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ORIGINAL RESEARCH

Revamping Teacher Training for Challenging Times: Teachers' Well-Being, Resilience, Emotional Intelligence, and Innovative Methodologies as Key Teaching Competencies

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Purpose: This study aimed to design, implement, and evaluate a teacher training program to improve the quality and innovation of teaching practice. The program was designed to protect teachers' mental health and well-being, and increase their resilience and emotional competence while introducing innovative educational methodologies.

Participants and Methods: An experimental design using a control group and pre-/post-test empirical data was adopted to determine the effects of the 14-week teacher training program. The sample comprised 141 teachers with mean teaching experience of 13.1 years (SD = 6.84, 54.6% women).

Results: The program had a positive impact on teacher well-being, resilience, emotional competence, and self-efficacy, linked to the innovative and effective teacher methodologies included in the training.

Conclusion: More research is needed to expand on the findings and optimize teacher training implementation. The training provided in this study is evidence of the commitment to overcoming current educational framework challenges. The training contributes to teacher empowerment and provides knowledge, strategies, and resources for greater innovation and quality in the classroom – key to creating educational synergies for the emergence of stronger teachers in the face of adversity. We discuss future research directions for a better understanding of teacher training in the 21st century.

Keywords: teacher education programs, emotional resilience, teacher well-being, stress management, teacher empowerment

Introduction

Global challenges in education associated with the current health and social crisis have created many difficulties in teaching/learning practice, directly affecting the social, emotional, and professional lives of teachers. This article presents an experimental study conducted with primary education teachers to develop four key areas: 1) mental health and well-being; 2) resilience in the educational context; 3) emotional competence in teaching, and 4) innovative teaching methodologies to increase teacher efficacy. We designed, implemented, and evaluated a teacher training program to develop practical teaching/learning skills to promote teacher resilience and socio-emotional skills. These skills were applied to educational management in socio-health crisis scenarios.

First, scientific literature shows a positive association between teacher well-being and the appropriate performance of teachers in the classroom. Teacher well-being is related to self-realization and professional satisfaction and may reduce mental health concerns for teachers, even promoting school improvement processes. Research suggests that improved teacher well-being is possible through specific training targeted at fostering more collaborative interaction and safe-guarding accessibility to sources of social support in academic contexts.[1–4] Studies show that learners are focused and attuned to their teacher's mood. Learners usually observe when their teachers are feeling stressed, even if teachers try to

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hide their emotions. Teachers' moods affect all aspects of academic achievement and the learning atmosphere in the classroom. This influence may be more pronounced in busy or unexpected times of the course, like academic changes in teaching teams, assessment periods with time pressure, the pressure associated with extra-curricular activities, or unexpected events beyond teachers' control. Teachers' sense of well-being as interconnected individuals in a complex education system should be recognized because teacher well-being influences teaching quality.[5–7]

Given that mental health and teacher well-being impact teachers, learners, and the entire learning community, academic strategies are needed to promote mental health in schools and demonstrate that teachers can create support networks for this purpose. Support networks based on security, autonomy at work, reflection, and dialogic learning enable mutual support to maintain teacher and learner well-being and create supportive environments for the wider school community – even in uncertain times of crisis such as the COVID-19 pandemic and the associated complex academic scenario.[8–11]

Second, research shows significant positive correlations between key concepts like resilience, self-concept, social support, school engagement, and institutional culture.[12–14] Cultivating resilience in the educational domain through optimal teacher training enables a stronger educational community to emerge in the face of adversity. Teacher training demonstrates an important commitment to quality, continuous improvement, and progress in educational settings that are fraught with difficulty, as experienced in the COVID-19 pandemic. The literature describes the "phoenix technique" – or resilience – as a key issue in teacher training. The importance of working on teachers' resilience is evident in its impact on the motivational intensity and the academic performance of students. These findings encourage the design of additional interventions along these lines.[15–19]

Teacher resilience has a protective role in the inclusion of students with special educational needs or those at academic or social risk, especially in its role against emotional exhaustion and frustration. This issue is relevant because teachers work with all students and need to achieve enrichment through diversity. They must strive to establish positive synergies that favor students in their academic progression (regardless of difficulties), with the aim of overcoming the adversities of the educational situation to create broader systems around children, including peer networks, organizations, families, and communities led by resilient and empowered teachers.[20–24] All efforts to create resilient teachers should be promoted as this is how schools adapt to the unique risks to which subpopulations of children and youth with special difficulties are exposed.[25–29]

Third, empirical findings have consistently shown that teachers must master tools to achieve a teaching style that emphasizes correct management and emotional command in the classroom, understanding of the emotional dimension that stems from class group synergies, continuous commitment to improving the emotional skills of the educational community, and a teaching attitude based on knowledge and the achievement of security and emotional confidence in the classroom.[30–35] Such skills are needed to achieve an enriching classroom environment, encourage positive motivation, and obtain secure and trust-based learning patterns. Literature shows that teachers with high scores in emotional competence have high levels of personal well-being and an assertive educational style, highlighting the importance of training this competence, and its implications for the proper functioning of the educational community.[1] In addition, teachers' emotional competence impacts students' educational success.[36] Likewise, training teachers' emotional, interpersonal, and intercultural skills promotes a friendly, inclusive, and effective classroom environment, optimal development of students towards maturity, and socialization in the values of appreciation and respect for diversity.[37]

Research reveals that a school's structure of positive emotional goals and the consequent consonance of educational values are associated with teachers' feelings of belonging, well-being and mental health, prevention of emotional exhaustion, and level of professional satisfaction.[38] In the same way, student perceptions of teachers as sources of emotional support (and the classroom as an inclusive and safe environment) have been positively associated with intrinsic motivation and a favorable attitude for cultivating educational effort. An association has also been shown with the improvement of academic self-concept, adaptive help-seeking behavior in times of failure or frustration, and the sense of belonging and integration in school life.[39] In addition, an educational approach based on the promotion of emotional intelligence in teaching develops the ability to recognize, understand and manage emotions, and provides an educational framework that encourages members of the academic community to perform well under pressure and adapt to educational changes.[40] For these reasons, several investigations have concluded that it is important to include teacher

training in emotional competence to optimize and improve teaching practice and promote results of high instructional value through well-integrated educational development initiatives.[41–46]

These findings have significant implications for educational practice in terms of the importance of emotional competence as a predictor of positive classroom management, improvement in the academic performance of students, and promotion of student well-being.[47–51] Finally, teaching/learning methodologies and teacher collaboration represent key elements in the achievement of success in educational contexts, especially in situations of adversity.[52,53] For these reasons, teacher training aimed at developing teamwork and the acquisition of innovative methodologies easily applied to real front-line challenges in the classroom are excellent incentives for commitment to quality in schools in the 21st century.

Teacher Training Program: Contents, Hypotheses, and Educational Implications

The teacher training program took place over 14 weeks and was specifically designed to train primary education teachers in four key areas: 1) mental health and well-being; 2) resilience in the educational context; 3) emotional competence for teaching, and 4) innovative teaching methodologies to increase teacher efficacy. The course content was shared via a Moodle platform that combined two weekly synchronous coaching sessions of 105 minutes' duration for each session, together with an effective record of the work of the participating teachers on the platform through the time spent using the platform, the nature of their participation and the teaching work delivered to real classroom situations, and front-line challenges according to the progression in the following sessions (Table 1).

The aims of the research were to devise, implement, and evaluate a teacher training program that specifically addressed the four key skills of primary education teachers outlined above. The general objective of the present study was to establish whether the teacher training could protect the mental health and general well-being of teachers; increase resilience and emotional competence, and introduce them to innovative teaching methodologies. The following hypothesis was established:

The proposed teacher training is effective in exercising the socio-emotional competence applied to educational management in teachers, providing specific skills for the adoption of a resilient attitude, the achievement of psychological well-being, and the increase of emotional and teaching competence when teaching.

Table 1 Teacher Training Program

	Subject Index
1.	Presentation of the training and description of its four key issues: 1) mental health and wellbeing; 2) resilience in the educational context; 3) emotional competence in teaching and 4) innovating teaching methodologies' in order to increase teacher' efficacy.
2.	Teaching methodologies aimed at stress management in educational contexts and in adverse social and health conditions.
3.	Principles of neuroeducation and its association with key concepts of socio-emotional competence applied to classroom challenges.
4.	Resilience in educational contexts at the service of overcoming adverse educational and socio-health conditions.
5.	Practical pedagogical strategies for working in the classroom on the understanding of emotions, academic self-esteem, self-realization, and emotional self-awareness aimed at improving the academic performance of students.
6.	Mental health and psychological well-being in the teaching group in situations of adversity and health emergency: strategies and resources.
7.	Practical pedagogical strategies to work, in the classroom, on the identification of one's own emotions and the emotions of others, intrapersonal and interpersonal relationships, empathy and social responsibility.
8.	Emotional competence in teachers: training, strategies, and resources.
9.	Practical pedagogical strategies to work, in the classroom, on the expression of emotions and their educational implications.
10.	Innovative and successful teaching methodologies and educational plans.
11.	Practical pedagogical strategies to promote positive emotions in the classroom aimed at solving and coping with challenges, and the achievement of self-regulated learning, to improve the academic performance of students.
12.	Transfer of training content to face the risk of social exclusion and pay attention to the specific educational needs of all students.
13.	Dissertation and debate on the real experiences in the classroom obtained through the implementation of the principles of training, critical evaluation, and conclusions.
14.	Identification of limitations, acquisition of commitments, and definition of future lines of action.

Therefore, the potential educational implications of this research were as follows:

1. Exercising resilience, mental health, psychological well-being, and emotional intelligence in teachers through the training proposed, especially in overcoming the effects of the COVID-19 pandemic and the challenges arising in the education sector.
2. Training effective teaching methodologies directed towards overcoming tension factors in educational contexts.
3. Promoting educational plans designed by teachers that enable curricular recovery after the period of confinement in the COVID-19 pandemic, guaranteeing the academic progression of all students, especially vulnerable learners with special educational needs and/or family or socioeconomic challenges.

In summary, this study aimed to reduce the risk of social exclusion and promote attention to the special educational needs of students through the transfer of knowledge to teachers through the training provided. The training was directed towards empowerment in educational contexts of special difficulty, given the current extraordinary social and health conditions.

Materials and Methods

Participants

One hundred and forty-one participants who work as primary education teachers voluntarily participated in this study. Of the total sample, 54.6% were women and 45.4% men, with a mean age of 38.4 years (SD = 6.98 years). The average teaching experience was 13.1 years (SD = 6.84 years). The training was offered through the Official Teacher Training Centre to all active teachers in the region and the participants were selected in order of registration, offering 70 places in the experimental group (given that it is a necessary ratio to implement quality training) and an equivalent number for the control group. Once selected for the study, participants were randomly assigned to either the experimental or control group.

The first group (experimental, n = 70) participated in the teacher training program aimed at improving the following key variables during the educational crisis caused by COVID-19: 1) teachers' mental health and general well-being; 2) resilience; 3) emotional intelligence; and 4) the acquisition of innovative teaching methodologies. In contrast, the second group (control, n = 71) did not receive any training in teaching/learning methodologies or in socio-emotional competence applied to educational management.

Instruments

1. Connor-Davidson Resilience Scale (CD-RISC).[54] The scale consists of 25 items with a Likert-type response format with five response options (0 = not at all, 1 = rarely, 2 = sometimes, 3 = often, and 4 = almost always). The scale ranges from 0 to 100, with higher scores indicating a higher level of resilience. The questionnaire showed good psychometric properties in a validation study with the US population: the items were grouped into five dimensions and the Cronbach's alpha coefficient was 0.89. In our study, the Spanish version was used,[55] in which all factorial item loads presented values over 0.50, and the average variance extracted (AVE) of each construct was above 0.50. Our AFC results showed a very good fit: $\chi^2 = 231.58$, df = 227, $p = 0.40$; CFI = 0.998; MFI = 0.984; GFI = 0.878; and RMSEA = 0.012. In our sample, reliability coefficients were α= 0.939, CR (composite reliability) = 0.939, AVE = 0.6315 for Hardiness; α= 0.933, CR = 0.926, AVE = 0.6427 for Resourcefulness, and α= 0.924, CR = 0.923, and AVE = 0.6318 for Optimism.
2. Spanish Brief Resilience Scale (BRS).[56] This scale consists of six items with a 5-point response scale ranging from 1 (totally disagree) to 5 (totally agree). A higher score indicates a higher degree of resilience. The scores of the English version were loaded on one factor and showed good internal consistency (α ranging from 0.80 to 0.91) and test-retest reliability (intraclass correlation coefficient ranging from 0.61 to 0.69). Adequate convergent and discriminant tests of the test score validity were also reported. Originally designed in English, this instrument has been translated and validated for several languages; the version used in the present study was in Spanish.[57] The

Spanish validation shows a good fit: χ^2/df = 2.36 <3, CFI = 0.984, GFI = 0.980 and RMSEA = 0.067. Our AFC did not show a satisfactory fit (CFI = 0.772, GFI = 0.782, RMSEA = 0.386). When item 5 was deleted because of a negative wording effect, the fit was satisfactory: χ^2 = 10.507, df = 5, p = 0.062, CFI = 0.991, GFI = 0.974 and RMSEA = 0.079. Reliability coefficients were α= 0.882, CR = 0.910, and AVE = 0.6936.

3. Goldberg's Mental Health Scale (GHQ).[58] This scale assesses the level of symptoms related to mental health problems. Several versions of the GHQ have been created with varying numbers of items: GHQ-60; GHQ-30; GHQ-28 and GHQ-12. GHQ-12 was selected for the present study. The instrument has appropriate reliability (α > 0.90) and validity. Originally designed in English, it has been translated and validated for use in several countries and cultures. The Spanish version was used in this study.[59] Our AFC showed only one factor with a very satisfactory fit: χ^2 = 57.94, df = 54, p = 0.331, CFI = 0.997, GFI = 0.936 and RMSEA = 0.023. Reliability coefficients were α= 0.958, CR = 0.956, and AVE = 0.6472.
4. Scale of Psychological Well-being (PWB).[60] This is a questionnaire that measures perceived psychological well-being with a 6-point response scale (1 = totally disagree to 6 = totally disagree). It consists of six dimensions: a) Self-acceptance (α = 0.84); b) Positive relationships (α = 0.71); c) Autonomy (α = 0.70); d) Environmental mastery (α = 0.82); e) Purpose in life (α = 0.70) and f) Personal growth (α = 0.71). In this study, the version adapted for use with a Spanish sample was used.[61] The fit was not satisfactory for the Spanish version: CFI = 0.88, and the Cronbach's alpha ranged from 0.78 to 0.81. Our data did not show normality (Mardia coefficient = −132.26). Therefore, the AFC was performed on a polychoric matrix. The AFC solution with six correlated factors produced a satisfactory fit: χ^2 = 1427.85, df = 687, p = 0.000, CFI = 0.983, GFI = 0.947 and RMSEA = 0.088. Reliability coefficients were α=.912, CR = 0.916, and AVE = 0.6461 for Self-acceptance; α= 0.916, CR = 0.920, and AVE = 0.6595 for Positive relationships; α= 0.931, CR = 0.934, and AVE = 0.6418 for Autonomy; α= 0.912, CR = 0.916, and AVE = 0.6461 for Environmental mastery; α= 0.912, CR = 0.916, and AVE = 0.6445 for Purpose in life; and α= 0.925, CR = 0.929, and AVE = 0.6451 for Personal growth.
5. Trait Meta-Mood Scale (TMMS-24).[35] This scale is a reduced version of the Trait Meta-Mood Scale (TMMS) of the Salovey and Mayer research group. The original version was a trait scale to evaluate the meta-knowledge of emotional states through 48 items. The reduced version contains 24 items and three key dimensions of emotional intelligence with eight items each. The scale evaluates skills for awareness of our own emotions, and our ability to regulate them. The scale was adapted into Spanish more than a decade ago[62] and has been used in Spain in many studies, demonstrating its psychometric qualities and statistical robustness. Reliability coefficients were α= 0.92 for Attention, α= 0.84 for Clarity, and α= 0.84 for Repair. The Spanish version of TMMS-24 shows a CFI < 0.90, and reliability coefficients of α= 0.88, CR = 0.98, and AVE = 0.66 for Attention; α= 0.87, CR = 0.86, and AVE = 0.52 for Clarity; and α= 0.84, CR = 0.87, and AVE = 0.54 for Repair. Our AFC shows the following fit index: χ^2 = 387.13, df = 249, p = 0.00, CFI = 0.970, GFI = 0.860, and RMSEA = 0.063. Also, reliability coefficients were α= 0.970, CR = 0.970, and AVE = 0.8012 for Attention; α= 0.970, CR = 0.971, and AVE = 0.8020 for Clarity; and α= 0.960, CR = 0.958, and AVE = 0.7423 for Repair.
6. Norwegian Teacher Self-Efficacy Scale (NTSES).[63] This instrument consists of six dimensions with a total of 24 items, with a Likert response scale ranging from 1 (not at all sure) to 7 (absolutely sure). It measures dimensions of Instruction effectiveness, Adaptation of teaching to the individual needs of students, Achievement of student motivation, Achievement of maintaining discipline in the classroom, Ability to collaborate with members of the educational community, and Coping with challenges and effectiveness in dealing with change in educational contexts. In this validation study, the NTSES showed a model with six correlated factors, CFI = 0.920, RMSEA = 0.066, and reliability coefficients ranging from α= 0.74 (ability to collaborate with members of the educational community) to α= 0.91 (achievement of maintaining discipline in the classroom). This instrument is not validated for Spanish, and thus, the "back-translation" method was used to adapt the scale linguistically and culturally for the present study. Our AFC results showed a good fit: χ^2 = 242.096, df = 237, p = 0.39, CFI = 0.999, GFI= 0.879 and RMSEA = 0.012. Also, reliability coefficients were α= 0.749, CR = 0.749, AVE = 0.4277 for Instruction; α= 0.780, CR = 0.784, AVE = 0.4732 for Adaptation of teaching to the individual needs of students; α= 0.730, CR = 0.729,

AVE = 0.4077 for Achievement of student motivation; α= 0.967, CR = 0.930, AVE = 0.8807 for Achievement of maintaining discipline in the classroom; α= 0.964, CR = 0.948, AVE = 0.8710 for Ability to collaborate with members of the educational community; and α=0.966, CR = 0.965, AVE = 0.8750 for Coping with challenges and effectiveness in dealing with change in educational contexts.

Procedure

Before the teacher training, all participants were informed of the details of the study. They were assured about the confidentiality of all data obtained and that data would be used solely for statistical purposes and to derive study conclusions. All responses obtained from teachers were coded so that the researchers would not know the identity of the participants when collecting and analyzing data. All participating teachers gave their signed informed consent and were randomly assigned to the experimental or control group.

The training took place over 14 weeks in the 2021/2022 school year. The instruments were gathered from all teachers in September/October 2021 (Time 1) and May 2022 (Time 2). The training took place using a mixed methodology with 14 online work blocks (1 work block per week) and two face-to-face coaching lessons per week (around 2 hours every lesson). The control group did not participate in the program and did not receive any intervention during this period.

In both groups, teachers' scores on all study variables were recorded before and after the 14-week training program. These variables included resilience (through the CD-RISC and the Spanish BRS); mental health and psychological well-being (through the GHQ and PWB scales); emotional intelligence (through the TMMS-24), and the implementation of innovative and successful teaching methodologies and educational plans (through the NTSES).

The study was carried out in accordance with the Declaration of Helsinki and the recommendations of the Ethics Committee of the University of Alicante, whose evaluation of this procedure was requested on June 20, 2020, and approved in September of the same year by the Office of the Vice President for Research and Knowledge Transfer of the University of Alicante (Reference UA-2020-07-24).

Design and Data Analysis

A quasi-experimental design was adopted, with pre- and post-test measures, and an experimental and control group were used to determine the effectiveness of the training linked to each of the stated objectives to increase teacher efficacy. In this way, the factor or independent variable belonging to either group (experimental or control) and the outcome or dependent variable is the score of the participants on each measurement instrument, taken before and after implementation of the program in the experimental group. Measures of the dependent variables were taken in both groups before and after the intervention, at the same time for both groups. Data analysis was performed using an Analysis of Covariance (ANCOVA), with the pretest scores of the dependent variables serving as covariates and the groups (control/ experimental) as fixed factors. Assumptions of the ANCOVA analysis were tested before carrying out the analysis. To carry out the statistical analyses, SPSS version 26.0 was used (IBM Corp., Chicago, IL).

Results

First, we tested four assumptions of the covariance analysis: a) homogeneity of variances; b) relations between the covariate and the dependent variable; c) homogeneity of regression slopes (interaction between the covariate and independent variable), and, d) independence of the covariate and the covariate and treatment effects. These assumptions were examined using the following analyses: 1) Levene's test – results should not be significant (p >0.05); 2) regression analysis of the covariate against the dependent variable – the effect (as shown by the slope of the regression line) should be significant (p<0.05); 3) test of the interaction between the covariate and independent variable – the effect should not be significant (p>0.05) indicating the slopes are similar in both groups; and 4) testing the difference between treatments in the covariate, that is, the covariate should not differ across the two groups, with the t-test not showing significant results (p >0.05). Table 2 summarizes these analyses.

Regarding the homogeneity of variances, Table 3 shows significant differences in some of the measured variables, relative to the NTSES questionnaire. However, the violation of this assumption has a minimal effect if the groups are the same size (as in our study), and the variance ratio is less than 10.[64] The slope of the regression lines was significant

Table 2 Test Results of the Assumptions in the ANCOVA

Variable	Homogeneity of Variances		Outcome and Covariate Relationship		Homogeneity of Regression Slopes		Between Groups Difference in Covariate	
	F	*p*	*B*	*p*	$F^{(1)}$	*p*	$t^{(2)}$	*p*
Hardiness	0.03	0.85	0.43	0.00	348.98	0.00	1.42	0.15
Resourcefulness	0.02	0.89	0.41	0.00	236.61	0.00	1.33	0.18
Optimism	0.23	0.63	0.41	0.00	347.55	0.00	1.76	0.08
Spanish Resilience Scale	0.01	0.94	0.72	0.00	164.98	0.00	1.03	0.30
Mental health scale	4.28	0.04	0.69	0.00	29.40	0.00	−139	0.17
Self-acceptance	0.10	0.75	0.42	0.00	273.41	0.00	1.38	0.17
Positive relationships	0.70	0.40	0.43	0.00	213.25	0.00	1.50	0.13
Autonomy	1.62	0.20	0.40	0.00	275.52	0.00	1.24	0.22
Environmental mastery	0.73	0.39	0.39	0.00	139.95	0.00	1.73	0.09
Purpose in life	0.42	0.52	0.45	0.00	228.22	0.00	1.29	0.19
Personal growth	0.18	0.67	0.47	0.00	134.47	0.00	0.65	0.51
Attention-TMMS	4.80	0.03	0.29	0.00	187.82	0.00	1.01	0.31
Clarity-TMMS	5.84	0.01	0.28	0.00	221.24	0.00	1.29	0.19
Repair-TMMS	1.89	0.17	0.24	0.00	201.26	0.00	1.08	0.27
Instruction	2.04	0.15	0.32	0.00	68.69	0.00	1.10	0.27
Adaptation teaching to individual needs	6.21	0.01	0.29	0.00	74.50	0.00	1.57	0.11
Achievement motivation	6.69	0.01	0.33	0.00	29.57	0.00	1.70	0.09
Maintain discipline	87.51	0.00	0.16	0.05	33.61	0.00	1.37	0.17
Collaborate with teachers and parents	54.78	0.00	0.22	0.01	37.29	0.00	1.49	0.14
Cope with change	55.41	0.00	0.19	0.02	36.47	0.00	1.09	0.27

Notes: (1). IV (Group) x Covariate Interaction. (2). All variances equal.

Table 3 Results of Analysis of Covariance ANCOVA

Variable	Group Mean		Source	Type III	*F*	*p*	η^2	Power
	1	2						
Hardiness	2.61	3.49	Hardiness1	16.70	123.04	0.00	0.47	1
			Group	70.20	258.54	0.00	0.78	1
Resourcefulness	2.60	3.45	Resource1	13.94	104.05	0.00	0.43	1
			Group	73.56	274.46	0.00	0.79	1
Optimism	2.56	4.46	Optimism1	17.76	115.38	0.00	0.45	1
			Group	72.83	236.56	0.00	0.77	1
Spanish Resilience	20.06	25.56	Resilience1	2579.35	520.24	0.00	0.79	1
			Group	2468.48	248.94	0.00	0.78	1
Mental health	17.15	9.21	Mental1	4960.86	490.32	0.00	0.78	1
			Group	3076.03	152.01	0.00	0.68	1
Self-acceptance	4.56	5.28	Self-accep1	16.35	106.16	0.00	0.43	1
			Group	62.37	202.40	0.00	0.74	1
Positive relationships	4.60	5.47	Positive re1	16.65	123.86	0.00	0.47	1
			Group	68.56	254.92	0.00	0.48	1
Autonomy	4.57	5.50	Autonomy1	14.34	105.72	0.00	0.43	1
			Group	67.13	247.35	0.00	0.78	1
Environmental mastery	4.59	5.57	Environm1	15.52	104.97	0.00	0.43	1
			Group	66.91	226.29	0.00	0.76	1

(*Continued*)

Table 3 (Continued).

Variable	Group Mean		Source	Type III	*F*	*p*	η^2	Power
	1	2						
Purpose in life	4.60	5.49	Purpose1	18.37	122.51	0.00	0.47	1
			Group	61.30	204.43	0.00	0.74	1
Personal growth	4.58	5.43	Personal g1	17.00	99.70	0.00	0.41	1
			Group	52.95	155.25	0.00	0.69	1
AttentionTMMS	25.02	36.05	Attention1	943.58	72.09	0.00	0.34	1
			Group	11,560.38	441.64	0.00	0.86	1
ClarityTMMS	25.26	36.02	Clarity1	1035.26	65.33	0.00	0.32	1
			Group	11,559.26	364.76	0.00	0.84	1
RepairTMMS	23.11	36.10	Repair1	892.18	82.05	0.00	0.37	1
			Group	14,253.85	655.14	0.00	0.90	1
Instruction	22.36	25.95	Instruction1	142.53	61.31	0.00	0.30	1
			Group	897.02	197.93	0.00	0.73	1
Adaptation teaching to individual needs	22.87	25.98	Adaptation indiv needs	124.84	45.84	0.00	0.25	1
			Group	911.00	167.20	0.00	0.71	1
Achievement motivation	22.78	25.95	Achiev1	93.79	39.11	0.00	0.22	1
			Group	887.90	185.14	0.00	0.72	1
Maintain discipline	20.38	26.24	Maintaind1	138.32	22.42	0.00	0.14	1
			Group	6496.01	526.53	0.00	0.89	1
Collaborate with teachers and parents	20.28	25.95	Collaborate 1	199.87	39.21	0.00	0.22	1
			Group	6011.77	589.75	0.00	0.89	1
Cope with change	20.26	26.02	CopeChan1	202.62	37.92	0.00	0.21	1
			Group	5782.22	541.17	0.00	0.88	1

Note: Group: Independent Variable.

($p<0.05$) in all cases, indicating that the covariate has an effect on the dependent variable, and thus, its use as a covariate makes sense. A covariate that has no significant effect can be removed from the analysis. These results indicate the logic of including all covariates (pretest scores) in the ANCOVA. In addition, the relationship between the covariate and the dependent variable was high in half of the cases (>.40). Greater correlations between the covariant and dependent variable indicate greater errors because the effect of the covariate is controlled and the greater error is subtracted from the dependent variable because of the covariate.[65]

Contrary to expectations, the interaction between the covariate and independent variable had a significant effect ($p<0.05$) on all variables, meaning that the slopes were not similar in both groups. Therefore, a model based on a single estimation of the slopes cannot be used, but rather a model that allows the value of the slopes to vary in each group (experimental and control) was needed. For this, an ANCOVA model was estimated in which the intersection was not included. There were no differences between groups for any of the variables with respect to the difference between treatments in the covariate. Covariates were unrelated to experimental or control conditions. Table 3 shows the results of the analyses of covariance performed for each variable. The table shows, in successive order, the name of the variables, the means of each group in the post-test, control (1) and experimental (2); the variation source, the covariate and the independent variable, control and experimental groups; the sums of squares Type III; *F, p*-value, effect size η^2, and power. All treatment effects (group) were significant and there were significant differences between groups in favor of the experimental group. Also, there was a covariate effect in all cases, indicating that it is effective to include all covariates (pretest scores) in the ANCOVA.

ANCOVA results indicated that the treatment had a positive effect on all the dependent variables. A statistically significant difference was noted as a result of the intervention, having adjusted for the covariate. That is, there was an overall statistically significant difference in post-intervention outcomes between the two groups (experimental and control), once their means had been adjusted for pre-intervention scores. Although the intervention had a significant effect on all dependent variables, the effect sizes were slightly different. First, it should be noted that all the values of the

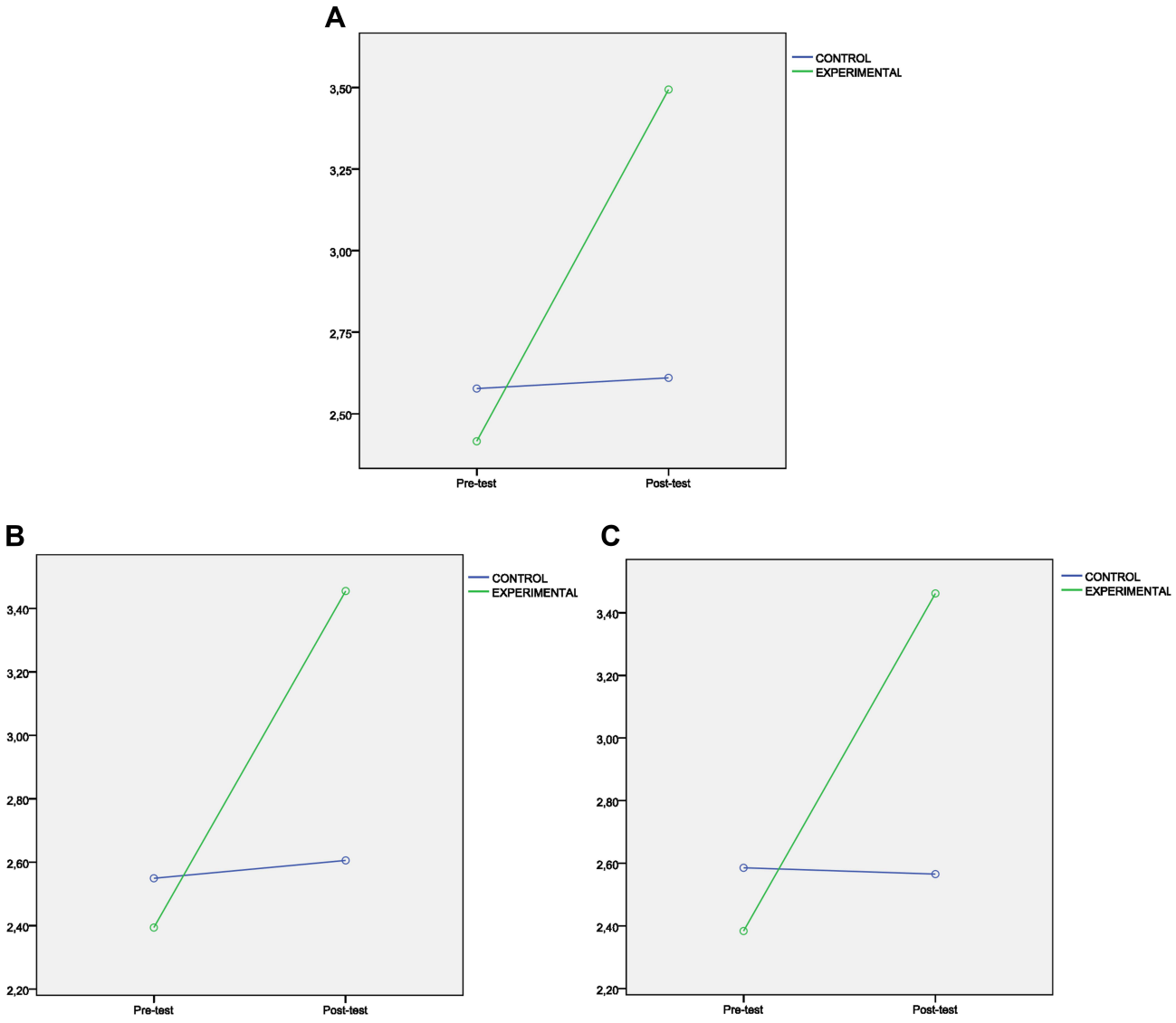

Figure 1 Scores obtained by the teachers for resilience measured by the Connor-Davidson Resilience Scale: Hardiness (**A**), Resourcefulness (**B**), and Optimism (**C**).

effect size of the intervention program (group) were greater than 0.50, except for the effect of the program on the improvement of positive relationships in the PWB questionnaire (η^2= 0.48). Most of the effect size values were high – between 0.68 and 0.90. The effect of the intervention program on the Repair dimension of the TMMS stands out (η^2= 0.90), indicating that 90% of the change produced in that dimension was because of the intervention program.

The intervention program positively affected all variables. It improved the dimensions of resilience: hardiness, resourcefulness, optimism, and resilience as evaluated by the BRS. It significantly decreased the symptoms related to mental health problems, evaluated with the GHQ; improved the well-being dimensions of self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth, assessed by the PWB scale and significantly increased the emotional attention, clarity, and repair assessed by the TMMS. It significantly improved the aspects evaluated by the NTSES – instruction, adaptation of teaching to the individual needs of students, achievement of student motivation, maintaining discipline in the classroom, ability to collaborate with members of the educational community, and coping with change.

Figures 1–6 present the interaction graphs illustrating the directions of the differences. The total scores of the experimental group in resilience (measured by the CD-RISC and the Spanish BRS); mental health and psychological

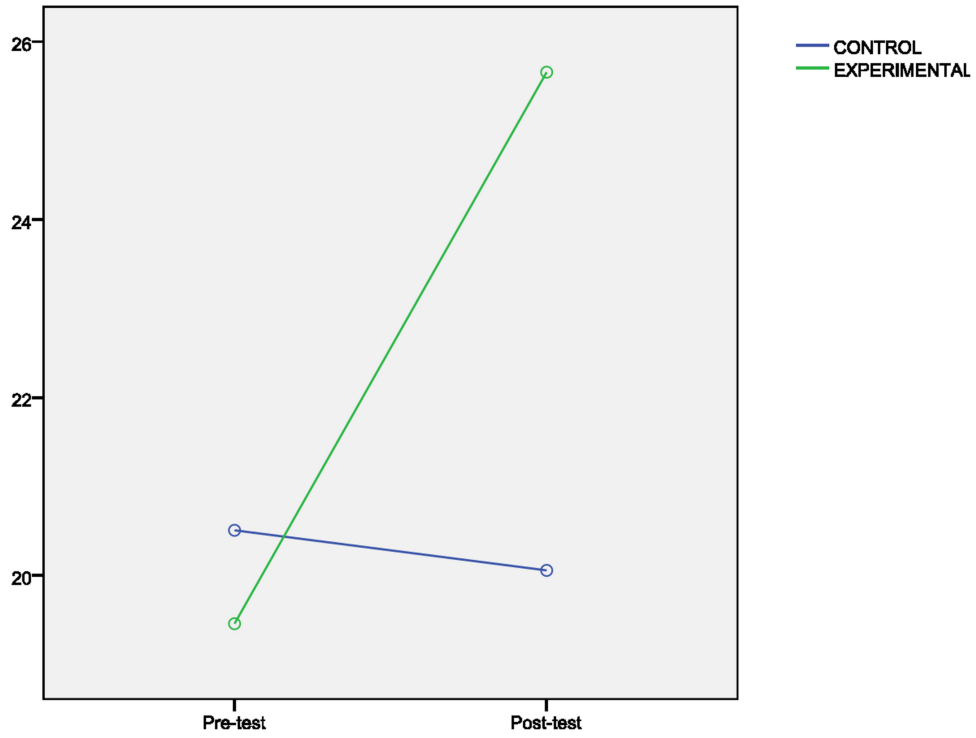

Figure 2 Scores obtained by the teachers for resilience measured by the Spanish Brief Resilience Scale (BRS).

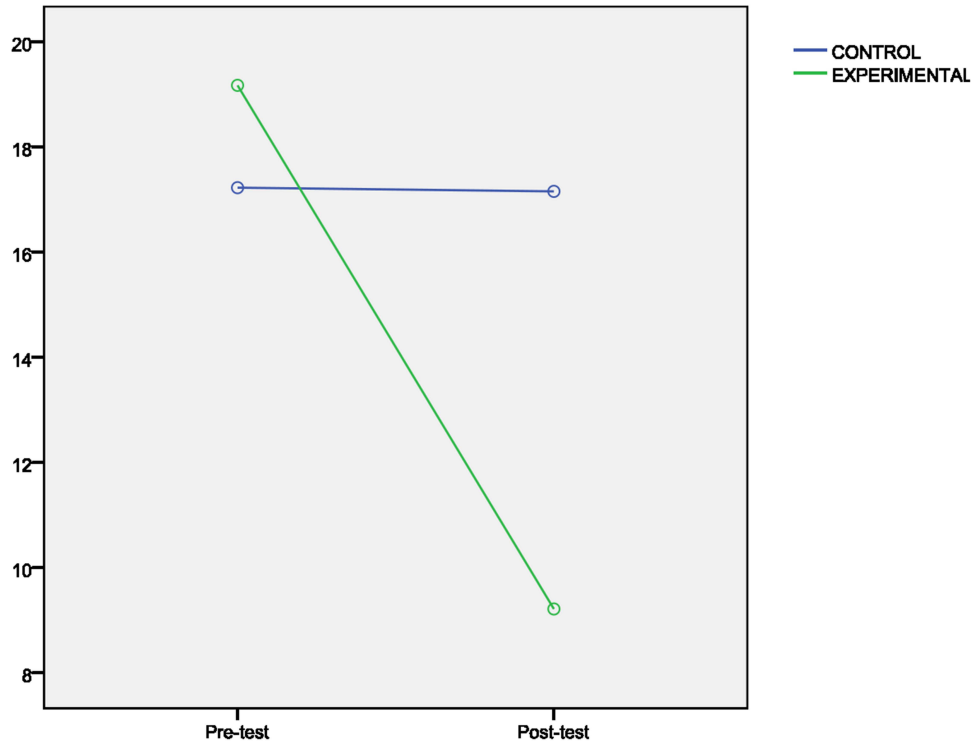

Figure 3 Scores obtained by the teachers for mental health risk (measured by the Goldberg Mental Health Scale).

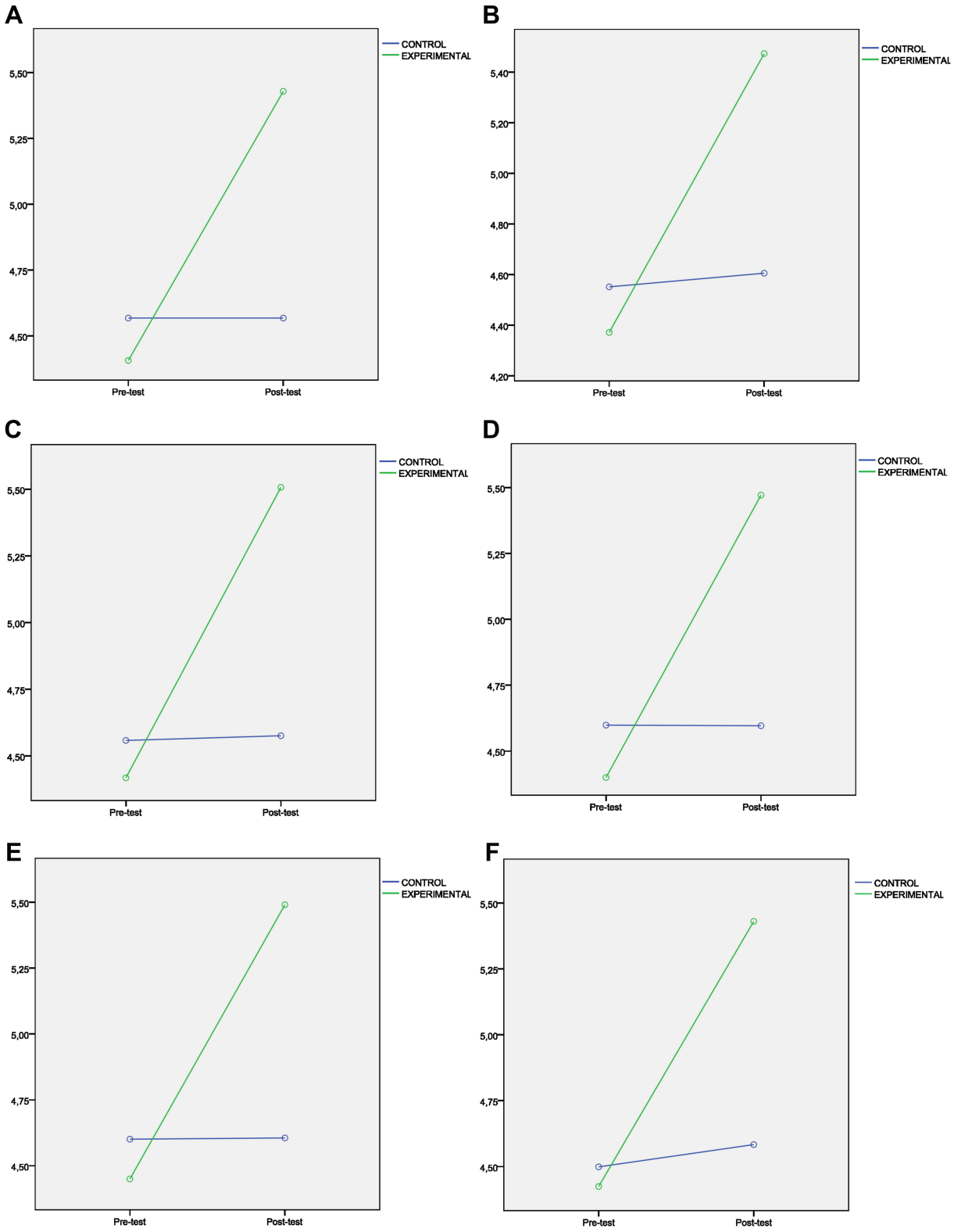

Figure 4 Scores obtained by the teachers for psychological well-being measured by the Ryff Scale of Psychological Well-Being: Self-acceptance (**A**); Positive relationships (**B**); Autonomy (**C**); Environmental mastery (**D**); Purpose in life (**E**); and Personal growth (**F**).

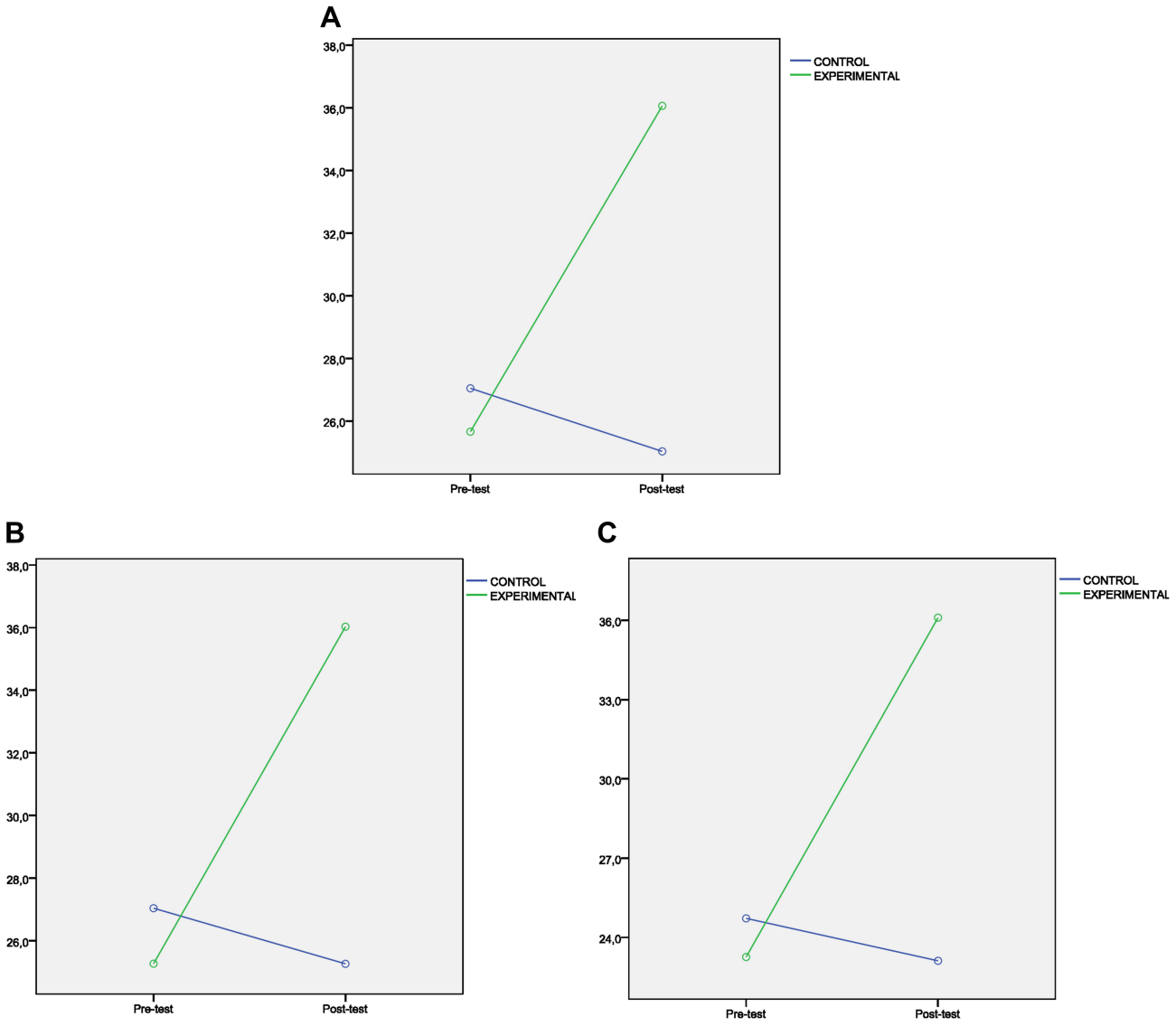

Figure 5 Scores obtained by the teachers for emotional intelligence measured by the TMMS-24: Attention (**A**), Clarity (**B**), and Repair (**C**).

well-being (measured by the GHQ and PWB scales); emotional intelligence (measured by TMMS-24); and implementation of innovative and successful teaching methodologies and educational plans (measured by the NTSES) were significantly higher once the intervention program was completed.

Discussion

The results show that the proposed teacher training encourages the acquisition of new coping mechanisms among teachers. They reassess academic practices in this new educational scenario, marked by uncertainty and the need to emerge stronger in the face of adversity. The data show that teachers who have completed the training accept the current teaching challenges and mobilize new personal resources, professional skills, and pedagogical methodologies. Thus, they increase crucial elements needed in the educational context, such as increased emotional competence in professional practice (emotional attention, clarity of feelings, and mood repair), and a resilient attitude that implies hardiness, resourcefulness, and optimism. They acquire self-efficacy based on instruction that effectively enables them to adapt teaching to the individual needs of students, achieve student motivation, successfully sustain discipline, cooperate, face educational changes with optimism.

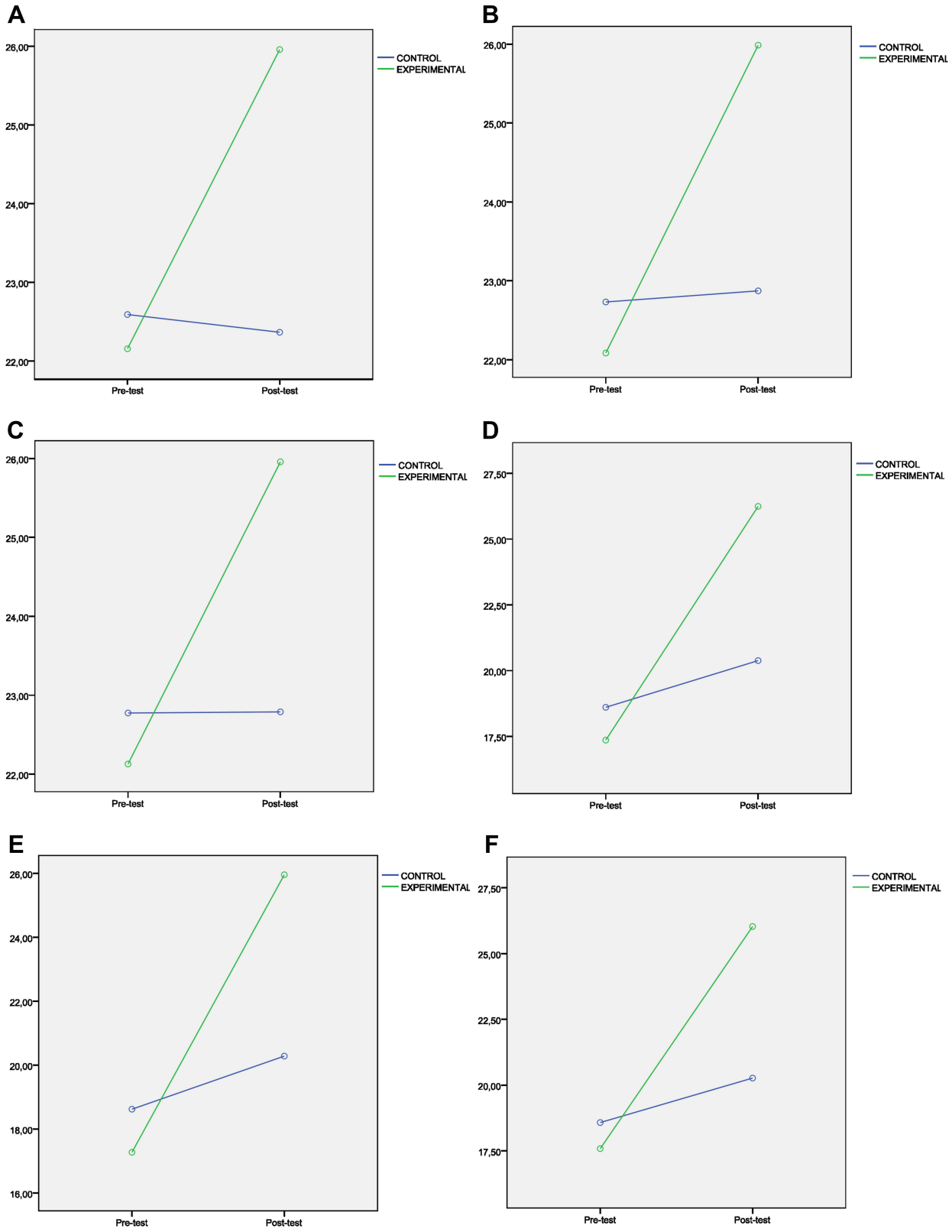

Figure 6 Scores obtained by the teachers for Instruction (**A**); Adaptation of teaching for individual needs (**B**); Achievement motivation (**C**); Maintaining discipline (**D**); Collaborating with teachers and parents (**E**); and Coping with change (**F**), according to the NTSES.

The results obtained in this study are consistent with those obtained in other work, including cross-cultural studies. It is clear that training is necessary to ensure teachers' psychological well-being.[66–68] Literature indicates that the teaching profession entails psychosocial risk related to higher rates of stress and burnout, given the type of work carried out and the educational challenges present in current educational settings. For this reason, it is necessary to work in a committed way on teaching skills that allow teachers to overcome current challenges.[69–71]

In the same way, proficiency in new technologies is required to achieve greater adaptation to current challenges. Education was greatly affected by the global pandemic, and the digital gap that it exposed led to a clear academic delay for some students who were not able to adjust to the new teaching mode because of socioeconomic and/or psychosocial vulnerability. A new way of dealing with this situation is needed to provide students with the necessary resources and ensure that even the most vulnerable students can access information and communication technologies. Curricular adaptations based on new technologies are required, so that students can internalize teaching, enhancing the possibilities of virtual and/or dual environments with the same accessibility that their classmates enjoy, ultimately achieving the same success as other students.[72–75]

Training teachers' resilience is essential because it means they will be stronger in the face of adversity. Teachers must cope with many educational challenges in today's society. Literature shows that a commitment to training teacher resilience can promote teaching capacity to overcome difficulties.[76–78] Emotional intelligence training for teachers is also essential. Scientific benefits of such training have been confirmed and highlight the importance of providing teachers with emotional skills to improve coexistence in the classroom, the feeling of community, educational well-being, attention to educational diversity, and ultimately, academic results.[79–82]

However, there are several limitations to this research. First, the participants were volunteers and were not randomly selected from the population of teachers. Future studies should randomly select participants from the population to increase the external validity of the results. Second, the number of participants was relatively low, as is typical of a quasi-experimental design, which may also affect external validity. The sample size guaranteed the power of the statistical tests used to detect the effect of the program. However, further replication studies with larger samples are needed. Third, the use of self-report, although common in this type of study, may be another limitation. For this reason, mixed measures could be included in future research. Further, the reliability and validity of the instruments used were satisfactory, but some of the instruments had not been validated in our context and require further validation with larger samples.

The fourth and main limitation of this study was that, given the current and novel nature of the research, we did not have sufficient time to carry out a long-term evaluation of the maintenance of the skills acquired through the training. Therefore, we are committed to carrying out a longitudinal study that will allow us to determine the impact of this teacher training over time. We were also not able to carry out an evaluation of the impact of teacher training on the academic performance of students. Because of the pandemic, the administration received the instruction that the mark of the last evaluation of the students could not be lower than the average mark that would have been obtained before the pandemic. Therefore, the notes recorded in this period cannot be considered a reliable indicator of performance, and valid conclusions cannot be drawn under these circumstances. There will be opportunities to develop this line of research without this limitation in the future. Finally, another line of future research is an analysis of the precise relationships between the constructs used in the study, that is, resilience, mental health, psychological well-being, emotional competence, and the implementation of innovative and successful teaching methodologies in the classroom. These are constructs of great interest today and more scientific evidence is required to understand the causal relationships between them.

Conclusion

This study is among the first to explore the importance of teachers' well-being, resilience, emotional intelligence, and innovative methodologies as key teaching competencies in the academic context. We developed an original training program that demonstrated clear benefits for teaching practice. The learning community also derived benefits from these initiatives, especially for vulnerable students whose needs were recognized and addressed by innovative teaching methodologies. The study limitations will be addressed in future work that builds on the present findings to define

clear lines of commitment to self-improvement in educational settings and supports other studies developing training to ensure teachers thrive despite the educational demands of the 21st century.[83–91]

Data Sharing Statement

The raw data supporting the conclusions of this article will be made available by the authors on request without undue reservation.

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Disclosure

The authors report no conflicts of interest in this work. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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