



European Journal of Education and  
Psychology

ISSN: 1888-8992

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Editorial CENFINT

España

Otero-López, José Manuel; Villardefrancos, Estíbaliz; Castro, Cristina; Santiago, María José  
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European Journal of Education and Psychology, vol. 7, núm. 2, julio-diciembre, 2014, pp. 95-106  
Editorial CENFINT  
Almería, España

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## **Stress, positive personal variables and burnout: A path analytic approach**

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The notion that personal resources are a powerful screen for the negative influence of stressors in the burnout process is one of the aspects where consensus is more widespread in the domain of Positive Psychology. It is nonetheless true that identifying them and finding out how these “personal strengths or competences” operate would be crucial to improve health and well-being in the workplace. It seems therefore urgent to throw light –from a research perspective– not merely on whether the positive variables play a mediating role between the potential stressors and burnout but also on which the alternative paths are that have an influence on occupational stress. So, the fundamental objective of this study is to analyze a model of influences in which the levels of stress perceived by the teacher from the different disruptive behaviors of the students (verbal abuse at the teacher, aggressions among students, vandalism) are the exogenous variables while the different positive personal variables (optimism, hardiness, life satisfaction) are mediating variables and burnout is the endogenous variable. The results obtained from a sample of 523 secondary education teachers confirm that teacher “resilience” (optimism and hardiness) and life satisfaction mediate the negative impact that stressors from student behavior have on experiencing burnout.

*Keywords:* Stress, positive variables, burnout, secondary education teachers.

*Estrés, variables positivas y burnout: un modelo explicativo.* La idea de que los recursos personales constituyen un poderoso tamiz de la influencia negativa de los estresores en el proceso de burnout constituye uno de los aspectos con mayor consenso en el ámbito de la Psicología Positiva. No es menos cierto que la identificación de cuáles son y cómo actúan estas “competencias o fortalezas personales” sería crucial para potenciar la salud y el bienestar en el trabajo. Parece entonces urgente y necesario clarificar, desde la investigación, no sólo si las variables positivas tienen un rol mediador entre los potenciales estresores y el burnout, sino también cuáles son las rutas alternativas de influencia en el malestar laboral. Pues bien, el objetivo fundamental de este trabajo es analizar un modelo de influencias en el que los niveles de estrés percibidos por el docente a partir de distintas conductas problemáticas de los alumnos (agresiones verbales al profesor, agresiones entre alumnos, vandalismo) constituyen las variables exógenas, mientras que distintas variables personales positivas (optimismo, *hardiness*, satisfacción vital) se postulan como mediadoras y el burnout como variable endógena. Los resultados obtenidos, a partir de una muestra de 523 profesores de enseñanza secundaria, confirman que la “resiliencia” del docente (optimismo y *hardiness*) y la satisfacción vital median en el impacto negativo que los estresores derivados del comportamiento de los alumnos tienen en la experiencia de burnout.

*Palabras clave:* Estrés, variables positivas, burnout, profesores de secundaria.

Currently there seems to be a remarkable consensus on the fact that teachers, particularly those working in secondary education, present high levels of occupational stress and burnout. The growing incidence and prevalence of the malady among those in the teaching profession along with the important personal consequences that “occupational burnout” entails (changes in how others are perceived –parents are seen as more demanding, colleagues as more detached, students as more rebellious–, a decrease in the commitment with and devotion to the educational task, increased use of passive coping strategies, increased absenteeism and sick-days...) are the main arguments underlying the urgent need for preventive and/or intervention responses with guarantees of effectiveness.

From a historical perspective and a review of empirical studies, at least three research avenues with diverging intentions, themes and objectives may be identified.

The analysis of what is “exogenous” to the world of meanings and the characteristics that are peculiar to the teacher, which essentially looked at the social context seen as a natural habitat of the sources of stress and burnout was one such line of research. Many studies have been conducted (see, for instance, Bauer *et al.*, 2007; Unterbrink *et al.*, 2008) and many are also the external factors identified as potential triggers of teacher occupational stress (lack of perceived support from other educational agents, decreased social prestige, the questioning of the job they do, increased conflict both inside and outside the classroom, passivity and/or apathy of the students, the successive changes to the educational system, students with special needs, are just some examples). In a previous study (Otero-López *et al.*, 2012) from a sample of 3281 secondary school teachers, we confirmed that “students’ disruptive behaviors and disciplinary issues” is the most important theme teachers agree on singling out when it comes to cognitively organizing the main sources of stress. Specifically, looking at what the problem behaviors are that have the greater impact on teacher stress the following should be mentioned: verbal abuse against teachers, increase in aggressions among students, and vandalism within the premises of the school. The primacy of “student problem behaviors” as a source of stress has also been noted by other authors (e.g., Ortiz, 1995).

The awareness of the need of abandoning the shortsightedness of those who advocated that so as to be able to understand occupational stress all that mattered lay in the context, together with the felt need of also taking into account the “variables of the person” were the dynamizing elements in another research avenue. Indeed, the conviction about the existence of an active and propositive organism whose cognitive evaluation provided purpose and meaning to events – prior to the elaboration of a response – entailed that many researchers developed an interest in the “variables of the person” as well. Consequently, the search and identification of the variables of the personal repertoire with a potential to explain and/or predict teachers’ occupational

stress became a fertile line of work within this field of research (e.g., Otero-López, Castro, Santiago & Villardefrancos, 2010; Otero-López, Santiago & Castro, 2008; Otero-López *et al.*, 2008; Vandenberghe & Huberman, 1999). From contemporary perspectives, the traditional emphasis on the search of which and how many the risk factors of this “pathology” were has been sidelined by the irruption of Positive Psychology with personal strengths and resources as salutogenic arguments (Seligman & Csikszentmihalyi, 2000). The interest in the “positive” and subjective well-being has decisively contributed to complete the array of variables associated to the phenomenon under study with optimism (e.g., Salmela-Aro, Tolvanen & Nurmi, 2009; Villardefrancos *et al.*, 2012), hardiness (e.g., Delahajj, Gaillard & van Dam, 2010), life satisfaction (e.g., Moreno & Hidalgo, 2010), self-esteem (e.g., Golembiewski & Aldinger, 1994) and perceived competence (e.g., Friedman, 2003), all of which seem to have become the main focus of attention of researchers.

From these avenues, over the last decades a new tendency developed and came into being: elaborating explanatory models that accounted for “how” the variables either “contextual” or “personal” –that previous research had identified– act and channel their effects for the prediction of burnout. In this regard, it should be noted that although many and very different “routes” of influence have been put forward and tested, some variables seem to have “fixed their positions” regarding the role they play in most models. In other words, while the sources of stress tend to appear as “exogenous” determinants, personality variables have been given in many models a “mediating” role channeling the influence of stressors in burnout (endogenous variable). The inclusion of positive variables or, to be more precise, of some “strengths” in explanatory models of burnout is one of the current lines of work with the greatest potential in this field of study. Specifically, as far as burnout is concerned, it should be underscored that, as noted before, optimism, hardiness and life satisfaction have been the focus of most empirical studies, consolidating (albeit in isolation) as fruitful research themes by virtue of their proven potentiality to reduce and/or inhibit “occupational burnout”. Be as it may, this study seeks to advance the state of the art by testing whether these variables, jointly considered in a single study, have the potential to act as mediators of the impact of stressors on burnout. Next some brief commentaries on each of these constructs are given with a twofold purpose: conceptual demarcation and providing instantiations of available empirical evidence.

Optimism, defined by Scheier and Carver (1987) as the expectation or generalized belief in the occurrence of positive results in the future has consolidated – according to the findings of some research (e.g., Mäkikangas & Kinnunen, 2003; Otero-López, Santiago, Castro & Villardefrancos, 2010) – as a powerful buffer of the effect of occupational stressors and, by extension, as a factor of protection against the development of occupational stress and burnout. Mäkikangas and Kinnunen (2003)

showed that optimism modulates the effect of such stressors as time pressure, job insecurity and poor organizational environment in psychological distress. Furthermore, Otero-López, Santiago *et al.* (2010) confirm that optimism channels the influence of different types of occupational stressors (students' disruptive behaviors, lack of social support and conflict) in teacher burnout. Evidence of a different type, albeit indirect, has also been provided that links teacher efficiency (the opposite side of burnout) and certain positive variables. Thus, for instance Duckworth, Quinn and Seligman (2009) conclude that optimism, courage and life satisfaction in teachers are predictors of the level of professional efficacy (evaluated by student achievement attained throughout an academic year). In a later study conducted by Sturm, Conkey, Nibler, Brannan & Bleistein (2012) teacher optimism is confirmed as a predictor of satisfaction with their work.

Hardiness, defined as the degree in which the individual is able to overcome stressing circumstances without suffering a deterioration of their physical and psychological health (Maddi, 2002; Maddi & Khoshaba, 2005), has been also confirmed in recent years as an important personal resource that reduces the negative impact of the sources of stress (e.g., Chan, 2003). In a study conducted from a sample of university teachers, Paulik (2001) showed that hardiness, along with other variables of a positive nature such as optimism and self-confidence, mitigated the effect of occupational stressors. The qualitative research conducted by Howard and Johnson (2004) with teachers working in highly disadvantaged areas, enables to outline a characteristic profile: teachers with hardiness, when faced with highly stressing situations, have a strong belief in their ability to control what may happen to them, have strong social networks to assist them, and report a high perception of self-efficacy. Equally interesting is the study by Erkutlu (2012), which confirms that hardiness and self-observation moderate the association between organizational policy-related stressors and burnout.

Lastly, life satisfaction –as a subjective well-being component– has also emerged in some contemporary studies as a variable associated to the burnout syndrome (e.g., David & Quintão, 2012; Durán, Extremera, Montalbán & Rey, 2005; Moreno & Hidalgo, 2010; Senter, Morgan, Serna-McDonald & Bewley, 2010). Thus, for instance, David and Quintão (2012) conclude that university teachers with greater life satisfaction are also those who obtain the lowest levels of burnout; specifically, and as a function of the dimensions of the syndrome, these authors found that life satisfaction was negatively associated to emotional exhaustion and depersonalization, while positively with personal achievement. This same pattern of findings as regards the association between life satisfaction and burnout dimensions had also been obtained in a sample of volunteers by Moreno and Hidalgo (2010). Indirect evidence of the influence of life satisfaction in occupational stress emerges from the study by Duckworth *et al.* (2009), who show that

life satisfaction, along with other positive variables (optimism and courage) accounts for the level of teacher efficacy.

In sum, it is the available previous evidence not just as regards the fundamental importance of the disruptive behaviors of students and their role as “exogenous” determinants of occupational stress, but also of the mediating role of the personal variables in the stress-burnout association (see, for instance, Avargues, Borda & López, 2010; Otero-López, Santiago *et al.*, 2010) that motivates this study. In this regard, the main objective is to test if some positive personal variables (optimism, hardiness, life satisfaction) have a mediating role in the influence of the different sources of stress related to student disruptive behaviors (verbal abuse against the teacher, aggressions among students, vandalism within the premises of the school) on teacher burnout.

## METHOD

### *Participants*

A total of 523 Compulsory Secondary Education 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.*, 2012). As to the characteristics of the respondents, the following are the most relevant: 248 are female teachers (47.4%) and 275 male teachers (52.6%), the range of age is between 26 and 65 (mean: 44.8 years), length of service is between 2 and 33 (mean: 17.2 years), and 38.6% teaches in the first cycle of secondary education, while 61.4% do so in the second cycle.

### *Instruments*

Teachers filled in the *Inventario de Estresores Laborales para Profesores de Secundaria* [Inventory of Occupational Stressors for Secondary Education Teachers] (IELPS; Otero-López *et al.*, 2012). This self-report consists of 78 items covering a wide range of situations associated to a variety of teaching domains. All of them are evaluated on the basis of the degree of tension they generate on the teacher (Likert type scale: 0=“it causes me no tension”, up to 4=“it causes me a lot of tension”). For this study only those items that a high number of teachers in the sample rated as highly stressing were selected. Specifically, the stressors considered were: “verbal abuse by students” (70.7% of teachers reported that this causes them stress), “increase in aggressions among students” (70.5%) and “vandalism within the premises of the school” (63.7%).

The reviewed version of *Life Orientation Test* (LOT-R; Scheier, Carver & Bridges, 1994) was the instrument chosen to assess optimism. LOT-R consists of 10

items. Responses are on the basis of a Likert-type scale ranging between “totally disagree” (value 0) and “totally agree” (value 3). Cronbach’s alpha coefficient was .79.

The self-report used to evaluate the hardiness personality construct was *Personal Views Survey* (PVS) designed by the “*Hardiness Institute*” (1985). It consists of 50 items (responses range from 1 “totally disagree” to 3 “totally agree”) that allow the evaluation of its dimensions (commitment, challenge and control) and yield a total score. In this study, we have only used the total score. Alpha coefficient for the scale was .90.

The *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen & Griffin, 1985) was used to assess the level of life satisfaction. This instrument includes 5 items. The Likert-type response scale ranges from “totally disagree” (value 1) to “totally agree” (value 7). Internal consistency index for the sample considered was .87.

Burnout was assessed using the *Maslach Burnout Inventory-Educators Survey* (MBI-ES; Maslach & Jackson, 1986). The MBI-ES consists of 22 items dealing with the frequency (Likert-type scale ranging from 0 “never” to 6 “daily”) with which teachers experience certain feelings, thoughts and attitudes towards their job and their students. Cronbach’s alpha coefficient was .86.

## RESULTS

The empirical verification of the model in which different positive personal variables (optimism, hardiness, and life satisfaction) are postulated as mediators of the effect of three important sources of stress derived from the behavior of the students (verbal abuse against the teacher, aggressions between the students, and vandalism within the premises of school) on teacher burnout –and that is the objective of this study– has been conducted on the basis of path analysis using the AMOS 16.0 software (Arbuckle, 2007). Table 1 shows the correlations, means and standard deviations corresponding to the variables included in the model.

Table 1. Correlations, means and standard deviations of the variables analyzed

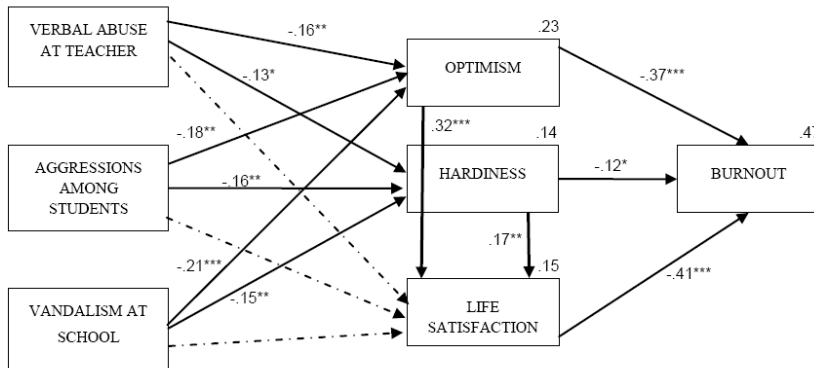
	1	2	3	4	5	6	7
1. Burnout	-						
2. Hardiness	-.32***	-					
3. Optimism	-.55***	.25***	-				
4. Life satisfaction	-.57***	.25***	.36***	-			
5. Verbal abuse at teacher	.28***	-.33***	-.41***	-.15***	-		
6. Aggressions among students	.28***	-.34***	-.42***	-.19***	.69***	-	
7. Vandalism at school	.33***	-.32***	-.41***	-.22***	.57***	.58***	-
Mean	15.6	84.18	9.46	6.83	2.78	2.76	2.85
S.D.	11.64	15.01	3.19	3.21	1.24	1.07	1.2

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

The results obtained (see figure 1) indicate that the model does not present a satisfactory adjustment. The model was re-specified on the basis of *Critical Ratios* and

*Modification Indices.* Specifically, those effects that do not reach statistical significance have been removed, and the optimism-life satisfaction and hardiness-life satisfaction paths have been included.

Figure 1. Final model with the relationships between students' disruptive behaviors, positive personal variables and burnout



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

Note. Dotted lines represent paths considered in the initial model and that, according to *Critical Ratios*, did not reach statistical significance. Solid lines indicate paths of influence included in the final model on the basis of *Modification Indices*.

Our findings confirm that this “new model” (the final model) show a remarkable improvement in the adjustment (see table 2). More specifically, all indices are within the habitually accepted ranges (Byrne, 2010), and the chi-square difference between the two models ( $\Delta\chi^2=61.1$ ) is statistically significant ( $p < .001$ ). Furthermore, it should be underlined that this model accounts for 47% of burnout variance.

Table 2. Goodness of Fit Indices of the initial and final model

	$\chi^2$	d.f.	$p$	$\chi^2/d.f.$	GFI	AGFI	CFI	NFI	RMSEA
Initial model	73.46	6	.001	12.24	.96	.82	.94	.94	.15
Final model	12.36	7	.08	1.76	.99	.97	.99	.99	.038

Note. GFI= Goodness of Fit Index; AGFI= Adjusted Goodness of Fit Index; CFI= Comparative Fit Index; NFI= Normed Fit Index; RMSEA= Root Mean Square Error of Approximation

The findings generally confirm that optimism, hardiness and life satisfaction “channel” the effect of the stressors related to students’ disruptive behaviors in teacher burnout. However, a more exhaustive examination of the results shows that: a) optimism and hardiness channel the effect of each and every source of stress on burnout, and b) life satisfaction is a “mediating link of second order” that filters, at least partially, the effect of optimism and hardiness in burnout. As regards this “non-expected path” it should be noted that life satisfaction captures part of the effects of the stressors once they



have been screened by the other personal variables. Be as it may, results allow us to verify the starting thesis in the sense that the personal variables analyzed (independently of the associations that might be established between them) mediate the impact of stressors in burnout.

## DISCUSSION

Our results broadly confirm that certain characteristics from the personal assets of the teacher (optimism, hardiness and life satisfaction) act as “mediators” of the effects of the stress generated by students’ disruptive behaviors (verbal abuse against the teacher, aggressions among students, and vandalism within the premises of the school) in burnout. It seems, therefore, that beyond traditional approaches where a cause-effect association between perceived stress and burnout was assumed, the findings in this study place the association between these variables within a new framework of analysis: it is necessary to pay attention to third variables that are involved in the association by filtering and/or channeling the effects of stress in burnout. Progress in the understanding of the routes of influence implied in the underlying relational dynamics between stress and burnout and, consequently, the optimization of the preventive and interventional *praxis* are the main gains of this mediational approach.

In order to systematize this section and once it has been established the empirical confirmation of the mediating capacity of all the personal variables included in this study, we will move on to briefly discuss each of them.

As far as optimism is concerned, results show that this personal attribute reduces the negative effect of each and every stressor analyzed in burnout. In this regard, it may be argued that holding a positive attitude towards the future probably encourages a more benign interpretation of potential stressors thus reducing or inhibiting their effects on burnout. This buffering role of optimism in the effect of stressors on burnout has been widely obtained in previous literature (see, for instance, Mäkikangas & Kinnunen, 2003). Furthermore, Garrosa, Moreno-Jiménez, Rodríguez-Muñoz & Rodríguez-Carvajal (2011) showed that optimism moderated the impact of the role stress in the emotional exhaustion dimension of burnout. Complementary evidence regarding the importance of this construct is derived from the study by Salmela-Aro *et al.* (2009), who confirmed that those persons with higher levels of optimism during the university stage have a lower probability of developing burnout syndrome in the future.

As to hardiness, its mediating role regarding the impact of stressors that are related to students’ disruptive behaviors in burnout is confirmed. It may be argued, in keeping with the arguments put forward by Maddi and Kobasa (1984) and without ruling out other explanatory hypotheses, that teachers with the highest scores in this variable have a greater perception of control, redirect negative changes into new directions

(stressing circumstances might be seen as opportunities for personal growth rather than as potential disasters), and have more confidence in their own capabilities to successfully overcome adversities. These characteristics would increase the competences of the teacher in “efficient management” of any potentially threatening event using, most likely, adaptive coping strategies (or inhibiting those that are barely adaptive). In any case, many authors (see, for instance, Chan, 2003; Paulik, 2001) conclude that this personal variable has the ability to modulate the effect of burnout stressors. Be as it may, our results confirm those obtained in a previous study (Otero-López, Santiago *et al.*, 2010) where hardiness –along with optimism and the Type A behavior pattern– was proven to mediate the effect of the different types of stressors that made school coexistence difficult (namely students’ disruptive behaviors, conflict situations, and lack of social support) in the burnout experienced by teachers.

Life satisfaction, in spite of being also an “intermediate variable” between students’ disruptive behaviors and burnout has a differential profile in relation to the remaining personal variables regarding the influence routes. Indeed, in the model, satisfaction with life seems to form a “mediational chain” that includes, at least partially, the effect of the stressors on burnout but only once they have been previously channeled by optimism and hardiness. In other words, these personal strengths become the first filter of the exogenous variables (stressors), with life satisfaction being the second “link” of the mediational process in which part of the effects of optimism and hardiness converge (both variables have furthermore direct effects on burnout). These results might be interpreted in the light of the evidence provided by some studies which – although approaching the issue from more global models with multiple determinants– have confirmed the positive impact of optimism (e.g., Karademas, 2006) and hardiness (e.g., Wallace, Bisconti & Bergeman, 2001) in life satisfaction. Looking at the possible ways that may account for the different routes of influence demonstrated in this study and through which the different positive variables considered channel the effect of students’ disruptive behaviors in the burnout syndrome experienced by secondary school teachers, it may be argued that probably optimism and hardiness are “personal strengths” that are particularly involved in the initial cognitive assessment of stressors while life satisfaction is, as pointed out by Montgomery and Rupp (2005), more linked to the emotional response following such cognitive interpretation.

In sum, it may be concluded that a model is confirmed which postulates certain specific “positive” personal variables (specifically, optimism, hardiness and life satisfaction) with a mediating role between stress from students’ disruptive behaviors and teacher burnout.

Finally, from the potential limitations of this study, it seems appropriate to mention possible avenues for future research. The design and testing of more complex models (e.g., with stressors of distinct nature, personal variables from different domains

–personal interests and traits, for instance– and with the exploration of other relevant constructs such as subjective well-being) undoubtedly seems a welcome challenge within this area of study. Also needed in the field is the commitment to go beyond the cross-sectional to advocate for longitudinal designs that allow us to grasp the processual aspects underlying the dynamics of the different variables involved in teacher burnout with greater assurance. Lastly, casting light on the role of gender, age and socio-cultural context will also contribute to further progress in our understanding of occupational stress.

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Received: September 15th, 2013

Modifications received: September 26th, 2013

Accepted: August 2nd, 2014