

## Adaptive psychological functioning and burnout in teachers and how they affect teaching processes

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### KEYWORDS

Self-efficacy  
Burnout  
Psychological capital  
Teaching approach  
Job satisfaction

### ABSTRACT

Given the high levels of burnout in the teaching profession, there is a growing interest in identifying the personal resources that would favor the positive psychological functioning in this group. From this emerging perspective, the present study had two objectives: (1) analyze the effect of psychological capital and job satisfaction on burnout in teachers; (2) determine how this syndrome affects the instructional practice (self-efficacy for teaching self-regulation strategies and teaching approach adopted). A structural equations model analysis was carried out with 113 teachers (90.3% women;  $M_{age} = 38.13$ ;  $SD = 11.01$ ) from pre-school, elementary school, compulsory secondary education and Bachillerato [optional higher secondary education], selected through a convenience sample. Psychological capital and job satisfaction were shown to be negative predictors of burnout. In turn, this syndrome showed a direct negative effect on self-efficacy, and an indirect one on the student-centered teaching approach. These findings suggest that psychological capital and job satisfaction can be valuable resources to reduce teacher burnout and favor their adaptive job performance.

## Funcionamiento psicológico adaptativo y burnout en docentes: implicaciones sobre los procesos instruccionales

### PALABRAS CLAVE

Autoeficacia  
Burnout  
Capital psicológico  
Enfoque de enseñanza  
Satisfacción laboral

### RESUMEN

Dados los elevados niveles de *burnout* en la profesión docente, existe un creciente interés por la identificación de los recursos personales que favorecerían el funcionamiento psicológico positivo en este colectivo. Desde esta incipiente perspectiva, el presente estudio tenía dos objetivos: (1) analizar el efecto del capital psicológico y la satisfacción laboral sobre el *burnout* docente; (2) determinar cómo este síndrome repercute en la práctica instruccional (autoeficacia para la enseñanza de estrategias de autorregulación y enfoque de enseñanza adoptado). Se efectuó un análisis de ecuaciones estructurales con 113 docentes (90.3% mujeres;  $M_{edad} = 38.13$ ;  $DT = 11.01$ ) de Educación Infantil, Primaria, Secundaria y Bachillerato, seleccionados mediante un muestreo por conveniencia. El capital psicológico y la satisfacción laboral se mostraron como predictores negativos del *burnout*. A su vez, este síndrome evidenció un efecto negativo directo sobre la autoeficacia, e indirecto sobre el enfoque de enseñanza centrado en el estudiantado. Estos hallazgos sugieren que el capital psicológico y la satisfacción laboral pueden constituir recursos valiosos para reducir el *burnout* docente y favorecer su desempeño laboral adaptativo.

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Teachers' psychological wellbeing has been the subject of considerable research attention. This interest has been fundamentally focused on the pathological (indicators of poor health), which is not surprising, as teaching is one of the professional activities that is most exposed to burnout (Molero et al., 2019; Zhang, Zhang et al., 2019).

Burnout was recently added to the International Classification of Diseases (ICD-11, World Health Organization [WHO], 2019), defined as a syndrome of chronic stress. As the Job Demands-Resources model explains (JDR; Schaufeli, 2017), burnout is the result of a prolonged imbalance between the demands of a job and the individual and contextual resources for tackling it. This model has been broadly accepted in the teaching context (Granziera et al., 2021) with its high demands –including excessive workloads, time pressures, lack of support, and disruptive student behavior (Gillet et al., 2022; Skaalvik & Skaalvik, 2020).

The conceptualization of burnout with the greatest empirical support was proposed by Maslach et al. (1996), based on the manifestation of three symptoms: (1) a strong feeling of being overwhelmed, exhausted or lacking physical or psychological energy (emotional exhaustion); (2) feeling cynical or apathetic towards the job and the people associated with it (depersonalization); and (3) a sense of being stuck and being unable to progress personally or professionally (lack of personal accomplishment).

Burnout in teachers has been related to significant health issues, both physical –respiratory problems, gastrointestinal problems, and sleep disorders (Esteras et al., 2019; Righi et al., 2021)– and psychological –irritability, anxiety, and depressive symptomatology (Burić et al., 2019; Martínez et al., 2020). These can have significant repercussions on professional performance, influencing self-efficacy (Buonomo et al., 2019; Skaalvik & Skaalvik, 2010) and the teaching approach (Burić & Frenzel, 2021; Pellerone et al., 2020), among other things.

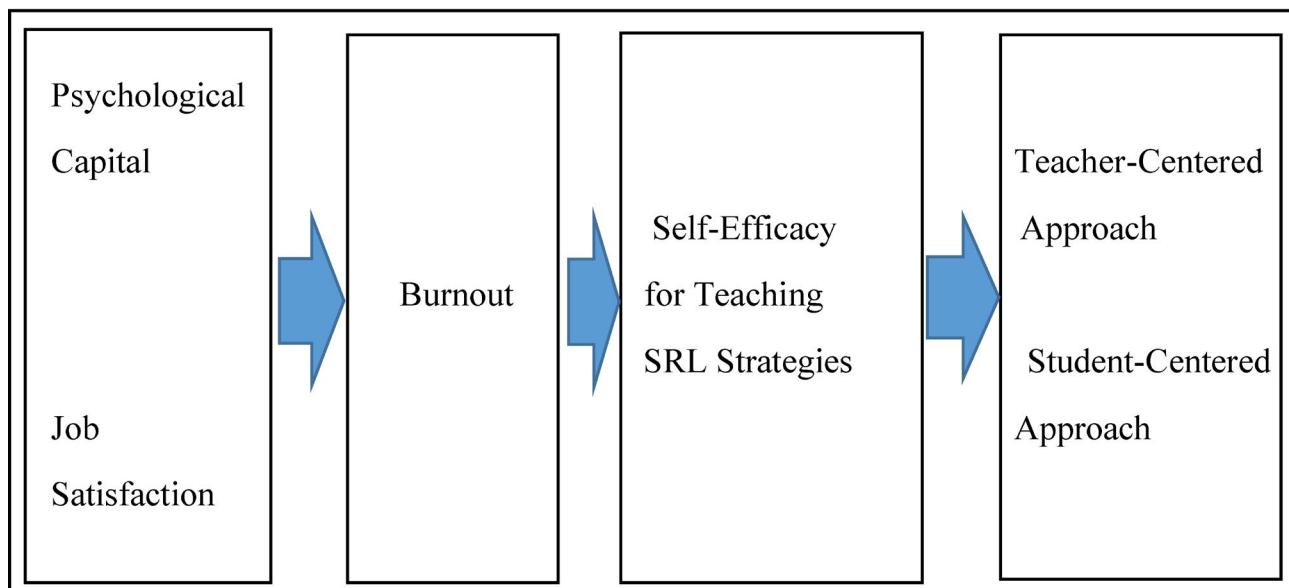
The harmful consequences of burnout have prompted increased interest in identifying the personal resources which may best contribute to teachers' positive functioning (Brasfield et al., 2019; Collie & Perry, 2019). A broad range of factors have been examined in terms of protective roles against teacher burnout. Two which have stood out are psychological capital and job satisfaction (Schaufeli & Taris, 2014). From this emerging perspective, the present study examined the effects of these two resources on teacher burnout and how that affected self-efficacy and the teaching methodologies used (see Figure 1).

#### *Psychological capital, job satisfaction and burnout*

Psychological capital is defined as a positive individual psychological state produced by a mix of four resources (Luthans et al., 2015): (a) efficacy (confidence in one's ability to make the effort needed to succeed in challenging tasks); (b) hope (persevering in objectives and, where necessary, redirecting them to succeed); (c) optimism (the tendency to make positive attributions about current success and positive expectations about future successes); and (d) resilience (recovering and emerging strengthened from setbacks to achieve desired goals). Various studies have shown that psychological capital is related to low levels of burnout in teachers in all stages of education (Freire et al., 2020; Li et al., 2019; Peng et al., 2019; Xie et al., 2022). Those findings are an empirical endorsement of the JDR model because they show that psychological capital is an effective personal resource for reducing vulnerability to burnout in a highly demanding work setting (Schaufeli, 2017).

**Figure 1**

*Hypothesized model of the relationship between psychological capital, job satisfaction, teacher burnout, self-efficacy, and teaching approaches*



*Note.* The proposed model is based on the JDR model (Schaufeli, 2017) and on contributions from studies examining the relationship between burnout, teacher self-efficacy, and teaching approaches (Burić & Frenzel, 2021).

Job satisfaction is another personal factor that, regardless of educational stage, seems to be negatively related with teacher burnout (Molero et al., 2019; Skaalvik & Skaalvik, 2020). This construct has been defined as teachers' positive assessments of their working conditions and their profession, both in general terms and in terms of some specific dimension (Hongying, 2007). Teachers who feel satisfied with their jobs experience high levels of psychological wellbeing (Dreer, 2021), exhibiting greater engagement with their jobs and less motivation to leave the profession (Skaalvik & Skaalvik, 2020).

### *Burnout teacher self-efficacy*

Teacher self-efficacy refers to teachers' self-perceived capacity to positively influence students' engagement and learning, even when they are unenthusiastic or having difficulties (Hajovsky et al., 2020). Previous research offers little doubt about the negative relationship between burnout and teacher self-efficacy (McCullough et al., 2022; Pisanti et al., 2022). However, there is no unanimous position about the direction of the relationship (Brouwers & Tomic, 2000; Skaalvik & Skaalvik, 2007, 2010). Burnout has been considered a crisis or breakdown of efficacy (Leiter, 2002), such that low opinions of teacher competence would increase the development of burnout in both primary and secondary education (Skaalvik & Skaalvik, 2007). Along these lines, Brouwers and Tomic (2000) showed that secondary school teachers who felt themselves to be not very effective in promoting students' academic engagement experienced symptoms of depersonalization and poor personal accomplishment. However, the same authors found that emotional exhaustion was a predictor of low teaching self-efficacy. Emotional exhaustion usually leads to a significant fall in performance (Klusmann et al., 2022), which is one of the most important influences in shaping self-efficacy (Bandura, 1997).

Therefore, without ignoring the more-than-likely reciprocal relationship between the two constructs (Skaalvik & Skaalvik, 2010), in the present study, we analyze the effect of teacher burnout on expectations of self-efficacy. More specifically, and assuming that teachers' self-efficacy may vary depending on task, situation, or the aspect being assessed (Schwab, 2019), our interest centers on self-efficacy for teaching self-regulation strategies. Self-regulation is a key meta-ability in the learning process and in academic achievement (De Brujin-Smolders et al., 2016). Self-regulating students take control of their own learning, planning, monitoring, and revising their thinking, motivations, and behaviors to enhance their academic engagement (Zimmerman, 2002). A recent meta-analysis showed that student self-regulation was improved by teaching practices that promoted this meta-ability.

### *Burnout, self-efficacy, and teaching approach*

Both burnout and expectations of self-efficacy seem to in turn significantly influence the teaching approach (Burić & Frenzel, 2021; Zhang, Fu et al., 2019). Classically, research has differentiated between two main approaches (Hernández-Pina

et al., 2012): transmissive (or teacher-centered) and constructive (or student-centered). In teacher-centered approaches, the teacher takes on the main role, basing their practice on organizing the content to transmit it to the students. The students take on more active roles in the constructive approach, creating their own learning with guidance from the teacher. In general, transmissive teaching approaches are more widespread in primary- and secondary-school teachers with high levels of burnout and low levels of perceived self-efficacy (Aelterman et al., 2019; Pellerone et al., 2020; Poulou et al., 2019).

### *The present study*

Previous research only offers indirect evidence about the relationship between the adaptive psychological resources, teacher burnout, and teaching performance. Therefore, the present study proposes a structural equations model with a dual objective: (1) to analyze the effect of psychological capital and job satisfaction on teacher burnout; and (2) to determine the impact of this effect on teachers teaching practice, defined by the beliefs of self-efficacy for teaching strategies for self-regulation of learning and by the teaching approach adopted (teacher-centered vs. student-centered). With regard to the second objective, as Figure 1 shows, the study aims to assess the possible mediating role of self-efficacy between burnout and teaching approach. The proposed structural equations model is based on the contributions of the JDR model (Schaufeli, 2017), related to the effect of psychological resources on burnout, as well as studies showing the influence of burnout and teacher self-efficacy on the teaching approach (Burić & Frenzel, 2021; Zhang, Fu et al., 2019).

Based on the literature reviewed, the following hypotheses have been established: H1 maintains that psychological capital and teachers' job satisfaction will have a direct negative effect on burnout. H2 establishes that teacher burnout will exhibit a direct negative effect on beliefs of self-efficacy for teaching learning self-regulation strategies. H3 maintains that self-efficacy for teaching learning self-regulation strategies will have a direct positive effect on a student-centered teaching approach, and a direct negative effect on a teacher-centered teaching approach. H4 establishes that self-efficacy for teaching learning self-regulation strategies will play a partial mediating role between teacher burnout and teaching approach. Lower levels of teacher burnout will be directly related to greater engagement in student-centered teaching approaches and less engagement in teacher-centered approaches. This effect will also be indirect, via self-efficacy for teaching learning self-regulation strategies.

## **Method**

### *Participants*

A total of 113 teachers participated in the study (90.3% women,  $n = 102$ ; 9.7% men,  $n = 11$ ). They taught in various stages of education in state-funded schools: 18.6% in infant education ( $n = 21$ , 100% women); 38.1% in primary education ( $n = 43$ , 93% women); 28.3% in compulsory secondary educa-

tion ( $n = 32$ , 84.4% women); and 15% in *Bachillerato* [non-compulsory higher secondary education for 16-18 year-olds] ( $n = 17$ , 82.4% women). The mean age of the participants was 31.13 years ( $SD = 11.01$ ), and their mean experience as teachers was 10.86 years ( $SD = 10.61$ ).

### Instruments

**Psychological capital.** We used the validated Spanish version (Azanza et al., 2014) of the *Psychological Capital Questionnaire* (PCQ; Luthans et al., 2007). The PCQ has 24 items that evaluate the four descriptors of psychological capital: (1) self-efficacy (e.g., “I feel secure presenting information to a group of colleagues”); (2) hope (e.g., “If I feel stuck at work, I can think of many ways to get out of the situation”); (3) optimism (e.g., “I am optimistic about what will happen to me in the future in terms of work”); (4) resilience (e.g., “I can overcome difficult spells at work because I have already faced difficulties before”). The responses are given on a 6-point scale (1 = *Strongly disagree* to 6 = *Strongly agree*). Because these four attributes work in synergy, such that their contributions are greater when taken together (Luthans & Youssef-Morgan, 2017), in the present study, we used the overall mean score for the scale (psychological capital), which demonstrated excellent reliability ( $\alpha = .92$ ).

**Teacher satisfaction.** Teachers’ levels of satisfaction with the teaching profession was assessed with the question “How satisfied are you at work?”. The participants responded on a 6-point scale (0 = *Very little or not at all*; 5 = *Highly*).

**Burnout.** Levels of teacher burnout were assessed using the *Maslach Burnout Inventory* for teachers (MBI-Ed; Maslach et al., 1996), in its validated Spanish version (Seisdedos, 1997). The scale has 22 items to measure three dimensions: emotional exhaustion (e.g., “At the end of the work day I feel exhausted”), depersonalization (e.g., “I think I behave less sensitively towards people since I’ve been doing this job”), and personal accomplishment (e.g., “I have done many worthwhile things in this job”). The responses to the items are given on a 6-point scale (1 = *Never*; 6 = *Every day*). In the present study, we found acceptable indices of internal consistency in emotional exhaustion ( $\alpha = .91$ ) and personal accomplishment ( $\alpha = .77$ ), and a low index in depersonalization ( $\alpha = .41$ ). Nonetheless, these indices were similar to those reported by Ferradás et al. (2019).

**Self-efficacy for teaching strategies for self-regulation of learning.** This variable was evaluated using the *Teachers Self-Efficacy Scale to implement Self-Regulated Learning* (TSES-SRL) (De Smul et al., 2018). This instrument measures teachers’ beliefs about their own competence for teaching students to be self-regulated in their learning. The TSES-SRL has 20 items (e.g., “How capable do you feel of teaching your students to use apply different self-regulation strategies for learning?”) which are introduced with the question “To what extent do you think you can do the following?”. Responses are given on a 5-point scale (1 = *I cannot do it at all*; 5 = *I am very confident I can do it*). There was no Spanish version of the TSES-SRL, meaning that for this study, it needed to be translated (first, two experts in English translated it independently into Spanish;

then they swapped their translations and translated them back into English to check the suitability of the Spanish version). The reliability of the scale in the present study was excellent ( $\alpha = .93$ ), as it was in the original study (Heirweg et al., 2018).

**Teaching approach.** Teachers’ teaching processes were evaluated using the S-ATI-20 scale (*Spanish Approaches to Teaching Inventory*) (González-Geraldo & Hernández-Pina, 2015). It has 20 items, 10 assessing student-centered teaching approaches (e.g., “In my interaction with students in this subject I try to develop a conversation about the topics we are studying”), and 10 assessing teacher-centered teaching (e.g., “This subject needs to be fully described in terms of specific objectives about what the students have to know with respect to the evaluation”). The responses are recorded on a Likert-type scale with 5 values (1 = *Rarely or never*; 5 = *Always or almost always*). The reliability of the S-ATI-20 in the present study ( $\alpha = .64$  in the teacher-centered dimension, and  $\alpha = .78$  in the student-centered dimension) was similar to values found in previous studies (e.g., Monroy et al., 2014).

### Procedure

The study was approved by the Principality of Asturias Ethics Committee (Code: project 70/19), and all of the protocol followed the international guidelines of the committee. The questionnaire items were distributed using Google Forms, and links were sent to various school authorities to distribute to their teachers. This included a form explaining the objectives of the study and informing potential participants that taking part was voluntary, anonymous, and confidential. There was also a document for them to indicate informed consent, in line with the ethical principles of the Helsinki Declaration. Participation was not rewarded financially, and the participants were free to stop participating at any point.

### Data analysis

The data were analyzed in two stages. First, the descriptive statistics were calculated, along with the correlations between the variables, in order to decide the most appropriate analytical approach for the study objective. Secondly, a structural equations model (SEM) was specified using AMOS24 (see Figure 2). Given that the variables were normally distributed, the model was specified using the method of maximum likelihood. Goodness of fit was determined using the most widely recommended statistics (Hu & Bentler, 1999): Chi-squared, GFI (Goodness-of-Fit Index), AGFI (Adjusted Goodness-of-Fit Index), TLI (Tucker–Lewis Index), CFI (Comparative Fit Index), RMSEA (Root Mean Square Error of Approximation), and ECVI (Expected Cross Validation Index). While the first six of those provide information about the theoretical model’s goodness of fit to the empirical data, the ECVI gives information about how far we might expect those results to be replicated in an independent sample or in future studies. There is evidence of a good fit when Chi-squared has a value of  $p > .05$ ; GFI, AGFI, and TLI  $\geq .90$ ; CFI  $\geq .95$ , and RMSEA  $\leq .06$  (Arbuckle, 2013). In addition, the

data are robust when the ECVI for the selected model is smaller than for the saturated model. The effect size was calculated from the *CR* statistic provided by AMOS (*CR* exhibits a similar distribution to the *z* statistic), using the software developed by Lenhard and Lenhard (2016). According to Cohen's *d* (Cohen, 1988): null effect ( $d \leq 0.09$ ); small ( $d = 0.10 - 0.49$ ); intermediate ( $d = 0.50 - 0.79$ ); large ( $d \geq 0.80$ ).

## Results

### Preliminary analysis

Although the sample of teachers covered infant ( $n = 21$ ), primary ( $n = 43$ ), secondary ( $n = 32$ ), and *Bachillerato* ( $n = 17$ ) stages, in the study we worked with the overall sample ( $N = 113$ ) because there were no statistically significant differences in any of the variables included in the model, with the exception of the teacher-centered teaching approach ( $p < .01$ ). Table 1 shows the descriptive statistics (mean, standard deviation, asymmetry, and kurtosis) and Pearson correlation matrix for the variables in the model. According to the criteria from Finney and DiStefano (2006) ( $As \leq \pm 2$ ;  $Ku \leq \pm 7$ ), all of the variables followed a normal distribution. They were also sufficiently correlated, which is a necessary condition for performing multivariate analysis ( $KMO = 0.75$ ; Bartlett's  $\chi^2 = 252.73$ ,  $p < .001$ ).

### Initial model fit

The initial evaluation of the model, shown in Figure 2, did not demonstrate adequate fit ( $\chi^2_{18} = 45.30$ ;  $p < .001$ ; GFI = .919; AGFI = .837; TLI = .817; CFI = .883; RMSEA = .115). A review

of the indices of fit and the residuals indicated the potential of including the direct effect of satisfaction as a teacher on a teaching approach focused on constructing knowledge, which is theoretically justifiable. By altering the model, including that effect, the fit of the modified model was a notable improvement on the initial model (AIC of the initial model 81.296, AIC of the final model 70.621), giving an acceptable fit ( $\chi^2_{17} = 32.621$ ;  $p < .05$ ; GFI = .939; AGFI = .871; TLI = .889; CFI = .933; RMSEA = .089). It is worth noting that the evaluation of the residuals and the modification indices suggested a substantial improvement to the model fit by including a second effect, that of self-efficacy on burnout. This would have involved calculating a reciprocal relationship that would make sense theoretically but would not be permitted by the transversal design used in the study. Hence we did not change the model. Lastly, the final model produced a smaller ECVI than the reference model (.614/.626). Table 2 shows the full results for the model fit.

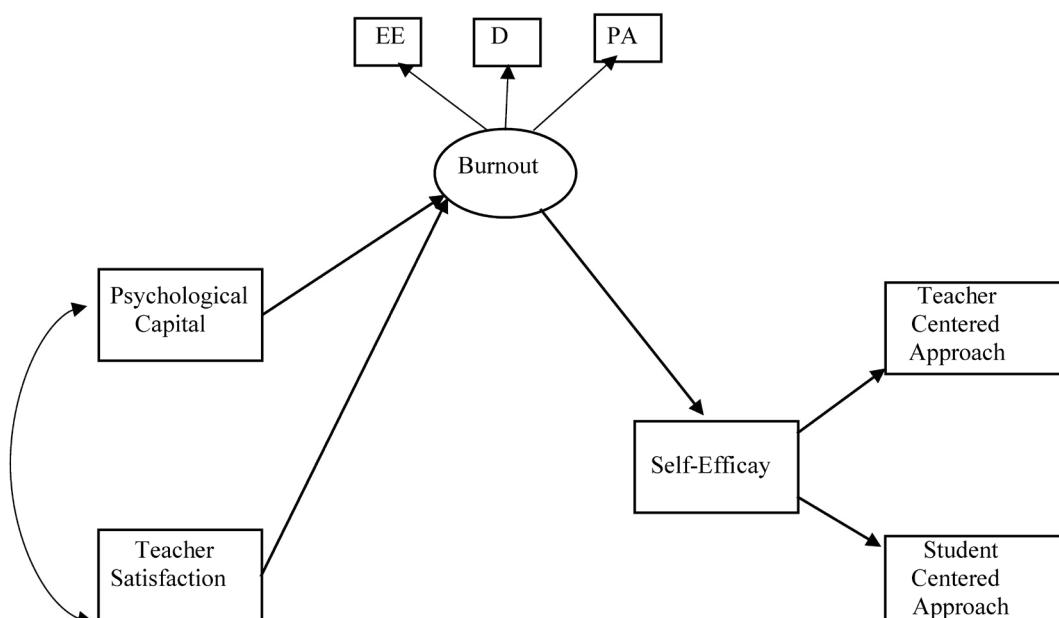
### Evaluation of the final model

The data showed that teacher burnout was directly and negatively explained by psychological capital and by the level of satisfaction with the job of teaching (with a very high level of explained variance: 84.1%). In addition, the level of burnout negatively predicted teacher self-efficacy for teaching learning self-regulation strategies (24.1% of the variance).

In terms of the relationship between self-efficacy and teaching approach, whereas self-efficacy was shown to be a positive predictor of a student-centered teaching approach (21% of the variance; intermediate effect size,  $d = 0.52$ ), it did not demonstrate a significant effect on having a teacher-centered

**Figure 2**

SEM model of predictors and consequences of burnout



Note. AE (Emotional Exhaustion), D (Depersonalization), RP (Personal Accomplishment).

**Table 1***Descriptive statistics and correlation matrix for the study variables*

	CAP_PSI	SAT_DOC	AE	D	RP	AU_SRL	ENF_CONS	ENF_TRAN
CAP_PSI	—							
SAT_DOC	.42**	—						
AE	-.58**	-.53**	—					
D	-.30**	-.28**	.39**	—				
RP	.58**	.52**	-.51**	-.26**	—			
AU_SRL	.48**	.26**	-.20*	-.30**	.43**	—		
ENF_CONS	.29**	.38**	-.10	-.07	.26**	.32**	—	
ENF_TRAN	.08	.10	-.20*	-.05	.01	.08	.06	—
<i>M</i>	4.62	4.15	23.67	6.76	40.42	3.55	3.89	3.12
<i>SD</i>	0.58	0.83	8.87	2.01	5.07	0.60	0.59	0.55
Asymmetry	-0.57	-0.87	0.85	1.13	-0.59	-0.17	-0.78	-0.25
Kurtosis	0.41	0.42	0.12	0.29	-0.24	0.01	0.27	-0.45

Note. CAP\_PSI (Psychological Capital), SAT\_DOC (Teacher Satisfaction), AE (Emotional Exhaustion), D (Depersonalization), RP (Personal Accomplishment), AU\_SRL (Self-efficacy for teaching self-regulation strategies), ENF\_TRAN (Teacher-centered approach—focused on transmission of information), ENF\_CONS (Student-centered approach—focused on the construction of knowledge). The variables AE, D, and RP were used to construct the latent (burnout) variable in the model.

\* $p < .05$ ; \*\* $p < .01$ .

**Table 2***Results of model fit (direct effects)*

	SRW	SE	<i>t</i>	<i>p</i>	<i>d</i>
CAP_PSI → BURNOUT	-.641	.990	-7.000	<.001	1.750
SAT_DOC → BURNOUT	-.441	.640	-5.254	<.001	1.137
BURNOUT → AU_SRL	-.490	.010	-4.855	<.001	1.027
AU_SRL → ENF_TRAN	.081	.085	0.857	.392	—
AU_SRL → ENF_CONS	.233	.088	2.593	.010	0.503
SAT_DOC → ENF_CONS	.319	.064	3.561	<.001	0.711

Note. CAP\_PSI (Psychological Capital), SAT\_DOC (Teacher Satisfaction), AU\_SRL (Self-efficacy for teaching self-regulation strategies), ENF\_TRAN (Teacher-centered approach—focused on transmission of information), ENF\_CONS (Student-centered approach—focused on the construction of knowledge), SRW (standardized regression coefficients), SE (errors of estimation), *t* (Student *t*), *p* (probability), *d* (Cohen's *d*).

\* $p < .05$ ; \*\* $p < .01$ .

**Table 3***Predictors and consequences of teacher burnout (indirect effects)*

	<i>b</i>	<i>p</i>
SAT_DOC → AU_SRL	.216	<.001
SAT_DOC → ENF_CONS	.050	.009
SAT_DOC → ENF_TRAN	.017	.403
CAP_PSI → AU_SRL	.314	<.001
CAP_PSI → ENF_CONS	.073	.008
CAP_PSI → ENF_TRAN	.025	.419
BURNOUT → ENF_CONS	-.114	.011
BURNOUT → ENF_TRAN	-.040	.425

Note. *b* (regression coefficient), *p* (probability), CAP\_PSI (Psychological Capital), SAT\_DOC (Teacher Satisfaction), AU\_SRL (Self-efficacy for teaching self-regulation strategies), ENF\_TRAN (Teacher-centered approach—focused on transmission of information), ENF\_CONS (Student-centered approach—focused on the construction of knowledge).

\* $p < .05$ ; \*\* $p < .01$ .

teaching approach (0.09% of the variance). Finally, teacher satisfaction directly and positively predicted a student-centered teaching approach, with an intermediate effect size ( $d = 0.70$ ).

Lastly, Table 3 shows the indirect effects found from the study. Psychological capital and the level of satisfaction with teaching indirectly influenced, through levels of burnout, both self-efficacy (31.3% and 21.6% of total variance explained, respectively) and a student-centered teaching approach (7.6% of the variance explained for psychological capital, 5.4% for teacher satisfaction). Finally, the level of burnout demonstrated an indirect negative effect (11.9% of the variance), through self-efficacy, on having a student-centered teaching approach.

## Discussion

In line with a growing emphasis on teacher wellbeing, the present study aimed to examine the effect of psychological capital and job satisfaction on burnout and the impact of that effect on teachers' teaching practices, both in terms of self-efficacy for teaching self-regulated learning strategies and the teaching approach adopted by the teachers.

The results confirm some of the hypotheses we established initially. In line with our first hypothesis (H1) and with previous studies (Freire et al., 2020; Li et al., 2019; Molero et al., 2019; Peng et al., 2019; Skaalvik & Skaalvik, 2020; Xie et al., 2022), both psychological capital and teachers' job satisfaction were shown to be direct, negative predictors of burnout, with a notable effect size. According to the JDR model (Schaufeli, 2017), the availability of good personal resources, even in very demanding environments, would significantly reduce the likelihood of experiencing psychopathological states. Our findings are consistent with this idea, confirming the important role of psychological capital and job satisfaction in reducing teacher burnout (Granziera et al., 2021). The JRD model also indicates the positive contribution of personal resources to adaptive psychological functioning. From this point of view, it is possible that psychological capital and job satisfaction work in synergy, not only against burnout, but also contributing to teachers' psychological wellbeing, as demonstrated by Kurt and Demirbolat (2019) in secondary-school teachers.

The results also confirmed our second hypothesis (H2) about the direct negative effects of the level of teacher burnout on self-efficacy for teaching self-regulation strategies. Assuming a more than plausible bi-directional relationship between self-efficacy and teacher burnout (Skaalvik & Skaalvik, 2010), the latter may be a predictor of beliefs of competency for professional performance (Brouwers & Tomic, 2000). According to that, teachers who are affected by burnout will probably have few mastery experiences in their daily practice (Skaalvik & Skaalvik, 2007), and may suffer maladaptive physiological or internal somatic states (Melamed et al., 1999). In light of the fact that these (experiences of mastery and internal physiological states) are two of the sources that contribute most to shaping self-efficacy (Bandura, 1997), this may be a plausible explanation about the decrease in self-perceived competency seen in teachers suffering high levels of burnout.

The hypothesized direct relationship between self-efficacy for teaching self-regulation strategies and teaching approach (H3) was partially confirmed. Teacher self-efficacy demonstrated a direct positive relationship with implementation of student-centered teaching. This seems to confirm that teachers who feel themselves to be highly capable of teaching self-regulation strategies are more likely to adopt a teaching approach focused on the student as constructor of their own knowledge (Czerniak & Schriver, 1994), in which the teachers role is overwhelmingly aimed at providing support and guidance (Fong et al., 2019).

In addition, as we hypothesized (H4), self-efficacy was also shown to be a mediating variable between the level of teacher burnout and the adoption of student-centered teaching approaches. Our findings suggest, in line with other studies (Buric & Frenzel, 2021; Pellerone et al., 2020), that with low levels of burnout, there is an increased tendency for teachers to adopt teaching approaches that stimulate the students to actively construct their own learning. This relationship was mediated by the perceived self-efficacy for teaching strategies for self-regulated learning. That would indicate that, in the absence of burnout, teachers feel more capable of encouraging students to adopt strategies of planning, monitoring, and assessing their own learning, adopting teaching approaches in line with this belief.

However, in contrast to what we hypothesized, our results did not show a consistent relationship between self-efficacy for teaching self-regulation strategies and having a teacher-centered teaching style, either directly (H3), or as a mediating variable in the relationship between the level of burnout and this teaching approach (H4). There are various reasons that may explain these unexpected findings. One possibility is that adopting a transmissive approach does not depend so much on such a specific dimension of self-efficacy as teaching self-regulatory strategies as it does on other aspects associated with teachers' self-perceived competence (for example, classroom management, student engagement, other teaching strategies), as other studies have suggested (González et al., 2018; Poulou et al., 2019). It is also plausible that other factors, such as the type of teaching motivation (controlling, autonomous, or amotivated) or beliefs about the malleability of student intelligence (fixed or growth mindset), may better explain the teaching approach adopted (Vermote et al., 2020). In fact, although we did not initially hypothesize this relationship, our results show that both job satisfaction and psychological capital demonstrated a significant positive effect on having a student-centered teaching approach. In both cases, this effect would be indirect (through self-efficacy), although there was also a direct effect for job satisfaction. Our findings support the growing line of research that links teacher wellbeing to the adoption of adaptive teaching strategies (Turner & Thielking, 2019).

### Practical implications

One important practical implication of our findings is the desirability of interventions aimed specifically at strengthening psychological capital and teacher job satisfaction. These interventions would no doubt need an institutional environment that

engages with innovation and collaborative working, and the establishment of channels for teachers to participate in decision-making.

#### *Limitations of the study and future lines of research*

Although our results may be supported by replication in future studies, at present they do have some limitations. The first is the small sample size, and the clear predominance of women in the sample, which restricts any extrapolation of the results. Secondly, the depersonalization dimension that was part of the MBI-Ed instrument had poor internal consistency. This limitation has been flagged by various studies with non-English-speaking samples. Finally, it is important to note possible biases resulting from data collection that was solely through self-reporting.

Given these limitations, it would be useful for new studies to use procedures and samples that are representative of the teaching population, considering variables such as sex, years of teaching experience, and type of school (public vs. private). Using other measuring instruments, particularly for burnout, may also provide additional evidence of validity and reliability for the results of our study. Along these lines, new studies using other methods (observations, interviews with teachers and students) may make valuable contributions to the study of teacher wellbeing and its implications for burnout and professional performance. It may also be interesting scientifically for future studies to specifically analyze the contribution of each component of psychological capital to the reduction of teacher burnout.

## Conclusions

The main contribution of this study is the identification of psychological capital and teacher job satisfaction as valuable personal resources, not only in reducing the tendency to experience burnout, but also in stimulating beliefs (self-efficacy for teaching self-regulation strategies) and behaviors (teaching focused on students constructing knowledge) which are adaptive in everyday classroom practice.

## Conflict of interest

The authors have no conflicts of interest to declare.

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