II. Optimism	-.32***	1					
III. Hardiness	-.22***	.35***	1				
IV. Burnout	.48***	-.46***	-.40***	1			
V. Students' disruptive behavior	.27***	-.27***	-.23***	.40***	1		
VI. Lack of social support	.32***	-.24***	-.23***	.32***	.00	1	
VII. Conflict	.26***	-.26***	-.19***	.35***	.00	.00	1
Mean	85.3	7.95	72.42	3.78	.00	.00	.00
TD	13.11	3.12	9.2	5.4	1	1	1

\*\*\* $p < .001$

In the model subject to testing, the idea is to "map" only those relations that on the basis of the regression results reached statistical significance. In this regard, the indirect effect of exogenous variables (students' disruptive behavior, conflict and lack of social support) are brought into the picture through personal variables (A type, optimism, hardiness) in burnout. But the direct effect (on the basis of the regression results)

between student disruptive behavior and burnout is also considered. The results of the analyses of structural equations are shown in Figure 1.

Figure 1. Model of structural equations associating stressors rendering school coexistence difficult, personal variables and teacher burnout. The dotted line represents the direct path between students' disruptive behaviour and burnout



The consideration of goodness of fit criteria indicates, generally speaking, a good adjustment of the model to the data [ $\chi^2(\text{g.l.})=111.34$  (5),  $p=.001$ ;  $RMSEA= .06$ ;  $GFI= .98$ ;  $NFI= .97$ ;  $CFI=.97$ ]. Indeed, despite the fact that the value of the  $\chi^2$  statistic has proved significant, the explanation for this fact could be in the high sample size (Jöreskog & Sörbom, 1993), the remaining adjustment indexes were in keeping with those habitually accepted (e.g., Browne & Cudeck, 1992). It would be fair to conclude therefore that, on the basis of the adjustment indexes considered, the model is well adjusted to the data, thus confirming its validity.

All the influences between the different domains in the model proved significant. The model generally confirms the mediating effect of personal variables (standardized range of coefficients between .10 and .20) and a direct influence between students' disruptive behavior and burnout (coefficient= .18). In other words, personal variables seem to capture, at least partially, the effects that stressors rendering school coexistence difficult have on burnout; the exception being the students' disruptive behavior-burnout direct influence, which suggests that part of the effects on burnout of this stressor are not mediated by personal variables.

## DISCUSSION

The objective of this study has been to delve into the associations between stressors, personal variables and burnout. Specifically, the associations between the different stressors that pose difficulties to secondary school coexistence (students' disruptive behavior, conflicts, and lack of social support), specific personal variables (Type A behavior pattern, optimism and hardiness) and teacher burnout. Also a central objective of this study was to verify whether personal variables mediate the association between stressors and burnout.

### *Associations between stressors and personal variables*

Results show that when stressors are analyzed whether in isolation or grouped in dimensions, there is a statistically significant association with the personal variables analyzed. As to the co-variation pattern, and consistently with the previous literature on the field (e.g., Jamal & Baba, 2001; Mäkikangas & Kinnunen 2003; Moreno *et al.*, 2000), the fact is confirmed that while Type A behavior pattern shows positive associations, optimism and hardiness are negatively associated. Results seem to indicate when Type A behavior pattern scores high there is an increase in stress perception which results not just from students' disruptive behavior (aggressive behavior, vandalism or classroom passivity) but also from lack of support (from peers, families, school management, the head of the department) and conflict (lack of consensus amongst teachers on disciplinary issues, meeting the parents of disruptive students). The notion that this behavioral pattern characterized by competitiveness, impatience and hostility increases vulnerability to stress has already been documented in a wealth of previous studies using teacher samples (Sharpley *et al.*, 1995; Travers & Cooper, 1997).

As far as optimism is concerned, a pessimist approach on the part of the teacher has been found to be particularly associated to the high stress generated by student behavior (aggressive behavior and vandalism), a lack of social support (notably from peers) and other issues ("having to meet the parents of disruptive students" and "lack of consensus amongst teachers in disciplinary issues"). Apparently, optimist teachers have a more benign perception of the different types of stressors. Support to this line of argument is found in the results of a recent study conducted by Chan *et al.* (2004) who confirmed that teachers scoring high on optimism tended to evaluate threatening circumstances as less stressing and they also reported higher satisfaction.

Hardiness is, on the basis of our findings, a powerful buffer to the different sources of occupational stress. Specifically, teachers scoring high on this personal construct tend to assess many potentially stressing situations (such as for instance, student verbal abuse, not having anyone to resort to when a problem arises, troubled relationships with the parents of their students) as very little threatening. In this regard, as some writers suggest (e.g., Maddi & Khoshaba, 2005), persons showing hardiness

solve conflicts, redirect negative changes into new directions, learn from this process, achieve greater success and feel more satisfied.

*Connection between stressors and personal variables and burnout*

Burnout is yet another of the key elements in the approach and development of this study as the ultimate aim is to empirically test a proposal for a map of influences on such negative manifestation of the teaching activity. In this regard, and subject to prior verification of the model, it is necessary to look at the connection between this phenomenon and the explanatory determinants included (stressors and personal variables). It should be noted, in this regard, that there is an extensive body of literature which, albeit in isolation, has associated stressors and personal variables, namely, Type A (e.g., Jamal & Baba, 2001), hardiness (e.g., Klag & Graham, 2004) and optimism (e.g., Chang, Rand & Strunk, 2000) with burnout.

Our results generally confirm that there is a positive and significant covariation between the different stressors (whether considered in isolation or dimensionally) and burnout. Verbal abuse on the part of students, vandalism within the premises of the school, the lack of peer social support, the need to meet the parents of disruptive students, and the lack of consensus on disciplinary issues are the stressors more closely associated to burnout. As far as dimensions are concerned, it should be noted that it is students' disruptive behavior that is more closely associated to burnout. This finding is one of the most consistent with previous literature as there is overwhelming empirical evidence that notes that student problematic behavior is the more prominent stressor in teaching burnout. The conflict and support domains equally reveal a prominent association with burnout, thus confirming the findings in previous studies using teacher samples (Lewis, Romi, Qui & Katz, 2005; Otero-López *et al.*, 2008b). Finally, and as far as stressors are concerned, their explanatory contribution in terms of variance is 22.2%, a finding that seems to further confirm the above mentioned association.

As to the link between personal variables and burnout, the existence of important, statistically significant associations is confirmed. However, the direction of the association depends on the type of variable. In this regard, while Type A behavior pattern correlates positively, optimism and hardiness do the opposite. The influence of Type A behavior pattern, whether as burnout precipitant or risk factor is one of the findings which, as far as teachers is concerned, has the greatest empirical support in the previous literature (e.g., Jamal & Baba, 2001; Otero-López, Santiago y Castro, 2008a; Travers & Cooper, 1997). As to optimism, our findings confirm those found in other studies (Chan, Kwok & Yeung, 2004; Mäkikangas & Kinnunen, 2003; Otero-López *et al.*, 2010; Santiago & Otero-López, 2005) in the sense that "seeing life positively" has immune effects against burnout. Moving on to hardiness, and consistently with our results, many authors (Chan, 2003; Moreno *et al.*, 2005) who have used primary and

secondary education teacher samples confirm the “buffering effect” of this construct on experiencing burnout.

To sum up, and on the basis of our results, the stressors and personal variables under study (A pattern, optimism, and hardiness) are associated to burnout. The following paragraph will elaborate on the explanatory contribution of both elements on the syndrome.

*Personal variables as mediators in the stress-burnout association*

Previous empirical evidence on the potential influences of burnout and the role played by the different variables (e.g., Maslach & Leiter, 1999; Maslach, Schaufeli & Leiter, 2001) has been the basis of our proposing a predictive model that includes the links between the stressors rendering school coexistence difficult, personal variables and burnout. Specifically, our starting hypothesis is that personal variables (Type A behavior pattern, optimism, and hardiness) can “channel” the influence of stressors on teacher burnout. Our results supported, albeit partially, this thesis. In other words, while it has been found that personal variables “capture” the direct influence of the lack of support and conflict, it is also true that “students’ disruptive behaviour” – as well as having an effect through personal variables – has a direct effect on burnout. Likewise, it has been found that personal variables show direct and significant influences even when the effect of stressors is controlled. In short, it is possible to argue the suitability of a model in which personal variables are the “filter” sifting through and qualifying the potential exogenous influences in the line of what a variety of scholars have postulated (e.g., Mäkikangas & Kinnunen, 2003; Moreno *et al.*, 2005), while at the same time remaining sensitive to the fact that most likely- and depending on the nature of the stressor (in this case, “students’ disruptive behavior”)- there are other alternative “paths” that should be added to the explanatory proposals. Delving deeper into this finding, it could be argued that the perceived intensity and/or “violence” of some stressors falling under the rubric of the dimension of “disruptive behavior” (bear in mind that this factor encompasses items such as “verbal abuse on the part of students addressed to the figure of the teacher”, “increase of aggressions among students”, “vandalism within the premises of the school” –which were precisely those that, in isolation, showed the greatest correlation coefficients with burnout-) cannot be easily modulated “from” personal variables. A tentative analysis of this result would probably be that on the face of the “seriousness” of stressors, the optimism of teachers turns into pessimism, “hardiness” turns into touchiness and some features of Type B behavior pattern move into Type A. In short, that these characteristics lose their “filtering” qualities and that stressors directly increase teacher emotional exhaustion, driving them to a more depersonalized attitude towards their students (probably there is also an erosion of personal achievement). Whatever the reason, the main conclusion we can reach is that while a potential mediator

effect is found in the personal variables analyzed, direct routes between some stressors (student disruptive behavior) and teacher burnout must be identified.

*Limiting factors and considerations for the future*

This study has sought to contribute to cumulative knowledge by empirically testing a model of associations between stressors, personal variables and burnout. In this regard, and in the awareness of the fact that the field of burnout studies has experienced great progress in the identification of what the main correlates and/or predictors of the phenomenon are, but also sensitive to the scarcity of principles that try to capture the “paths” (accounting for the direction of the effects and which ultimately provide meaning and coherence to the different mechanisms of influence) we have drawn and empirically tested a new “ordering” of the explanatory avenues of burnout. The objective was to test the mediating effect of some personal variables in the stress-burnout association. Nonetheless, and in spite of the fact that previous literature empirically strengthens the association between the elements studied, limiting factors and aspects that require further research regarding this proposal will most likely arise.

Firstly, there is an evident ambiguity among scholars when it comes to locating personal variables. For some of them they are precedents (we have avoided including any of the Big Five due to their potential genotypical nature), while for others there is no doubt that they constitute those necessary modulating variables that filter/sift through or provide meaning to the “exogenous” (what happens outside) and their mediating role in the field under study is beyond all doubt -the conceptual proposal by Lazarus (2000) on stress is a case in point-, while there will also be those advocating that their role is that of consequents. As far as we are concerned, it is our understanding that the field of study requires empirical models that seek to clarify their “location” within burnout explanatory proposals, and in this sense further research would be greatly welcome.

Another limiting factor encountered in the study is that it only envisages three personal variables from a wide range of possibilities available. It seems both necessary and urgent to add other personality variables and, whenever feasible, from a variety of domains (for instance, traits, personal concerns following the taxonomy of McAdams, 2009) to obtain a more complete and detailed picture of burnout associations. Probably, the inclusion of different personal units will contribute to a greater insight into many currently unknown paths of influence of the phenomenon under study. In this sense, it would be necessary to complete the scope of influences by including other sources of stress.

A third aspect has to do with the need to go beyond the cross-sectional. Longitudinal studies provide more solid and conclusive responses to the causality between stressors, personal variables and burnout. In this regard, gaining a sounder comprehension of the procedural aspects underlying the dynamics between the different

variables involved in teacher job malaise would prove very positive. Throwing light into the role of gender, age and sociocultural context in the new proposal will also be challenges to be addressed.

The exploration of other casuistries such as subjective well-being and teachers' health-related aspects also poses a fascinating challenge and would undoubtedly result in welcome progress for this field of study.

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