

# Teachers' Interpersonal Self-Efficacy: Evaluation and predictive capacity of teacher burnout

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## Abstract

**Introduction.** This study analyzed the predictive capacity and incremental validity of teachers' interpersonal self-efficacy on their levels of burnout. First, it presents the validation process of a Spanish adaptation of the Teacher Interpersonal Self-Efficacy Scale –TISES- (Browsers & Tomic, 1999, 2001). Second, the predictive capacity of interpersonal self-efficacy on teacher burnout is analyzed.

**Method.** The data came to 103 teachers from different levels of the Spanish educational system (55 women, 48 men, age range: 24-56). An adaptation of the TISES, a Spanish version of the Maslach Burnout Inventory for Teachers –MBI-ES-, and a questionnaire developed ad-hoc for various Sociopersonal teacher variables (gender, years of teaching experience and educational level) were applied. The factorial validity of the Spanish adaptation of TISES was assessed with a confirmatory factor analysis -CFA-, while its predictive and incremental validity was assessed through various hierarchical multiple regression analysis.

**Results.** CFA confirms the TISES three oblique factors original structure: SE in Classroom Management, SE in Eliciting Support from Colleagues, and SE in Eliciting Support from Principals. All the subscales present satisfactory levels of internal consistency and association levels similar to those shown by the original version of the instrument. The three self-efficacy subscales present significant levels of association with the burnout dimensions, and they are shown to be significant predictors of burnout, especially the dimension of SE in Classroom Management. The variables considered in the study explain a high percentage of variance in the different burnout dimensions (42.6% of Emotional Exhaustion, 45.3% of Depersonalization and 48.8% of Personal Accomplishment), showing the incremental validity of interpersonal self-efficacy with regard to the teachers' sociopersonal variables considered.

**Discussion and Conclusion.** The study confirms the relationship of teachers' interpersonal self-efficacy and burnout, highlighting the appropriateness and usefulness of adapting the TISES. Results are discussed, emphasizing the importance of promoting the development of teachers' self-efficacy as a preventive factor of burnout.

**Keywords:** Interpersonal Self-Efficacy, Teacher Self-Efficacy, Teacher Burnout, Factorial validity, Predictive validity.

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# Análisis de la relación entre la autoeficacia interpersonal del profesorado y sus niveles de burnout

## Resumen

**Introducción.** Este trabajo se centra en la evaluación y en el análisis de la capacidad predictiva de la autoeficacia interpersonal del profesorado sobre sus niveles de burnout. Se destaca la utilidad del estudio, dada la ausencia en nuestro contexto de instrumentos de evaluación sobre este constructo psicoeducativo, así como el notable impacto de la percepción de nivel de apoyo social y del mantenimiento de relaciones satisfactorias y de ayuda en el trabajo sobre el estrés docente.

**Método.** En el estudio participan 103 profesores de distintos niveles del sistema educativo español (55 mujeres, 48 hombres, rango de edad: 24-56), a los que se aplicó una adaptación del Teacher Interpersonal Self-Efficacy Scale –TISES- y la versión española del Maslach Burnout Inventory for Teachers, junto a un cuestionario elaborado ad-hoc que recoge distintas variables sociopersonales del profesorado (sexo, años de experiencia docente y nivel formativo). La validez factorial de la adaptación española del TISES se evalúa a través de un análisis factorial confirmatorio –AFC-, mientras que su validez predictiva e incremental se evalúa a través de diversos análisis de regresión jerárquica múltiple.

**Resultados.** Se confirma la estructura original del TISES de tres factores oblicuos (percepción de autoeficacia en la gestión del aula, en la obtención de apoyo de compañeros y en la obtención de apoyo del equipo directivo del centro). Las tres subescalas de autoeficacia muestran niveles de consistencia interna satisfactorios y se relacionan de forma significativa con las dimensiones del burnout –especialmente la percepción de autoeficacia en la gestión del aula-, constatando su validez predictiva e incremental sobre los niveles de burnout del profesorado.

**Discusión y Conclusión.** Se confirma la relación de la percepción de autoeficacia interpersonal del profesorado con sus niveles de burnout, destacando la adecuación y utilidad de la adaptación del TISES. Se discuten los resultados, enfatizando la importancia de promover el desarrollo de la autoeficacia como factor preventivo del burnout, ya sea a través de la mejora de las habilidades instruccionales y de gestión del aula del profesorado, como de la potenciación de sus habilidades de trabajo en equipo y coordinación.

**Palabras Clave:** Autoeficacia interpersonal, Autoeficacia del profesorado, Burnout docente, Validez factorial, Validez predictiva.

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## Introduction

Teacher self-efficacy is an important topic in the psychoeducational research (Duffin, French, & Patrick, 2012; Woolfolk Hoy, Davis, & Pape, 2006), given its close relationship with a broad set of instructional variables, motivation, and the academic results of students in the different levels, modalities and curricular areas of the educational system (Caprara, Barbaranelli, Steca, & Malone, 2006; Hoy & Woolfolk, 1993). At the same time, it is also related to teachers' instructional efficacy and motivation (Woolfolk Hoy, & Davis, 2006), their level of absenteeism and job-leaving, and job satisfaction, stress levels and burnout (e.g., Domènech, 2006, 2009; Evers, Brouwers & Tomic, 2002; Klassen & Chiu, 2010; Moè, Pazzaglia, & Ronconi, 2010; Moriana & Herruzo, 2004; Skaalvik & Skaalvik, 2007, 2010; Schwarzer & Hallum, 2008).

### *Research on teacher self-efficacy*

Teacher self-efficacy has considerable implications for instructional planning and development, as it affects the establishment of objectives and goals by the teachers, the activities and evaluation methods they apply (Bandura, 1997), and the effort they are willing to make in trying to achieve them. Thus, teachers with a high sense of self-efficacy will tend to think that their students' difficulties can be resolved with the appropriate support, activities and evaluation methods, which means that their involvement and persistence will be greater. On the other hand, teachers with lower self-efficacy will tend to believe that they can have less influence on their students, which means they will show less involvement, reducing the probability of obtaining satisfactory results. Moreover, teachers' self-efficacy also shows a close relationship with their collective efficacy (beliefs within teaching teams about their ability to organize and carry out effective action proposals), which is closely linked to schools' results because a strong sense of group capacity establishes expectations of success and norms of persistence and great effort (Skaalvik & Skaalvik, 2007, 2010; Woolfolk Hoy, Davis, & Pape, 2006).

Research has also focused on analyzing the relationship between teacher self-efficacy and some sociopersonal variables (e.g., gender, academic education or work experience), obtaining inconclusive results. Thus, although many studies show that women usually present higher levels of self-efficacy than men -and more specifically in elementary, special and higher education- (Vera, Salanova & Martín del Río, 2011),

other studies indicate the opposite in the case of specific dimensions and tasks (e.g., Klassen & Chiu, 2010). Regarding academic education, results indicate that in primary education, teachers with higher levels of academic preparation usually show greater self-efficacy (Hoy & Woolfolk, 1993). On the other hand, although some studies show a direct relationship between self-efficacy and work experience, others point out that there is a significant increase during the academic training stage that declines in the first year of teaching experience and is related to the level of support received in the schools (Woolfolk Hoy & Burke, 2005), while other studies have found a non-linear relationship –decreasing in the final professional stage - (Klassen & Chiu, 2010).

Although initially the research took a more general point of view (e.g., Gibson & Dembo, 1984), more recent studies have used a more contextual and situational perspective, pointing out that teachers' self-efficacy can vary from one specific task to another (e.g., teachers may perceive themselves as quite competent to objectively evaluate their students' knowledge, but they may have doubts about their ability to develop motivating activities in the classroom). Thus, "teacher efficacy is the teacher's belief in his or her ability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, 233). Logically, based on this perspective, a diverse and broad range of instruments have been developed (Vera, Salanova, & Martín-del-Río, 2011) to evaluate teacher self-efficacy and its relationship with the different instructional skills (e.g., classroom management, Emmer & Hickman, 1991) or different tasks and modalities of the educational system (e.g., special education, Coladarci & Breton, 1997). Along these lines, Tschannen-Moran and Woolfolk-Hoy (2001) consider three dimensions in their evaluation: (1) instructional strategies, (2) classroom management, and (3) involving the students. In a similar way, Cherniss (1993) also highlights three domains: tasks (teaching skills, discipline and motivating students), interpersonal skills (ability to work with others, especially students, co-workers and the school leadership), and organization (ability to influence social and political aspects in organizations).

### *Teacher interpersonal self-efficacy*

The present study focuses specifically on interpersonal efficacy, given the lack of instruments designed for its evaluation in Spanish and its importance in the educational context. This construct refers to the development and maintenance of satisfactory

relationships and support at work, both with students and the rest of the school community (co-workers and leadership team). In this sense, previous studies in secondary education show that the level of social support perceived by teachers has a noteworthy impact on their self-efficacy (Brouwers, Evers & Tomic, 2001), especially in novice teachers compared to more experienced ones (Tschannen-Moran, & Woolfolk Hoy, 2007). In addition, the perception of lack of social support from co-workers and the school stands out among the main sources of teacher stress, and the perception of job obstacles related to it (e.g., lack of motivation and discipline on the part of the students or the perception of lack of social support) plays a key role in the development of teacher burnout (Llorens, García-Renedo, & Salanova, 2005).

From this perspective, based on previous studies that have pointed out the relationship between perception of lack of support from co-workers and/or the principal and burnout (e.g., Greenglass, Burke & Konarski, 1997), Brouwers and Tomic (2000, 2001) developed the *Teacher Interpersonal Self-Efficacy Scale –TISES-* in order to evaluate the interpersonal self-efficacy of teachers and test its predictive capacity of teacher burnout. More specifically, they consider the evaluation of three complementary dimensions: (a) confidence in their ability to effectively manage the behavior of the students – maintain order and cooperation in class-, (b) confidence in eliciting the instrumental and emotional support of co-workers, and (c) confidence in eliciting support from the school leadership team. In their studies, they show the structural validity, psychometric fit and predictive capacity of the TISES on teachers' burnout levels (Brouwers, Evers & Tomic, 2001). It is currently one of the teacher self-efficacy evaluation instruments that has been most widely referenced and utilized in later studies (e.g., Vera, Salanova & Martín del Río, 2011).

### *Purpose*

Given the interest in this psychological construct, the lack of available instruments in Spanish for its evaluation, and its usefulness from the point of view of psychoeducational evaluation and intervention in schools, the purpose of this study is to analyze the adaptation of the TISES to the Spanish population, testing its structural validity, its psychometric fit and its predictive validity of teachers' burnout levels. Furthermore, the study also considers different sociopersonal variables that have had controversial

results about their relationship with teacher self-efficacy (gender, academic education and work experience) and teacher burnout.

## Method

### *Participants*

The sampling frame consisted of all Secondary compulsory and non-compulsory (vocational training) schools in the Valencian Community (Spain). An a priori power analysis was performed to determine the minimum sample size required to detect, with a power of .95 ( $\alpha = .05$ ,  $1 - \beta = .95$ ), a medium effect size ( $f^2 = .15$ , Cohen, 1988), resulting in a minimum sample size of 119 participants (Faul, Erdfelder, Lang & Buchner, 2009; García, Pascual, Frías, Van Krunkelsven & Murgui, 2008). Data were collected from 14 schools selected by simple cluster sampling from all schools (Kalton, 1983).

Participants in this study were 103 regular classroom teachers, 48 men (46.6%) and 55 women (53.4%), aged 24 to 56 years old ( $M = 38.1$  years old,  $SD = 9.47$  years old). Their teaching experience ranged from 1 to 33 years ( $M = 13.47$  years,  $SD = 9.12$  years); regarding their academic education, most of them had a “licenciatura” degree (86.4%) –a 5-year university degree program - while the others had a “diplomado” degree –a shorter 3-year degree program at teacher college- (13.6%). Although the sample size was lower than expected ( $N = 103$ ), a sensitivity analysis (Faul et al., 2009; García et al., 2008) showed that it could detect a slightly higher effect size ( $f^2 = .17$ ) with a power of .91.

### *Instruments and variables*

As stated above, the TISES (Brouwers & Tomic, 2001, 2002), which underwent adaptation and validation in this study, is a self-administered instrument containing 24 items that measure teachers' confidence in their interpersonal abilities to (a) manage student behavior in the classroom, (b) elicit support from colleagues, and (c) elicit support from school principals. Teachers' responses were measured using a 6-point Likert-type scale, where 1 corresponds to “*strongly disagree*” and 6 to “*strongly agree*”. The three dimensions on the original version of the TISES were:

- *Perceived self-efficacy in Classroom Management*. It is made up of 14 items -1, 4, 5, 8, 9, 10, 11, 13, 14, 15, 17, 18, 22 and 24- (e.g., “I am able to respond adequately to defiant students”, “I am always able to make my expectations clear to students”). Its response range is from 14-64 ( $M = 3.56$ ,  $SD = 0.61$ ), and its internal consistency is .92.
- *Perceived self-efficacy in Eliciting Support from Colleagues*. This scale evaluates teachers’ confidence in their capacity to elicit from colleagues the support they need at work. It consists of 5 items -3, 7, 20, 21 and 23- (e.g., “When necessary, I am able to ask a colleague for assistance”), with a response range from 5-30 ( $M = 3.77$ ,  $SD = 0.84$ ) and an internal consistency of .91.
- *Perceived self-efficacy in Eliciting Support from Principals*. This scale evaluates teachers’ confidence in their ability to elicit from principals the support they need at work. It is made up of 5 items -2, 6, 12, 16 and 19- (e.g., “I am confident that if necessary I can ask the principals for advice”), with a response range from 5-30 ( $M = 3.37$ ,  $SD = 1.13$ ) and an internal consistency of .95.

Teacher burnout was measured using a Spanish version of the Maslach Burnout Inventory for Teachers (MBI-ES, Ferrando & Pérez, 1996). The MBI-ES contains 22 items designed to evaluate teachers’ Emotional Exhaustion, Depersonalization and Personal Accomplishment. Teachers’ responses were measured using a 7-point Likert-type scale, where 1 corresponds to “never” and 7 to “every day”. The three dimensions the MBI-ES evaluates are the following:

- *Emotional Exhaustion –EE-*. Evaluates the teachers’ reduction in and loss of emotional resources and their feelings of physical and emotional exhaustion resulting from the ongoing interactions in their work context. It contains 9 items (e.g., “Working with people causes me a lot of tension”) with a response range of 9-63. Its internal consistency is .90 (in this study .87).

- *Depersonalization –DP-*. Development of negative attitudes, insensitivity and cynicism toward co-workers, parents and students. It consists of 5 items (e.g., “I think

I have become insensitive toward people”) with a response range of 5-35. Its internal consistency is .79 (in this study .80).

- *Personal Accomplishment –PA-*. Loss of confidence in achieving goals in the teaching context and feelings of professional incompetence. It consists of 8 items (e.g., “I effectively deal with my students’ problems”), and its response range is between 8-56. Its internal consistency is .71 (in this study .84).

Lastly, the teachers’ sociopersonal and occupational variables considered (*Gender, Years of Teaching Experience and Academic Education*) were obtained through a questionnaire developed *ad-hoc* for this purpose.

### *Procedure*

The original version of the TISES was translated into Spanish independently by two translators who compared their respective versions until agreeing on the most appropriate translation. This preliminary version was presented for analysis and discussion to a group of three university professors and two school psychologists. After careful consideration, they unanimously pointed out the need to introduce some minimal changes, obtaining the version of the scale that has been used in this study. Different collaborators distributed the questionnaires to the teachers participating in the study and were responsible for collecting them once they had been filled out.

### *Data Analyses*

In order to test the factorial validity of the TISES a confirmatory factor analysis (CFA) was performed using the EQS (Version 6.1) program. Under the assumption that the three factors were interrelated because they are part of the larger construct of perceived interpersonal self-efficacy, we expected that the three-factor oblique model would provide a better fit to the data than the one-dimensional and two-dimensional oblique models. First, we tested the one-dimensional model, in which all items belonged to a single latent construct of teachers’ perceived self-efficacy (Model 0). Second, the two-dimensional oblique model assumed that there were two correlated factors: *Perceived self-efficacy in Classroom Management* and a second factor composed of the other two subscales (*Perceived self-efficacy in Eliciting Support from Colleagues* and *Perceived self-efficacy in Eliciting Support from Principals*) (Model T<sub>1</sub>). In a third step,

we freed error covariances for the strongly correlated pairs of items within the same factor in the two-dimensional oblique model (Model Tr<sub>1</sub>). Fourth, we tested the three-correlated factor model (Model T<sub>2</sub>), and fifth, based on this model, error covariances for the strongly correlated pair of items within the same factor were set free (Model Tr<sub>2</sub>). Because the data in this study did not have a normal distribution, we applied the maximum-likelihood procedure with robust estimation in CFA, the Satorra-Bentler Chi-square Statistic (Satorra & Bentler, 2001), and other alternative model fit measures under conditions of lack of normality: Comparative fit index (CFI; Bentler, 1990) and the root mean square error of approximation (RMSEA; Hu & Bentler, 1999) with its 90% confidence interval (CI). CFI values  $\geq .90$  indicate a good fit (Medsker, Williams & Holahan, 1994; Marsh & Hau, 1996); RMSEA values  $\leq .05$  are indicative of good fit, values in the range of .05 - .08 can be considered as a reasonable fit, and values  $> .10$  indicate a poor fit (Browne & Cudeck, 1992).

Lastly, in order to determine the relationship and predictive capacity of the *TISES* dimensions on teacher burnout, three different multiple hierarchical linear regression analyses were performed, considering the burnout dimensions as dependent variables.

## Results

### *Preliminary ítem analyses*

Descriptive statistics for the items were conducted to find out whether the data were normally distributed. Univariate skew was met in 22 of the 24 items, and univariate kurtosis was confirmed for 9 items. Univariate normality (DeCarlo, 1997: *D'agostino-Pearson K<sup>2</sup> omnibus test*; *Jarque-Bera LM test*) was not confirmed for any item. The four tests were performed by setting  $\alpha = .05$  (DeCarlo, 1997, p. 304; García, Musitu, Riquelme, & Riquelme, 2011).

### *Factorial Validity*

CFA results showed that the three-dimensional oblique model with residual variance (Model Tr<sub>2</sub>) provides a better fit than the alternative models (one-dimensional and two-dimensional oblique models) (see Table 1). Figure 1 shows the graphic representation of the resulting factorial model.

**Table 1. Fit indexes for the confirmatory models of TISES**

MODEL	SB- $\chi^2$	df	SB- $\chi^2/df$	RMSEA [CI 90%]*	CFI
Tr <sub>2</sub> . Theoretical + r <sub>error</sub> #	351.46	244	1.44	.06 [.04 - .08]	.90
T <sub>2</sub> . Theoretical: 3 Obliq. Fact.	434.61	249	1.74	.08 [.07 - .10]	.83
Tr <sub>1</sub> . Theoretical + r <sub>error</sub> #	384.88	246	1.56	.07 [.06 - .09]	.87
T <sub>1</sub> . Theoretical: 2 Obliq. Fact.	469.50	251	1.87	.09 [.08 - .10]	.80
O. One-dimensional	487.23	252	1.93	.10 [.08 - .11]	.78

Note: SB- $\chi^2$  = Satorra-Bentler chi-square; df = degrees of freedom; RMSEA = root mean squared error of approximation; CFI = comparative fit index.

\* CI: the 90% confidence interval (CI) for RMSEA.

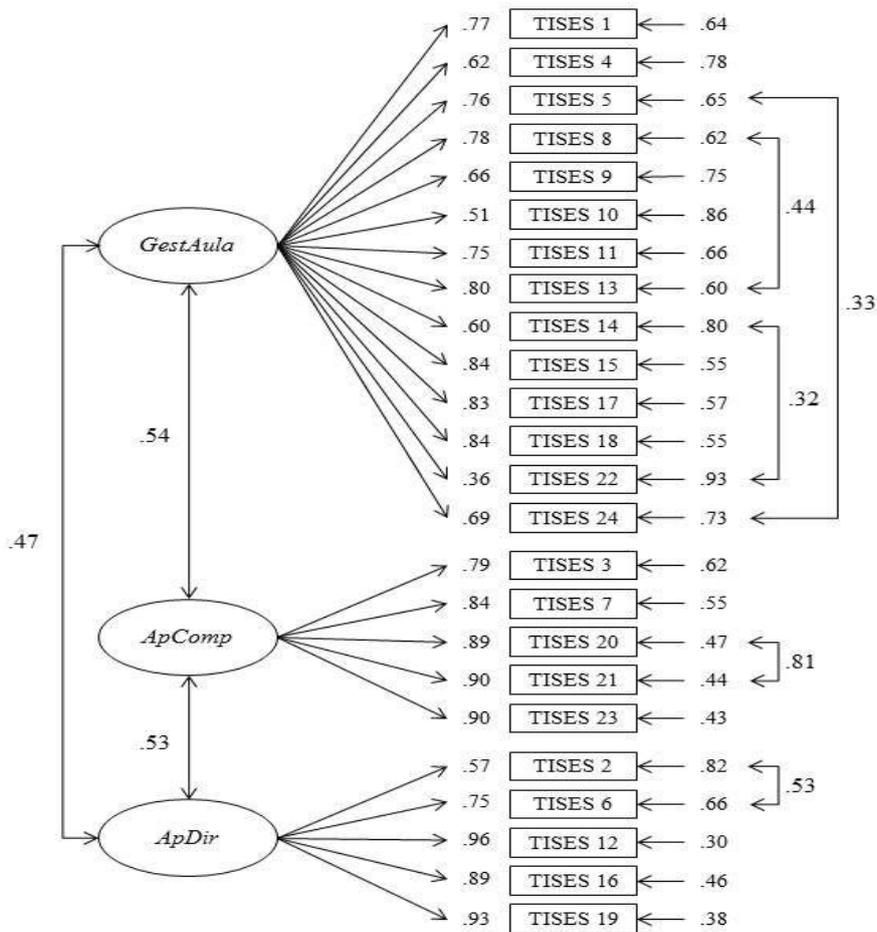
# Models Tr<sub>1</sub> and Tr<sub>2</sub> are the same as T<sub>1</sub> and T<sub>2</sub>, respectively, with the restriction of independence for errors in pairs: 8-13, 8-24, 14-22, 20-21 and 2-6.

### Reliability

The internal consistency of the TISES subscales was assessed using Cronbach's alpha. Results showed satisfactory reliability coefficients: *SE Classroom Management*,  $\alpha = .93$ , *SE in Eliciting Support from Colleagues*,  $\alpha = .94$ , and *SE in Eliciting Support from Principals*,  $\alpha = .92$ . These values are similar to those obtained in the original study (Brouwers et al., 2001).

### Interpersonal Teacher Self-efficacy and Burnout

In hierarchical regression analysis, Model 1 considers *Gender*, *Years of teaching experience*, and *Academic Education* as explanatory variables, while Model 2 also considers the interpersonal teacher self-efficacy dimensions.



**Figura 1. Confirmatory factor analysis results**

A prior analysis was performed of the relationships between the explanatory variables and the burnout dimensions (Table 2). It shows that the level of association among the three subscales of the TISES is significant, with the highest values reached by the correlations between *Support from Colleagues* and *Support from Principals* ( $r = .56, p < .001$ ). Additionally the teachers' sociopersonal variables considered did not present a significant relationship with the dimensions of interpersonal self-efficacy, although *Years of teaching experience* did with the three dimensions of burnout. Finally,

the TISES dimensions and Teaching experience showed significant levels of association with the subscales of the MBI, presenting the highest value for the relationship between *Self-efficacy in Classroom Management* and PA ( $r = .64, p < .001$ ).

**Table 2. Correlations among variables**

Variable	1	2	3	4	5	6	7	8	9
1. Gender	1.00								
2. Teaching Experience	-.20*	1.00							
3. Academic Education	-.08	.12	1.00						
4. SE Classroom Management	-.14	-.00	.10	1.00					
5. SE Support Colleagues	.01	-.06	.18	.51***	1.00				
6. SE Support Principals	-.15	.12	.02	.50***	.56***	1.00			
7. Emotional Exhaustion	-.07	.26**	-.03	-.58***	-.37***	-.19	1.00		
8. Depersonalization	-.11	.26**	-.01	-.59***	-.44***	-.31***	.64***	1.00	
9. Personal Accomplishment	-.01	-.22*	-.07	.64***	.36***	.43***	-.60***	-.65***	1.00

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

Results of the multiple regression analysis (Table 3) show that Model 1 did not significantly predict teachers' EE ( $F(3,99) = 2.5, p = .062$ ), and that Model 2 does significantly predict it ( $F(6,96) = 11.9, p < .001$ ). Furthermore, Model 2 significantly increases the percentage of variance in teachers' EE explained by Model 1 ( $\Delta R^2 = .16, F(3,96) = 19.0, p < .001$ ). More specifically, Model 1 explains 7.1% of the criterion variance, and Model 2 manages to explain 42.6% of the criterion, with *Self-efficacy in Classroom Management* ( $\beta = -.60; p < .001$ ) and *Years of teaching experience* ( $\beta = .21; p < .05$ ) being introduced in the equation.

**Table 3. Regression analysis summary**

Variable	R <sup>2</sup>	Beta	t
Dependent variable: Emotional Exhaustion	.426		
Independent variable			
Gender		-.10	-1.2
Years of Teaching Experience		.21	2.6*
Academic Education		.02	0.2
SE Classroom Management		-.60	-6.3***
SE Support Colleagues		-.15	-1.5
SE Support Principals		.15	1.5

Dependent variable: Depersonalization	.453	
Independent variable		
Gender	-.13	-1.6
Years of Teaching Experience	.22	2.8**
Academic Education	.04	0.5
SE Classroom Management	-.53	-5.7***
SE Support Colleagues	-.17	-1.7
SE Support Principals	.01	0.1
Dependent variable: Personal Accomplishment	.488	
Independent variable		
Gender	.05	0.6
Years of Teaching Experience	-.22	-2.8**
Academic Education	-.10	-1.3
SE Classroom Management	.57	6.4***
SE Support Colleagues	-.03	-.33
SE Support Principals	.19	2.0*

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

Additionally, Model 1 did not significantly predict teachers' DP ( $F(3,99) = 2.6$ ,  $p = .056$ ), but Model 2 does significantly predict it ( $F(6,96) = 13.3$ ,  $p < .001$ ) and significantly increases the percentage of variance in teachers' DP explained by Model 1 ( $\Delta R^2 = .38$ ,  $F(3,96) = 22.2$ ,  $p < .001$ ). Model 1 explains 7.3% of the criterion variance, and Model 2 explains 45.3%, with *Self-efficacy in Classroom Management* ( $\beta = -.53$ ;  $p < .001$ ) and *Years of teaching experience* ( $\beta = .22$ ;  $p < .01$ ) being introduced in the equation.

Lastly, Model 1 did not significantly predict teachers' PA ( $F(3,99) = 1.8$ ,  $p = .14$ ), while Model 2 does significantly predict it ( $F(6,96) = 15.2$ ,  $p < .001$ ). Model 2 significantly increases the percentage of variance in academic performance explained by Model 1 ( $\Delta R^2 = .43$ ,  $F(3,96) = 27.1$ ,  $p < .001$ ). Model 1 explains 5.4% of the criterion variance, and Model 2 manages to explain 48.8%, with *Self-efficacy in Classroom Management* ( $\beta = .57$ ;  $p < .001$ ), *Years of teaching experience* ( $\beta = -.22$ ;  $p < .01$ ), and *Self-efficacy Support from Principals* ( $\beta = .19$ ;  $p < .05$ ) being introduced in the equation.

## Conclusions

The results showed the factorial validity and psychometric fit of the Spanish adaptation of the TISES. The AFC highlights that a three-dimensional oblique model, corresponding to its original structure -*SE in Classroom Management*, *SE in Eliciting Support from Colleagues*, and *SE in Eliciting Support from Principals*- showed a satisfactory fit to the data, providing a better fit than the alternative models considered. The results also show its psychometric fit, given that the subscales obtained present satisfactory levels of internal consistency (alpha superior to .90) and levels of association among them similar to those highlighted in the original validation studies (Brouwers & Tomic, 2001; Brouwers et al., 2001). The highest level of association was found between *SE in Eliciting Support of Colleagues* and *SE in Eliciting Support from Principals*, both focused on teachers' level of confidence for eliciting the instrumental and emotional support of co-workers and the school leadership in the activities carried out in the schools.

As we anticipated, the levels of association between the dimensions of interpersonal self-efficacy and burnout are significant, reaching moderate values (level of association between *SE Classroom Management* and *Personal Accomplishment* above .64) and in the expected direction, so that higher beliefs of interpersonal self-efficacy are related to lower levels of burnout. Along these lines, Friedman (2003) points out that self-efficacy for managing the classroom (maintaining discipline, maintaining smooth communication with students or being an effective teacher at incorporating the constructive comments of co-workers and parents), as well as organizational self-efficacy (perception of feeling socially accepted and influencing the school leadership), present significant inverse relationships with teachers' levels of burnout. On the other hand, this study shows that the highest levels of association with teachers' burnout levels are reached by *SE in Classroom Management* (range between .58 and .64), supporting the idea that the interpersonal self-efficacy dimension that acts as the main protective factor against burnout is teachers' confidence in their ability to manage the behavior and possible problems created by the students and maintain an appropriate work climate and cooperation in the classroom. These results also coincide with those found in the original TISES validation studies and with longitudinal studies carried out with high school teachers (Brouwers & Tomic, 2000; Brouwers et al., 2001).

This study has also shown the inexistence of significant relationships between the teachers' sociopersonal variables considered (gender, years of experience, and education) and the dimensions of interpersonal self-efficacy, although the years of professional experience did show a positive relationship with burnout. The regression analyses showed the incremental validity of the self-efficacy dimensions on the teachers' sociopersonal variables to predict the levels of burnout, managing to jointly explain 43% of the variance in Emotional Exhaustion, 45% of Depersonalization, and 49% of Personal Accomplishment. More specifically, in the resulting regression equations, two self-efficacy scales contribute significantly to predicting burnout, *SE for Classroom Management* –on all the burnout dimensions- and *SE for Support from Principals* –only in the case of Personal Accomplishment-. Similarly, Friedman (2003) concludes that the main predictors of teacher burnout levels are *Classroom Consideration Efficacy* (self-efficacy to encourage the students to express their feelings and opinions in the classroom in order to respond to their cognitive and emotional needs) and *Organizational Influence* (perception of feeling socially accepted and being able to influence the opinions and decisions of the leadership teams), which also present significant inverse relationships with levels of teacher burnout. However, the resulting regression equations in his study present an explanatory capacity for burnout that is slightly lower than what was obtained in the present study (20% of variance for Depersonalization, 5% for Exhaustion and 8% for Personal Accomplishment).

In summary, this study confirms the importance of teachers' perceptions of interpersonal self-efficacy and their relationship with teachers' burnout levels, highlighting the validity and psychometric fit of the Spanish adaptation of the TISES. This tool is of special interest in the educational context, given that it evaluates the perception of maintaining satisfactory and supporting relationships on the job –both with students and with other components of the school (co-workers and principals)-, as well as its high predictive capacity of teachers' burnout levels. Future studies must continue to analyze the relationship between teachers' interpersonal variables, interpersonal self-efficacy –incorporating the relationships with the students' parents- and levels of burnout. It is especially important to explore the causal relationship between the latter two, given the considerable implications for comprehension and effective intervention in this area. Along these lines, as Skaalvik and Skaalvik (2010) pointed out, the relationship between self-efficacy and burnout is probably reciprocal, given that reduced self-efficacy

can increase levels of burnout, but high burnout levels can also cause teachers to have worse results in their teaching activity which, in turn, can affect their perception of self-efficacy. In another vein, the research should also emphasize the analysis of interventions that encourage the development of self-efficacy as a preventive factor in teacher burnout, whether through improving teachers' instructional and classroom management skills or by fostering their ability to engage in team work and coordinate with co-workers and leaders in schools.

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