Burnout, stress and resilience in the competitive examination process for educational corps

Burnout, estrés y resiliencia en el proceso de oposición a cuerpos educativos

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Abstract

Preparing for a permanent position as a teacher in the public teaching profession in Spain is a complex and tedious process that can lead to the appearance of disruptive mental states in the candidate. In light of the above, this research aims to study the levels of resilience, stress, burnout syndrome and hours of study among candidates applying for public teaching posts at different levels of education and to investigate the effects of resilience, stress and burnout syndrome on the number of hours of study spent by candidates at different levels of education through structural equation modelling. For the development of the research, a descriptive, comparative and cross-sectional study was carried out on a sample of 4117 candidates

in early childhood education, primary and secondary education. The instruments used have been validated by the scientific community and adapted to Spanish showing a high degree of reliability. In this case, the questionnaires used were the Perceived Stress Scale (PSS), the Maslach Burnout Inventory (MBI) and the Connor-Davidson Resilience Scale (CD-RISC). The results show that candidates for the pre-primary and primary education corps have higher levels of stress and burnout syndrome than candidates for the secondary education corps. In addition, secondary school teacher candidates show higher levels of resilience and a higher number of study hours. In conclusion, it is stated that the levels of burnout, stress and resilience may vary according to the educational stage for which the candidates are applying and that resilience is a fundamental element that helps to prevent and channel the negative states derived from stress and burnout syndrome.

Keywords: education system, stress, teacher burnout, resilience academic, Preschool Education, Elementary Education, Secondary Education.

Resumen

La preparación para conseguir una plaza fija como maestro del cuerpo público docente en España es un proceso complejo y tedioso que puede originar la aparición de estados mentales disruptivos en el opositor. Atendiendo a todo lo citado anteriormente, esta investigación muestra los objetivos de estudiar los niveles de resiliencia, estrés, síndrome de burnout y horas de estudio entre los candidatos que optan a un puesto docente público en los diferentes niveles educativos e investigar los efectos de la resiliencia, el estrés y el síndrome de burnout sobre el número de horas de estudio que dedican los candidatos en los distintos niveles educativos a través de un modelo de ecuaciones estructurales. Para el desarrollo de la investigación se ha llevado a cabo un estudio descriptivo, comparativo y de corte transversal en una muestra de 4117 opositores de educación infantil, primaria y secundaria. Los instrumentos empleados han sido validados por la comunidad científica y adaptados al castellano mostrando un alto grado de fiabilidad. En este caso los cuestionarios empleados han sido la Escala de Estrés Percibido (PSS), el Inventario de Burnout de Maslach (MBI) y la Escala de Resiliencia de Connor-Davidson (CD-RISC). Atendiendo a los resultados, estos ponen de manifiesto que los opositores al cuerpo de educación infantil y primaria presentan niveles más altos de estrés y síndrome de burnout que los candidatos al cuerpo de educación secundaria. Además, los candidatos a profesores de secundaria muestran mayores niveles de resiliencia y un mayor número de horas de estudio. Como conclusion, se afirma que los niveles de burnout, estrés y resiliencia pueden variar en fucnión de la etapa educativa a la que se presentan los opositores y que la resiliencia es un elemento fundamental que ayuda a prevenir y a canalizar los estados negativos derivados del estrés y del síndrome de burnout.

Introduction

Currently, the role of teachers in society is essential to understand the educational reality of every country (Parker et al., 2022). In this regard, the Spanish process of selection of teachers at the preschool, elementary, lower secondary and upper secondary levels differs from the rest of Europe in that the Spanish recruitment process involves a two-phase state examination (Suárez-Riveiro et al., 2013). The first one consists in demonstrating breath of knowledge specific to each education level that teacher candidates apply for (Real Decreto 270/2022). This demonstration is carried out through a written examination about a topic randomly chosen by the examination board where the teacher candidate sits the exam (Real Decreto 270/2022). The second phase of the examination aims to test the teaching aptitude of the candidates as well as the necessary techniques to hold a teaching position. This phase consists in the defense of a unit of work (Real Decreto 270/2022).

The process of training for these state examinations leads teacher candidates, who are commonly known as *"opositores"* in the Spanish education field, to start preparing for the public examination with high self-imposed expectations (Calderón et al., 2020). Undergoing constant levels of high expectations results in an increase in levels of stress and the onset of disruptive states that decrease the motivation needed for tasks, directly influencing the preparation for the public examination (de la Fuente y Amate, 2019).

In this regard, one of the most common states in this process is the burnout syndrome (Gutentag et al., 2017). This term is defined as a state of physical, mental and emotional exhaustion that results in a lack of interest in an activity or profession (Freudenberger, 1989; Tikkanen et al., 2022). In the education field, teachers have manifested a higher degree of physical and mental exhaustion when carrying out their duties (Agyapong et al., 2022). Likewise, the preparation for an examination over a long period of time increases the levels of burnout syndrome (Daumiller et al., 2021). It has also been observed that different variables come into play as catalyzers for the onset of physical and mental exhaustion, stress being one of those variables (Zhao et al., 2022).

Stress has been defined by numerous authors, however, this state is characterised by mental fatigue resulting from the effort to perform above the current level of competence, which contributes to the onset of mental and physical disorders (Zhen et al., 2022). Its onset is not spontaneous, but is characterised by an onset divided into three phases (Selye, 1975). The first phase consists of an alarm reaction whereby the subject becomes alert to a given stimulus (Selye, 1975). After the continuation of this phase, a resistance phase takes place, in which individuals cope with the stressor (Selye, 1975). The last phase consists of an exhaustion phase, in which the subject shows signs of mental and physical fatigue as a result of coping with the stressor stimulus (Selye, 1975).

Teaching is one of the most mentally and physically exhausting occupations, as teachers show increased levels of stress (Raducu and Stanculescu, 2022). The study conducted by de la Fuente and Amate (2019) showed that during preparation for the state examination for a public teaching post in Spain, high stress levels are the result of self-imposed high expectations as well as a sense of uncertainty. In contrast, factors such as resilience have been found to prevent increased stress levels and the occurrence of burnout syndrome (Yu et al., 2022).

Resilience is defined as the capacity that individuals possess to recover from adverse situations (Bartell et al., 2019). In the education field, resilience is defined as the aptitude to overcome any negative effect with the view to developing the competitiveness in the social, vocational and academic field despite undergoing negative effects (Mansfield et al., 2016). Resilience has been demonstrated to play a key role in the education field to prevent the onset of disruptive and unfavorable states that affect the teaching practice (Zhang et al., 2020). Specifically, the study carried out by González-Valero et al. (2021) highlights that within the Spanish educational context, it is necessary to incorporate resilience into teacher training. Similarly, Díaz-Sánchez and Barra-Almagia (2017) establish that resilience is a factor that helps to develop job satisfaction despite intrinsic adversities such as lack of rest, social obstacles and mental health. Likewise, observations have been made that while preparing to get a permanent placement in the public system, the population with the lowest levels of stress and burnout syndrome have higher levels of resilience in addition to studying more hours (Melguizo-Ibáñez et al., 2022).

In light of the above, this study addresses the following questions: Does resilience contributes to reducing the effects of stress and the

burnout syndrome? Does the education level that teacher candidates qualify for directly exert influence in terms of resilience, burnout syndrome, stress and study hours?

Finally, the main research objective is to empirically study the levels of resilience, stress, burnout syndrome and study hours among candidates for public teaching positions at different educational levels and to investigate the effects of resilience, stress and burnout syndrome on the number of study hours spent by teacher candidates at different educational levels through structural equation modelling.

Research methods and Instruments

A cross-sectional, comparative descriptive study was carried out, with the data studied at a single point in time. In this case, the data were collected from January 2022 to May of the same year.

Sample

In this case, a total of 4169 participants took part, but the final sample consisted of a total of 4117 candidates. The reduction of the sample was mainly due to the fact that some participants did not fully answer the questionnaire and because others randomly completed some questions. Looking at the gender distribution of the sample, 33.1% (n=1363) is male and 66.9% (n=2754) is female. With regard to the distribution of the stage of education being applied for, 13.9% (n=574) of teacher candidates were applying for a place in early childhood education, 76.2% (n=3134) were applying for primary education and 9.9% (n=409) were applying for secondary education.

Regarding the distribution by Autonomous Community, Table I shows a summary of the population reached by each one of them.

Instruments

■ **Ad hoc sociodemographic questionnaire:** This instrument was used to study the sociodemographic variables, namely gender

Table I. Geographic distribution of the sample

	N	%
Andalusia	922	22.4%
Catalonia	158	3.8%
Community of Madrid	629	15.3%
Valencian Community	576	14.0%
Galicia	401	9.7%
Castille and Leon	254	6.2%
Basque Country	30	0.7%
Canary Islands	126	3.1%
Castille La Mancha	359	8.7%
Region of Murcia	213	5.2%
Aragon	73	1.8%
Balearic Islands	31	0.8%
Extremadura	110	2.7%
Asturias	113	2.7%
Navarre	39	0.9%
Cantabria	69	1.7%
La Rioja	14	0.3%
Total	4117	100.0%

(male/female), age, number of daily hours of study and the education level that teacher candidates were qualifying for (i.e., preschool, elementary or secondary education).

■ **Perceived Stress Scale (PSS)** (Cohen et al., 1983): Due to the characteristics and Spanish descent of the sample, the adapted Spanish version of the instrument by Remor (2006) was administered. This instrument consists of 14 questions that are answered with a five-point Likert scale. In light of the level of reliability of the instrument, the reliability coefficient Cronbach's alpha was used, which showed a value of $\alpha=0.899$

■ **Maslach Burnout Inventory (MBI)** (Maslach & Jackson, 1981): For this study, the adapted Spanish version of the instrument

by Seisdedos (1997) was used. This instrument evaluates three dimensions of the burnout syndrome. The first dimension assesses emotional exhaustion, the second one depersonalization and the last one the level of personal accomplishment. In regard to the reliability analysis of this instrument, the coefficient Cronbach's alpha had a value of $\alpha=0.909$.

■ **Connor-Davidson Resilience Scale (CD-RISC)** (Connor & Davidson, 2003): Due to the geographic characteristics of the target sample, the adapted Spanish version of the instrument by Crespo et al. (2014) was used. This instrument assesses resilience using five factors for the following dimensions: persistence/tenacity/self-efficacy, control under pressure, adaptability and support networks, control and purpose, and spirituality. In this instance, the reliability analysis had a value of $\alpha=0.879$.

Procedure

In order to collect the data, a literature study was carried out beforehand to find out about the different instruments used and their degree of reliability. Once the instruments for data collection had been established, a Google Form document was created that included these instruments and the objectives of the research. Most of the data were collected telematically. For this purpose, the different social networks were used, inviting only education opponents to collaborate. The only criterion for inclusion was that the participants had to be candidates in pre-school, primary or secondary education. In addition, all participants took part in the study on a voluntary basis. Before being given access to the instrument, they were asked for their informed consent and were assured that the data would be processed for scientific purposes and anonymously. To ensure that the responses were not random, two questionnaires were duplicated, eliminating respondents whose answers were not identical in the questionnaires. As a result, 13 respondents were discarded. Furthermore, the research followed the criteria established in the Declaration of Helsinki and was approved and supervised by an ethics committee of the University of Granada (2966/CEIH/2022).

For the comparative analysis of the results, the statistics software IBM SPSS Statics 25.0 (IBM Corp, Armonk, NY, U.S.) was used. Firstly, the

normality of the distribution of the sample was evaluated with the Kol-
mogorov-Sminov test. Upon obtaining a normal distribution, we proceed-
ed to conduct an ANOVA for a single factor, examining the differences
among the teacher candidates qualifying for a permanent placement in
the public education system at the pre-school, elementary and secondary
levels. For the analysis of the statistically significant differences, a signifi-
cance level of $p \leq 0.05$. was established. To calculate the statistical power,
the standardized Cohen's d was used (Cohen, 1992). With respect to the
value obtained, the value can be classified into four levels: null (≤ 0.19),
small (0.20-0.49), medium (0.50-0.79) and large (≥ 0.80).

To develop the structural equation modeling, the statistical software
IBM SPSS Amos 26.0 (IBM Corp., Armonk, NY, U.S.) was used. Each
proposed model consists of a total of eleven variables. Nine of them
are endogenous (STR; EE; DP; PR; CP; PER; CUP; ADP; SP) and two are
exogenous (BURN; RES). For the latter group of variables, a casual expla-
nation is put forward departing from the reliability of the measures and
indexes. Accordingly, the measurement errors of the distinct models were
included. In respect of the direction of the arrows, unidirectional rela-
tionships are interpreted by taking the regression weights as a starting

FIGURE I. Theorethical model proposed
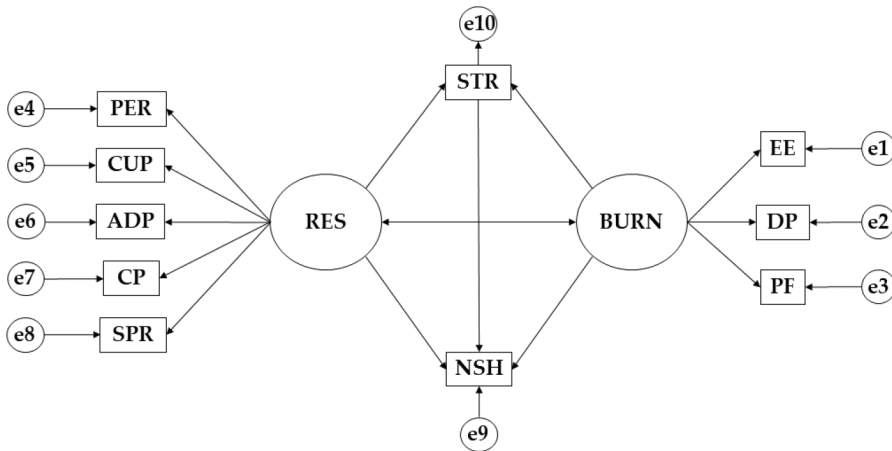
Note: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP);
Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality
(SPR); Resilience (RES); Burnout Syndrome (BURN).

point. To determine statistically significant differences, two levels of significance were established, one with a $p ≤ 0.05$ and another one with a $p ≤ 0.001$.

To assess the fit of the different models, the criteria established by Bentler (1990) and McDonald and Marsh (1990) were adopted. Goodness of Fit should be determined using the chi-square test, with non-significant values indicating good model fit. Also, the values of the Comparative Fit Index (CFI), Goodness of Fit Index and Incremental Fit Index should be greater than 0.900, while the Root Mean Squared Error of Approximation (RMSEA) scores should be less than 0.100 to obtain a good fit.

Results

Table II shows the results obtained from the comparative analysis. The results obtained for the stress variable indicate that the participants with the highest values are the early childhood education candidates (36.9425±7.53203). With respect to the variables related to burnout syndrome, it is obtained that the candidates for early childhood education have the highest levels of emotional exhaustion (38.5024±7.61440). Continuing with depersonalisation, it is observed that primary education candidates show the highest levels (16.6211±6.32141), while secondary education candidates had the highest levels of personalisation (26.9046±8.17550). In terms of resilience, secondary school candidates showed the highest levels of Persistence/Tenacity/Self-Efficacy (2.8020±0.75042), Adaptability and Support Networks (2.8824±0.63159), Control and Purpose (2.7330±0.74486) and Spirituality (2.4230±0.79493). In contrast, early childhood education opponents show the highest levels of Control under pressure (2.5601±0.79503).

Continuing with the structural equation modeling, the model proposed for preschool teacher candidates preparing for the state examination demonstrated good fits for each of its indexes. The chi-square test indicated a non-significant p value ($χ2=5.738$; $df=31$; $pl=0.000$), but in spite of the good fit, the results cannot be interpreted isolatedly given the sample size and statistic sensitivity (Tenembaum & Eklund, 2007). For this model, the values of the Comparative Fit Index (CFI), the Goodness of Fit Index (GFI) and the Incremental Fit Index (IFI) were higher than 0.900 while the RMSEA showed a value of 0.086.

TABLE II. Comparisson regarding the education level that teacher candidates were qualifying for

		N	N	S.D	F	p	ES (d)	95% CI
STR	Pre-school education	574	36.9425	7.53203	30.339	≤ 0.05	0.115[a] 0.593[b] 0.453[c]	[0.026; 0.204][a] [0.464; 0.723][b] [0.350; 0.557][c]
	Elementary education	3134	35.9588	8.76870				
	Secondary education	409	31.9438	9.53601				
EE	Pre-school education	574	38.5024	7.61440	16.844	≤ 0.05	0.470[b] 0.386[c]	[0.341; 0.598][b] [0.282; 0.489][c]
	Elementary education	3134	37.7347	7.98429				
	Secondary education	409	34.5946	9.22580				
DP	Pre-school education	574	16.1477	6.86158	18.347	> 0.05	NP	NP
	Elementary education	3134	16.6211	6.32141				
	Secondary education	409	16.1134	6.83954				
PF	Pre-school education	574	24.1735	7.58864	6.104	≤ 0.05	0.470[b] 0.608[c]	[0.341; 0.598][b] [0.284; 0.491][c]
	Elementary education	3134	23.7809	8.03754				
	Secondary education	409	26.9046	8.17550				
PER	Pre-school education	574	2.4571	0.73786	19.679	≤ 0.05	0.464[b] 0.379[c]	[0.336; 0.593][b] [0.276; 0.482][c]
	Elementary education	3134	2.5074	0.78076				
	Secondary education	409	2.8020	0.75042				
CUP	Pre-school education	574	2.5601	0.79503	12.817	≤ 0.05	0.332[b] 0.434[c]	[0.204; 0.460][b] [0.331; 0.538][c]
	Elementary education	3134	2.5533	0.87439				
	Secondary education	409	2.2726	0.95660				
ADP	Pre-school education	574	2.6317	0.62969	15.107	≤ 0.05	0.398[b] 0.339[c]	[0.270; 0.526][b] [0.236; 0.442][c]
	Elementary education	3134	2.6568	0.66976				
	Secondary education	409	2.8824	0.63159				
CP	Pre-school education	574	2.4199	0.69198	19.139	≤ 0.05	0.438[b] 0.371[c]	[0.310; 0.567][b] [0.268; 0.475][c]
	Elementary education	3134	2.4584	0.73925				
	Secondary education	409	2.7330	0.74486				
SPR	Pre-school education	574	2.3438	0.81190	2.370	≤ 0.05	0.135[c]	[0.032; 0.238][c]
	Elementary education	3134	2.3052	0.88316				
	Secondary education	409	2.4230	0.79493				
NHS	Pre-school education	574	5.0436	2.14562	12.898	≤ 0.05	0.128[c]	[0.025; 0.231][c]
	Elementary education	3134	4.9076	2.39642				
	Secondary education	409	5.2127	2.27868				

Note I: [a] Differences between pre-school and elementary education; [b] Differences between pre-school and secondary education; [c] Differences between elementary and secondary education.
Note II: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality (SPR).

The results obtained for preschool teacher candidates show a positive relation between stress and resilience (β=0.009). hey also indicate a positive relation between stress and the burnout syndrome (*p*≤0.001; β=0.790). As regards the study hours, they suggest a negative relation with the burnout syndrome (*p*≤0.05; β=−0.511) and resilience (β=−0.064). By contrast, a positive relation was obtained between the study hours and stress (*p*≤0.001; β=0.467). Finally, the results point to a negative effect of the burnout syndrome on the levels of resilience (*p*≤0.001; β=−0.627).

The model proposed for elementary school teacher candidates preparing for the state examination demonstrated good measures of fit for each of its indexes. The chi-square test indicated a non-significant *p* value (χ2=4.569; df=16; pl=0.001). Similarly, the values of the Comparative Fit Index (CFI), the Goodness of Fit Index (GFI) and the Incremental Fit Index (IFI) were higher than 0.910 while the RMSEA showed a value of 0.079.

TABLE III. Proposed structural model for preschool teacher candidates

Associations between variables	R.W.				S.R.W.	
	Estimates	S.E.	C.R.	Estimates	S.E.	
STR ← RES	0.265	2.205	0.120	0.904	0.009	
STR ← BURN	1.546	0.223	6.919	***	0.790	
PER ← RES	1.000				0.318	
CUP ← RES	2.207	0.291	7.585	***	0.824	
ADP ← RES	2.180	0.284	7.664	***	0.893	
CP ← RES	−1.047	0.181	−5.768	***	−0.346	
SPR ← RES	2.471	0.323	7.644	***	0.872	
EE ← BURN	1.000				0.506	
DP ← BURN	0.680	0.096	7.108	***	0.375	
PF ← BURN	−1.315	0.130	−10.135	***	−0.659	
NHS ← RES	−0.530	0.647	−0.818	0.413	−0.064	
NHS ←BURN	−0.291	0.100	−2.907	**	−0.511	
NHS ← STR	0.136	0.035	3.907	***	0.467	
RES ← →BURN	−0.615	0.109	−5.657	***	−0.627	

Note I: Regression Weights (R.W.); Standardized Regression Weights (S.R.W.); Estimation Error (S.E.); Critical Ratio (C.R.).
Note II: ***p ≤ 0.001; **p ≤ 0.05.
Note III: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenaci+ty/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality (SPR).

FIGURE II. Proposed model for preschool teacher candidates
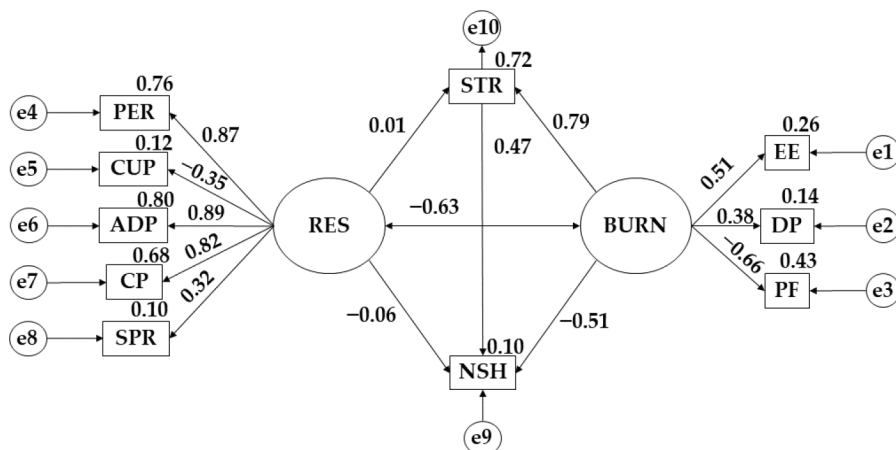
Note: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality (SPR).

## TABLE IV. Results of the proposed model for elementary education candidates

Associations between variables	R.W.				S.R.W.
	Estimates	S.E.	C.R.	Estimates	S.E.
STR ←RES	−3.579	1.562	−2.406	**	−0.072
STR ← BURN	1.347	0.068	19.857	***	0.769
PER ← RES	1.000				0.192
CUP ← RES	3.599	0.349	10.315	***	0.824
ADP ← RES	3.523	0.340	10.351	***	0.890
CP ← RES	−2.447	0.250	-9.784	***	−0.473
SPR ← RES	3.952	0.382	10.335	***	0.857
EE ← BURN	1.000				0.626
DP ← BURN	0.575	0.027	21.438	***	0.455
PF ← BURN	−1.118	0.037	−29.884	***	−0.696
NHS ← RES	1.138	0.448	2.538	**	0.080
NHS ←BURN	−0.106	0.029	−3.659	***	−0.222
NHS ← STR	0.052	0.012	4.265	***	0.190
RES ← →BURN	−0.578	0.061	−9.488	***	−0.681

Note I: Regression Weights (R.W.); Standardized Regression Weights (S.R.W.); Estimation Error (S.E.); Critical Ratio (C.R.).
Note II: ***p ≤ 0.001; **p ≤ 0.05.
Note III: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality (SPR).

FIGURE III. Proposed structural model for elementary school teacher candidates
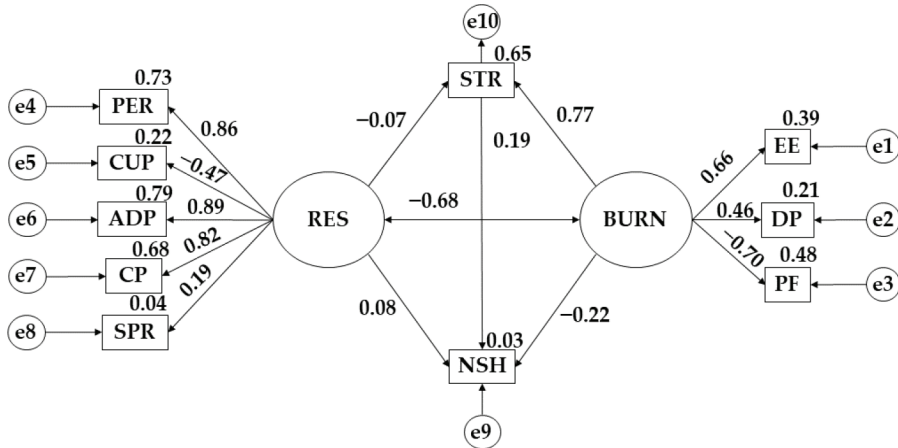
Note: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP) Spirituality (SPR).

The model developed for elementary school teacher candidates highlights the negative effect of resilience on stress ($p \leq 0.05$; β=−0.072). y contrast, a positive effect of the burnout syndrome on stress was observed ($p \leq 0.001$; β=0.769). As regards the daily study hours, the evidence suggests a negative effect of the burnout syndrome ($p \leq 0.001$; β=−0.222) and positive effects of stress ($p \leq 0.001$; β=0.190) and resilience ($p \leq 0.001$; β=0.080). Finally, the results point to a negative relation between resilience and the burnout syndrome ($p \leq 0.001$; β=−0.681).

The model proposed for secondary school teacher candidates preparing for the state examination demonstrated good measures of fit for each of its indexes. The chi-square test indicated a non-significant p value (χ2=5.538; df=13; pl=0.002). imilarly, the index values were higher than 0.900 while the RMSEA showed a value of 0.088.

The model developed for secondary school teacher candidates evidences the positive effect of resilience and the burnout syndrome on stress (β=0.419; β=0.251). As regards the daily study hours, the evidence suggests a negative effect of the burnout syndrome (β=−0.853) and resilience in like manner (β=−0.481). By contrast, a positive effect of stress on the hours of study was observed (β=0.193). Finally, the results

show a negative effect of resilience on the burnout syndrome ($p \leq 0,001$; β=−0.936).

Discussion

Following the presentation of the results above, the discussion that ensues aims to compare them with those of similar studies.

The present descriptive study highlights that secondary school teacher candidates preparing for the state examination have lower levels of stress than pre-school and elementary school teacher candidates. The results of secondary school teacher candidates stand in contrast with

TABLE V. Results of the proposed model for secondary school candidates

Associations between variables	R.W.				S.R.W.	
	Estimates	S.E.	C.R.	Estimates	S.E.	
STR ←RES	13.860	22.459	0.617	0.537	0.419	
STR ← BURN	2.377	1.365	1.741	0.082	0.251	
PER ← RES	1.000				0.365	
CUP ← RES	2.174	0.307	7.070	***	0.840	
ADP ← RES	1.899	0.267	7.120	***	0.872	
CP ← RES	−2.182	0.329	−6.635	***	−0.650	
SPR ← RES	2.258	0.317	7.113	***	0.867	
EE ← BURN	1.000				0.568	
DP ← BURN	0.393	0.074	5.299	***	0.289	
PF ← BURN	−1.161	0.106	−10.962	***	−0.717	
NHS ←BURN	1.000	1.735	−1.012	0.311	−0.853	
NHS ← RES	−19.666	20.170	−0.950	0.342	−0.481	
NHS ← STR	0.357	0.324	1.102	0.270	0.193	
RES ← →BURN	−1.376	0.241	−5.723	***	−0.936	

Note I: Regression Weights (R.W.); Standardized Regression Weights (S.R.W.); Estimation Error (S.E.); Critical Ratio (C.R.).
Note II: ***$p \leq 0.001$; **$p \leq 0.05$.
Note III: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality (SPR).

FIGURE IV. Proposed model for secondary school candidates
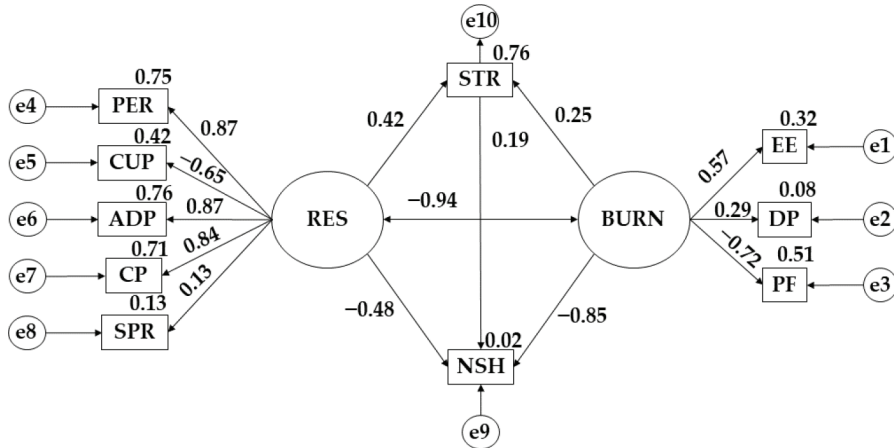
Note: Stress (STR); Emotional Exhaustion (EE); Depersonalization (DP); Personal Realization (PR); Control and Purpose (CP); Persistence/Tenacity/Self-Efficacy (PER); Control Under Pressure (CUP); Adaptability and Support Networks (ADP); Spirituality (SPR).

those of pre-school and elementary teacher candidates, in that the former group must study a greater number of topics (Orden EDU/3138/2011). Nonetheless, these results may be accounted for the fact that when the data was collected, the state examination for preschool and elementary school teacher candidates was imminent (Resolución de 25 de marzo de 2022). On this matter, the study undertaken by Zandi et al. (2021) indicates that when an examination is approaching, the levels of stress and anxiety increase due to self-imposed expectations to get good grades.

With reference to the burnout syndrome, pre-school and elementary school teacher candidates had higher levels of both mental exhaustion and depersonalization. By contrast, secondary school teacher candidates were found to have a greater sense of personal accomplishment. Concerning these findings, Khoshhal et al. (2017) state that during the preparation for a test, the onset of disruptive states is promoted driving individuals to emotional exhaustion (Ji et al., 2022). Similarly, getting good grades have been found to lead to an increase in personal accomplishment as well as in the academic self-concept (Paechter et al., 2022).

In terms of resilience, secondary school teacher candidates showed higher levels. In relation to these results, Liu et al. (2021) state that when an exam is approaching with long-term preparation, resilience levels are higher. This is in line with research by Yuan (2017), where he states that when exams are approaching, they negatively affect candidates' performance. In addition, candidates in early childhood and primary education were found to study fewer hours. Long-term preparation for an exam leads to increased mental and emotional exhaustion, which has an impact on study hours and, in turn, affects exam preparation in terms of attitude and performance (Melguizo-Ibáñez et al., 2022).

With respect to the effects suggested through the structural equation modeling, the evidence points to a positive effect between resilience and stress among preschool and secondary school teacher candidates. Conversely, a negative effect was observed between both variables among elementary school teacher candidates. Concerning these findings, Anyan et al. (2021) conclude in their study that resilience helps to prevent the effects generated by disruptive states such as anxiety and stress. This effect helps young people to enhance their academic performance and achieve better outcomes (Trigueros et al., 2020). Furthermore, in their study, Ursu and Mairean (2022) claim when a positive relation between disruptive states and resilience is evident, further development in emotion regulation on the subjects' side is needed given that disruptive states exert a stronger effect on resilience.

The results of the present study coincide with those obtained by González-Valero et al. (2022), who assert that the burnout syndrome increases the levels of stress because of the academic and job dissatisfaction that this state generates. Likewise, it has been observed that the burnout syndrome promotes other adverse states for peoples' mental health as it increases the levels of anxiety (Daumiller et al., 2021). The results of the present study also point to a negative effect of the burnout syndrome on the number of study hours among preschool and secondary school teacher candidates. By contrast, they suggest a positive effect among elementary school teacher candidates. Concerning these findings, a study conducted by Olson et al. (2015) concludes that resilience is a factor that benefits the preparation for a test. This capacity helps to mitigate the disruptive states that stem from the preparation process, and thus it helps to enhance performance (Olson et al., 2015).

With regard to the effect of the burnout syndrome and the number of study hours, this study identified a negative effect. Similar results were obtained by Melguizo-Ibáñez et al. (2022), who contend that the burnout syndrome affects the preparation for a test. Similarly, Zheng et al. (2022) conclude that the burnout syndrome promotes emotional exhaustion. A positive effect on the number of study hours was also observed. Results elsewhere found by Agyapong et al. (2022) suggest that undue stress can contribute to resignation from a given activity due to a feeling of distress or incompetence. Finally, a negative relation between the burnout syndrome and resilience was observed in this study. Similar results were obtained by Zhang et al. (2020), who claim that resilience is a mitigating factor that helps to prevent the onset of disruptive states.

Even though this study examines the proposed hypotheses and objectives, it faced a series of limitations that had implications for the investigation.

Firstly, these limitations have to do with the type of study. Given that this study is not longitudinal but cross-sectional, the variables can only be examined at a concrete point in time. The second limitation has to do with the instruments used for the data collection. In spite of the use of validated instruments by the scientific community, they inherently have errors of measurement.

For future lines of research, a program may set out to train teacher candidates sitting the state exam to mitigate disruptive states that stem from the preparation.

Conclusions

The present study investigated the levels of stress, burnout syndrome, resilience of number of study hours in a sample of teacher candidates qualifying for a permanent placement in the public Spanish education system.

The descriptive analysis highlights that pre-school and elementary school teacher candidates preparing for the state examination have higher levels of stress and burnout syndrome than secondary school teacher candidates. By contrast, secondary school teacher candidates show higher levels of resilience and study for more hours.

In respect of the models of structural equations, the results indicate a positive effect of resilience on stress among preschool and secondary

school teacher candidates. By contrast, they show a positive effect of resilience on the number of hours of study among elementary education teacher candidates. Furthermore, they reflect a positive effect of the burnout syndrome on stress. As regards the burnout syndrome, the results point to a negative effect on the number of study hours among all the teacher candidates. With respect to the effect of stress on the number of study hours, a positive relation was observed for all the teacher candidates. Finally, a negative effect of the burnout syndrome on resilience was observed in all the target population of the study.

To conclude, it can be asserted that the training to obtain a permanent teaching post in Spain raises the levels of burnout syndrome and stress among teacher candidates. In light of the findings, the key role of resilience must be highlighted as it prevents the onset of these states and enhances the academic performance in the state exam.

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