

EVALUATING THE UNIEMOTION PROGRAM: HELPING COLLEGE STUDENTS IMPROVE THEIR PERSONAL AND EMOTIONAL SKILLS

Miliam Quispe-Vargas¹ , Kevin Mario Laura-De-La-Cruz^{1*} ,
Luz Anabella Mendoza-del-Valle¹ , Gilber Chura-Quispe² , Gabriela Manzur-Vera¹ ,
Cynthia Karín Rodríguez-Palumbo¹ , Dany Alejandrina Chariarse-Alvarado¹ 

¹Universidad Nacional Jorge Basadre Grohmann (Peru)

²Escuela de Posgrado Newman (Peru)

mquispe@unjbg.edu.pe

*Corresponding author: *klaurac@unjbg.edu.pe*

vmendoza@unjbg.edu.pe, gilber.chura@epnewman.edu.pe

manzurv@unjbg.edu.pe, crodriguezp@unjbg.edu.pe, danychariarse1@gmail.com

Received July 2025

Accepted January 2026

Abstract

This research aimed to determine the effect of the *UniEmotion Program: Discover and Strengthen Your Competencies* on the emotional competencies of students from the School of Education at the Jorge Basadre Grohmann National University in Tacna. The study employed a quantitative approach and utilized a quasi-experimental design. The population consisted of 1,030 students from the five academic programs of the School of Education, enrolled during the 2024-II semester. The sample, selected through non-probability purposive sampling, consisted of 193 students, with the experimental group comprising students from the Foreign Language program. For data collection, a survey based on the *Emotional Competence Inventory for Adults* (ICEA) was applied. This instrument evaluates five dimensions: emotional awareness (EA), emotional regulation (ER), personal autonomy (PA), social competence (SC), and life skills and well-being (LSW). The results showed that, after the implementation of the program, the experimental group did not exhibit statistically significant changes in any of the evaluated dimensions ($p > 0.05$). However, a significant difference was observed in emotional awareness when comparing the experimental group with the LELI group ($p = 0.05$; $r = 0.21$), although the effect size was small. In the control groups, various changes were identified, including improvements in PA and SC in the MACI group, and a decrease in EA and PA in the LELI group. In conclusion, the *UniEmotion Program* showed a mild impact on the emotional awareness dimension, with no significant changes in the others. Nonetheless, these findings allow for the projection of future implementations with broader scope and continuity, thus strengthening their contribution to the emotional development of future education professionals.

Keywords – Social skills, Social and emotional learning, Educational workshop, University students, Emotions.

To cite this article:

Quispe-Vargas, M., Laura-De-La-Cruz, K.M., Mendoza-del-Valle, L.A., Chura-Quispe, G., Manzur-Vera, G., Rodríguez-Palumbo, C.K. et al. (2026). Evaluating the uniemotion program: Helping college students improve their personal and emotional skills. *Journal of Technology and Science Education*, 16(1), 180-195. <https://doi.org/10.3926/jotse.3708>

1. Introduction

In a world increasingly shaken and overwhelmed by bad news, aspects of life such as emotions are often neglected and seem to be pushed into the background. Although emotions and values are born and shaped in everyday environments of coexistence, their importance is frequently obscured by the speed and pressure of contemporary life (Abarca, Marzo & Sala, 2002).

Recent studies reveal a widespread neglect of emotional health, which has become a serious issue affecting both personal well-being and interpersonal relationships (World Health Organization, 2022; Zhang, Zhao, Deng, Yuan & Yang, 2024). From this perspective, the importance of developing emotional competencies is gaining growing interest. Emotional competencies are understood as a set of essential skills for effectively managing emotions, cultivating healthy relationships, and facing challenges with resilience (Bisquerra-Alzina, Agulló, García-Navarro & López-Cassá, 2012; Collaborative for Academic, Social and Emotional Learning - CASEL, 2020). Therefore, the emotional dimension holds deep significance for the essence of the human being, who is in constant search of meaning and/or purpose in life, inner peace, and a connection with the transcendent.

Various studies from the fields of positive psychology and theology agree that emotional stability depends not only on external factors. Rather, it is also the result of a spiritual dimension that connects the individual with an innate desire for wholeness present in every human being (Vanderweele, 2017). In this sense, the study of emotional competencies aims not only to improve academic or professional outcomes but also to promote the integral development of the human being, which constitutes one of the original purposes of human existence.

Emotions, as a fundamental part of human nature, can be educated and developed throughout life (Bisquerra-Alzina, 2003). From childhood to adulthood, each stage plays a crucial role in the growth and strengthening of emotional competencies (Bisquerra & Pérez-Escoda, 2007). Within this context, academic life at the university level forms part of this developmental process, as university students continue to refine their emotional skills and direct them toward their future professional lives.

In today's university context, emotional competencies acquire particular relevance due to the increasingly complex and demanding nature of educational environment, where students must respond not only to academic demands, but also to emotional, relational, and adaptive challenges. High cognitive demands, diverse student populations, continuous evaluation processes, and, increasingly, the presence of technologically mediated learning environments are now part of university life. In this sense, the development of emotional competencies supports students' capacity to adapt and remain engaged.

One of the university degree programs with a significant impact on the formation of individuals in society is education (Shaoan, Namanyane, Feng & Arif, 2025). Future teachers not only build academic knowledge but also shape the foundations of their professional and emotional identity, which will later be reflected in classrooms filled with diverse individuals from generation to generation (Zhang, Zhou, Wu & Cheung, 2024).

Several studies highlight that being an emotionally competent teacher entails significant benefits, such as the development of positive relationships, stress management, prevention of burnout syndrome, improved work engagement, and enhanced student development, among others (Bisquerra-Alzina, 2003; Jennings & Greenberg, 2009). At international, national, and local levels, various studies have been conducted on the development of emotional competencies.

At the international level, for example, Greenberg, Weissberg, O'Brien, Zins, Fredericks, Resnik et al. (2003) analyzed various experiences with social and emotional learning programs and concluded that these initiatives contribute to reducing risk behaviors and improving participants' academic performance. However, their impact remains limited due to insufficient coordination among operational components within educational institutions. In addition, little attention is often given to the implementation and evaluation of key factors necessary for their effectiveness and sustainability. These include: educational

models aimed at improving students' social, health, and academic aspects; educational policies; professional development to train and support teachers in effectively implementing such programs; and systematic monitoring and evaluation to track institutional progress.

Durlak, Weissberg, Dymnicki, Taylor and Schellinger (2011), in their meta-analysis, confirmed that the quality of implementation—referring to dosage, fidelity, and teacher training—doubles the positive effects of such programs. Similarly, March, Stapley, Hayes, Town and Deighton (2022) highlighted barriers such as high staff turnover, lack of committed leadership, limited resources, and absence of institutional policies. An experimental study even found that only groups with high implementation quality—characterized by well-trained facilitators, complete sessions, and active participation—showed reductions in stress and improvements in emotional regulation (Dowling & Barry, 2020).

Nelis, Quoidbach, Mikolajczak and Hansenne (2009) conducted a study in which a group of participants received four intensive emotional training sessions, while the control group continued their regular daily activities. The results showed that the experimental group significantly improved their emotional intelligence levels, particularly in identifying and managing emotions. In their analysis, Nelis et al. (2009) noted that most emotional intelligence training programs faced three design limitations: (1) lack of a solid theoretical foundation, (2) focus on only a few emotional dimensions, and (3) absence of control groups.

In response to these gaps, Pérez-Escoda, Filella, Alegre and Bisquerra (2012), in their study on the development of emotional competencies, addressed the three design limitations identified by Nelis et al. (2009). Their program was grounded in a solid theoretical model and targeted a broad range of emotional competencies, as proposed by Bisquerra-Alzina and Pérez-Escoda (2007), while also incorporating both experimental and control groups. Their results showed an improvement in the institutional climate of the educational center, as both students and teachers enhanced their emotional competencies, particularly in emotional regulation and social competencies, and experienced reduced stress levels (Pérez-Escoda et al., 2012). These results were favorable in comparison to the control group.

In line with this and considering the limitations noted by Nelis et al. (2009), Filella-Guiu, Pérez-Escoda, Agulló-Morera and Granado (2014) applied a structured program based on the theoretical framework of the Research Group on Psychopedagogical Orientation (GROP). This program addressed the five emotional competencies proposed by Bisquerra-Alzina and Pérez-Escoda (2007): emotional awareness, emotional regulation, emotional autonomy, social competence, and life skills and well-being. Each competency served as a thematic block, and each block included four different activities. The study included both a control group and an experimental group, with pre- and post-tests administered to both, and a process evaluation conducted with the experimental group. After the intervention, the results revealed a significant increase in emotional competency scores within the experimental group.

Additionally, Barrientos-Fernández, Sánchez-Cabrero and Arigita-García (2019) and Wettstein, Ramseier and Scherzinger (2021) found that teachers with higher emotional skills foster more empathetic classroom climates and positive affective relationships. This reinforces the idea that teachers' emotional education is essential for a healthy educational community.

In Peru, a systematic review of 21 articles conducted by Llanos-Bardales and Machuca-Cabrera (2023) covered studies on university students between 2020 and 2023. The results indicated that emotional intelligence is a significant predictor of academic performance, exerting a remarkable influence. This highlights the importance of implementing educational programs that foster the development of emotional competencies, as they benefit students not only in their personal growth but also in the improvement of their academic performance. Huaraca-García, Ninamango-Solís, Orihuella-Romero, Villa-Ricapa, Caro-Baldeón and Torres-Ruiz (2024) also found a strong correlation, as did Barra-Quispe, Mamani-Flores, Atencio-Mendoza, Ferro-Supo, Chura-Flores, Huanacuni-Zapana et al. (2024), who confirmed a significant association across multiple emotional dimensions.

At the local level in Tacna, Mamani-Humpiri (2024) studied the relationship between emotional intelligence and academic stress among university students. The results revealed that students had “Developed” emotional intelligence and “Moderate” academic stress, leading the author to conclude that there is no statistically significant relationship between the two dimensions. In other words, although students are capable of managing and expressing their emotions adequately, they still struggle to cope with academic demands such as exams and practical assignments. Flores-Gutiérrez (2023), for her part, investigated the relationship between emotional intelligence and resilience in students from a private university, finding that they possess moderate emotional intelligence and high resilience. This suggests that the students demonstrate consistent emotional skills and a strong adaptive capacity, which is beneficial for both their academic and professional development.

This body of evidence provides sufficient support for the need to integrate the development of emotional competencies into the professional training of future teachers. It should be remembered that teachers with emotional competencies can help students develop positive social and emotional skills, as they serve as role models for attitudes and behaviors within the student body (Gebre, Demissie & Yimer, 2025), which does not let anything go unnoticed, and everything observed is likely to be imitated (Oberle & Schonert-Reichl, 2016). When teachers share emotional experiences, they foster a climate of trust that encourages students to do the same and share their own experiences (Bisquerra-Alzina, 2003; Bouhafa, Bharaj & Simpson, 2023; Goldstein & Benassi, 1994). Emotional competencies are essential and should be promoted both in educational settings and within families (Márquez-Cervantes & Gaeta-González, 2017).

The Collaborative for Academic, Social, and Emotional Learning (CASEL) has become an integrative framework for various social and emotional learning programs in schools and universities. Its objective is to help individuals acquire and apply knowledge, attitudes, and skills to develop a healthy self-concept, manage their emotions, and achieve personal and collective goals, such as being empathetic toward others, initiating and maintaining supportive relationships, and making responsible and caring decisions (Collaborative for Academic, Social and Emotional Learning - CASEL, 2020). Scientific findings confirm that having emotional competencies means possessing the necessary resources to cope with social and professional demands in one’s environment, facilitating safe adaptation at both individual and collective levels (Sánchez-Calleja, Rodríguez-Gómez & García-Jiménez, 2018). The practical and observable nature of these competencies in daily life underscores the importance of teachers not only teaching academic content but also serving as role models of essential emotional skills for life (Moraleda-Ruano, 2015). Therefore, it is important to consider that programs promoting the learning of social-emotional skills in both teachers and students improve not only emotional well-being but also academic performance (Durlak, Weissberg & Pachan, 2010). Teachers who practice emotional self-regulation have a significant impact on students’ motivation and academic performance, as they foster a positive academic climate that supports students’ social-emotional growth (Reyes, Brackett, Rivers, White & Salovey, 2012). Thus, the impact of teaching goes beyond academics.

Despite the relevance of emotional competencies in the professional development of university students (Llanos-Bardales & Machuca-Cabrera, 2023), it is still necessary to investigate their development in other contexts, such as teacher training programs. For this reason, in 2024, the *UniEmotion Program: Discover and Strengthen Your Competencies* was designed and implemented to strengthen the emotional competencies of students in the School of Education at the Jorge Basadre Grohmann National University (Tacna, Peru). The program was applied using a quasi-experimental design, with a control group and an experimental group, in order to compare the level of emotional competencies and assess the effects in both groups. Its impact was measured in key dimensions of emotional development to contribute to the comprehensive training of students so that they may enjoy a balanced development of their competencies and achieve life satisfaction.

From this perspective, the purpose of strengthening emotional competencies in pre-service teachers goes beyond personal well-being. It responds particularly to the need to prepare future educators to cope with emotionally demanding situations and to work in increasingly complex educational settings. Emotional

education programs at the university level can support the development of competencies essential for professional practice in contemporary educational contexts, where social and technological changes are part of everyday academic life.

This article presents relevant information on the results obtained after the implementation of the program. It aims to provide meaningful evidence for emotional development in university contexts and to promote a viable path for integrating emotional education into teacher training.

2. Methodology

The main objective of this study was to determine the effect of the *UniEmotion Program: Discover and Enhance Your Competencies on the Emotional Competence of students in the School of Education at the Jorge Basadre Grohmann National University*. For this purpose, sessions were designed and implemented to develop the emotional competencies of students in the Foreign Language major.

2.1. Research Design

A quasi-experimental design was used, with the application of a pre-test and a post-test to both the control and experimental groups. The total number of participants was 193 students from five different professional programs in the School of Education. This design was characterized by the manipulation of the independent variable—in this case, the implementation of the *UniEmotion Program* in the experimental group—taking into account the impact of the intervention under natural classroom conditions (Hernández-Sampieri & Mendoza, 2018). This approach made it possible to examine the impact of the intervention objectively through quantitative data analysis.

2.2. Participants

Population and Sample

According to Hernández-Sampieri, Fernández-Collado and Baptista-Lucio (2014), a population is a finite or infinite group with similar characteristics. In this regard, the target population for this study was composed of undergraduate students from the School of Education at the Jorge Basadre Grohmann National University (Table 1).

Professional Program	Total Enrolled Students
Mathematics, Computing, and Informatics (MACI)	169
Language and Literature (LELI)	247
Formal and Natural Sciences (CNEA)	186
Social Sciences and Socio-Cultural Promotion (SPRO)	249
Foreign Language (IDEX)	179
Total	1030

Table 1. Number of students by major (Based on enrollment records from the Academic Records Office of the Faculty of Education at Jorge Basadre Grohmann National University)

Furthermore, Hernández-Sampieri et al. (2014) define a sample as a segment of the population that the researcher has access to and can define in advance to apply data collection instruments. They also mention that in non-probability sampling, the selection of research participants is related to the characteristics of the study and the purposes of the researcher. According to Vara-Horna (2012), purposive or criterion sampling is based on the researcher's knowledge and criteria. Therefore, in this study, non-probability sampling was applied, and the sample was selected intentionally.

The sample consisted of students enrolled in the third academic year of the five majors offered by the School of Education. The third-year students from the Foreign Language major constituted the experimental group, while students from the remaining majors formed the control group (Table 2).

Professional Program	Estimated third-year students
Mathematics, Computing, and Informatics (MACI)	31
Language and Literature (LELI)	51
Formal and Natural Sciences (CNEA)	38
Social Sciences and Socio-Cultural Promotion (SPRO)	41
Foreign Language (IDEX)	32
Total	193

Table 2. Estimated number of students by major (Third year) (Based on enrollment records from the Academic Records Office of the Faculty of Education at Jorge Basadre Grohmann National University)

2.3. Instrument Technique

The technique used for data collection was the administration of a survey.

Instrument

The instrument used was the Emotional Competence Inventory for Adults (ICEA), which consists of five dimensions:

- Emotional Awareness (EA)
- Emotional Regulation (ER)
- Personal Autonomy (PA)
- Social Competence (SC)
- Life Skills and Well-being (LSW)

These dimensions comprise a total of 23 items, presented on a Likert scale based on five indicators: 1 = Never, 2 = Almost Never, 3 = Sometimes, 4 = Almost Always, and 5 = Always

2.4. Procedure

Description of the UniEmotion Program

The *UniEmotion Program* was implemented with students from the Foreign Language program. It lasted eleven weeks, from October to December 2024. Eleven sessions were used to work on emotional competencies, and two sessions were dedicated to the pretest and posttest, making a total of thirteen sessions.

A psychologist facilitated the program. The sessions addressed emotional awareness, emotional regulation, personal autonomy, social competence, and skills related to life and well-being. The methodology included brief explanations, participatory and reflective activities, group work, and individual tasks. All sessions were conducted in person.

Data Collection

The Emotional Competence Inventory for Adults (ICEA) was administered to all participants in both the experimental and control groups as a pretest before the intervention and as a posttest after the completion of the program, under similar conditions for all groups.

Data Analysis

The data obtained from the pretest and posttest were processed using statistical analysis to compare the results of the experimental and control groups and to assess changes in emotional competencies following the intervention

Control of Extraneous Variables

Due to the quasi-experimental design of the study, it was not possible to control all extraneous variables. Nevertheless, the experimental and control groups belonged to the same Faculty of Education and followed similar academic conditions during the same academic semester.

The same instrument (Emotional Competence Inventory for Adults – ICEA) was applied to all participants in both the pretest and posttest under similar conditions. However, variables such as students' prior emotional development, academic demands, and personal experiences were not controlled and may have influenced the results.

3. Results

The descriptive results of the pretest for the five emotional competence dimensions across the different degree programs are presented in Table 3. Initial differences were observed among the groups, indicating that students entered the study with varying levels of emotional competence depending on their academic program.

Variables	f	%	Variables	f	%
Age			Study time		
18 years old	1	0.52	Less than 5 hours	101	52.33
19 years old	37	19.17	5 to 10 hours	77	39.90
20 years old	56	29.02	11 to 15 hours	10	5.18
21 years old or older	99	51.30	17 to 20 hours	5	2.59
Sex			Physical activity		
Female	118	61.14	Yes	96	49.74
Male	75	38.86	No	97	50.26
Academic Program			Social interaction		
CNEA	38	19.69	Always	10	5.18
IDEX	32	16.58	Frequently	31	16.06
MACI	31	16.06	Sometimes	103	53.37
SPRO	41	21.24	Rarely	42	21.76
LELI	51	26.42	Never	7	3.11
Academic term			Do you work?		
Terms I to IV	11	5.70	Yes, full-time	20	10.36
Terms V to VIII	180	93.26	Yes, part-time	89	46.11
Terms IX to X	2	1.04	Does not work	84	43.52
Academic average			Screen time		
Less than 11	3	1.55	Less than 3 hours	16	8.29
11 to 13	62	32.12	3 to 5 hours	65	33.68
14 to 16	118	61.14	6 to 8 hours	72	37.31
17 to 20	10	5.18	More than 8 hours	40	20.73
Are you satisfied with your degree program?					
Yes	154	79.79			
No	39	20.21			

Table 3. Sociodemographic characteristics of the participants

In the pretest phase, some degree programs showed higher scores across several emotional competence dimensions when compared to others. These differences suggest heterogeneous baseline levels of socioemotional development among the students prior to the intervention. Detailed descriptive statistics for each group and dimension are reported in Table 4.

After the implementation of the UniEmotion Program, comparative analyses between the experimental group (IDEX) and the control groups were conducted. The posttest results showed no statistically significant differences between groups in most of the emotional competence dimensions evaluated (see Table 4).

Variable	CNEA		IDEX		MACI		SPRO		LELI		H	p	ε ²
	M	SD											
EA (pretest)	16.50	3.06	16.81	3.26	18.48	3.12	17.56	3.84	16.84	3.27	10.82	0.029	0.056
ER (pretest)	13.71	2.60	13.28	2.43	14.55	2.87	13.71	2.99	13.65	3.46	4.50	0.343	0.023
PA (pretest)	18.82	3.36	19.22	2.56	20.48	3.11	19.88	2.85	17.94	4.07	13.35	0.010	0.070
SC (pretest)	18.89	2.59	19.72	2.56	20.90	2.87	19.93	3.61	19.49	3.65	12.90	0.012	0.067
LSW (pretest)	14.55	2.73	13.97	3.21	14.97	3.18	14.41	3.46	14.43	3.21	1.80	0.772	0.009
Global (pretest)	82.47	11.23	84.94	12.47	80.19	17.80	88.10	12.05	84.63	12.08	6.04	0.196	0.031
EA (posttest)	17.24	4.21	16.63	3.21	17.71	2.89	17.80	2.67	18.14	3.02	4.84	0.304	0.025
ER (posttest)	13.92	3.34	13.31	2.73	13.87	2.50	13.63	2.72	14.35	3.09	2.22	0.695	0.012
PA (posttest)	18.50	4.45	18.66	2.92	18.13	3.32	18.85	2.57	18.75	4.11	1.27	0.867	0.007
SC (posttest)	19.18	4.11	18.91	2.96	18.97	3.47	19.12	2.91	19.90	3.38	3.38	0.497	0.018
LSW (posttest)	14.00	3.48	14.38	3.03	13.84	3.28	14.71	3.32	14.57	3.18	2.41	0.660	0.013
Global (posttest)	82.84	17.10	88.44	13.31	82.68	15.72	82.85	8.65	82.51	12.10	4.00	0.406	0.021

Note: EA = Emotional Awareness; ER = Emotional Regulation; PA = Personal Autonomy; SC = Social Competence; LSW = Life Skills and Well-being.

Table 4. Socioemotional competencies before and after the program

A statistically significant difference was identified in the dimension of Emotional Awareness. In this case, the experimental group obtained higher posttest scores compared to one of the control groups. The corresponding statistical values are presented in Table 5.

Variable	Groups	U	Z	p	r
EA (posttest)	IDEX & CNEA	558.00	-0.59	0.55	-0.07
	IDEX & MACI	384.50	-1.54	0.12	-0.19
	IDEX & SPRO	498.00	-1.77	0.08	-0.21
	IDEX & LELI	608.00	-1.96	0.05	-0.21
ER (posttest)	IDEX & CNEA	547.50	-0.72	0.47	-0.09
	IDEX & MACI	461.50	-0.48	0.63	-0.06
	IDEX & SPRO	622.00	-0.38	0.70	-0.04
	IDEX & LELI	678.00	-1.30	0.19	-0.14
PA (posttest)	IDEX & CNEA	600.50	-0.09	0.93	-0.01
	IDEX & MACI	443.50	-0.73	0.47	-0.09
	IDEX & SPRO	652.50	-0.04	0.97	0.00
	IDEX & LELI	767.50	-0.46	0.65	-0.05
SC (posttest)	IDEX & CNEA	553.00	-0.65	0.51	-0.08
	IDEX & MACI	471.50	-0.34	0.73	-0.04
	IDEX & SPRO	621.00	-0.39	0.69	-0.05
	IDEX & LELI	645.00	-1.61	0.11	-0.18
LSW (posttest)	IDEX & CNEA	575.00	-0.39	0.69	-0.05
	IDEX & MACI	444.50	-0.72	0.47	-0.09
	IDEX & SPRO	594.00	-0.70	0.49	-0.08
	IDEX & LELI	790.00	-0.24	0.81	-0.03
Global (posttest)	IDEX & CNEA	493.50	-1.35	0.18	-0.16
	IDEX & MACI	411.00	-1.17	0.24	-0.15
	IDEX & SPRO	496.00	-1.78	0.07	-0.21
	IDEX & LELI	628.00	-1.76	0.08	-0.19

Note: EA = Emotional Awareness; ER = Emotional Regulation; PA = Personal Autonomy; SC = Social Competence; LSW = Life Skills and Well-being.

Table 5. Post-intervention assessment: Experimental group vs. Control groups

For the remaining dimensions —Emotional Regulation, Personal Autonomy, Social Competence, and Life Skills and Well-Being— no statistically significant differences were found between the experimental and control groups in the posttest. These results indicate that the intervention did not produce differential effects across all evaluated competencies.

Regarding the overall emotional competence scores, the experimental group showed the highest mean posttest score among the degree programs. However, this difference did not reach statistical significance. The complete statistical results for the global scores are shown in Table 6.

In summary, the results indicate that the UniEmotion Program produced a specific effect on emotional awareness, while no significant differences were observed in the other emotional competence dimensions. All descriptive and inferential statistical results are detailed in the corresponding tables

Groups	μ Posttest - μ Pretest	SD	95% CI (Lower)	95% CI (Upper)	Z	p	d
EA _(CNEA)	-0.74	4.14	-2.099	0.625	-1,026 ^b	0.305	-0.178
ER _(CNEA)	-0.21	2.92	-1.172	0.751	-,688 ^b	0.492	-0.072
PA _(CNEA)	0.32	3.63	-0.876	1.507	-,526 ^c	0.599	0.087
SC _(CNEA)	-0.29	4.18	-1.665	1.086	-,922 ^b	0.357	-0.069
LSW _(CNEA)	0.55	2.90	-0.401	1.506	-1,002 ^c	0.316	0.191
Global _(CNEA)	-0.37	14.25	-5.052	4.315	-,830 ^b	0.406	-0.026
EA _(IDEX)	0.19	0.74	-0.079	0.454	-1,414 ^c	0.157	0.255
ER _(IDEX)	-0.03	0.90	-0.355	0.292	-,090 ^b	0.928	-0.035
PA _(IDEX)	0.56	2.21	-0.236	1.361	-1,301 ^c	0.193	0.254
SC _(IDEX)	0.81	2.78	-0.188	1.813	-1,519 ^c	0.129	0.293
LSW _(IDEX)	-0.41	1.64	-0.999	0.186	-1,459 ^b	0.145	-0.247
Global _(IDEX)	-3.50	10.68	-7.349	0.349	-1,816 ^b	0.069	-0.328
EA _(MACI)	0.77	4.05	-0.710	2.259	-1,261 ^c	0.207	0.191
ER _(MACI)	0.68	3.23	-0.507	1.862	-1,284 ^c	0.199	0.210
PA _(MACI)	2.35	3.67	1.010	3.699	-3,104 ^c	0.002	0.642
SC _(MACI)	1.94	2.93	0.860	3.011	-3,133 ^c	0.002	0.660
LSW _(MACI)	1.13	3.68	-0.219	2.478	-1,556 ^c	0.120	0.307
Global _(MACI)	-2.48	4.10	-3.987	-0.981	-2,976 ^b	0.003	-0.606
EA _(SPRO)	-0.24	3.87	-1.464	0.976	-,207 ^b	0.836	-0.063
ER _(SPRO)	0.07	3.41	-1.003	1.149	-,305 ^b	0.761	0.021
PA _(SPRO)	1.02	2.91	0.106	1.943	-1,978 ^c	0.048	0.352
SC _(SPRO)	0.80	3.13	-0.184	1.794	-1,658 ^c	0.097	0.257
LSW _(SPRO)	-0.29	4.16	-1.606	1.021	-1,045 ^b	0.296	-0.070
Global _(SPRO)	5.24	15.19	0.450	10.037	-2,037 ^c	0.042	0.345
EA _(LELI)	-1.29	2.55	-2.011	-0.578	-3,390 ^b	0.001	-0.508
ER _(LELI)	-0.71	2.50	-1.409	-0.003	-1,937 ^b	0.053	-0.282
PA _(LELI)	-0.80	2.28	-1.445	-0.163	-2,366 ^b	0.018	-0.352
SC _(LELI)	-0.41	2.19	-1.028	0.205	-1,474 ^b	0.140	-0.188
LSW _(LELI)	-0.14	2.01	-0.703	0.428	-,694 ^b	0.488	-0.068
Global _(LELI)	2.12	8.70	-0.328	4.564	-1,070 ^c	0.285	0.244

Note: EA = Emotional Awareness; ER = Emotional Regulation; PA = Personal Autonomy; SC = Social Competence; LSW = Life Skills and Well-being.

Z test types: ^bWilcoxon Signed-Rank test (asymptotic); ^cWilcoxon Signed-Rank test (exact).

d = Cohen's d (effect size).

Table 6. Emotional competencies before and after each academic program

4. Discussion

Following the statistical analysis, this section discusses the effectiveness of the implementation of the *UniEmotion Program: Discover and Enhance Your Competencies*, in improving emotional competencies among students from the School of Education at the Jorge Basadre Grohmann National University (Tacna, Peru).

The results of the study show a specific, though initial, impact of the *UniEmotion Program* on the emotional competencies of students from the School of Education. The participating students came from five professional degree programs (MACI, LELI, CNEA, SPRO, and IDEX), with the students of the Foreign Language program (IDEX) forming the experimental group—that is, they received the intervention of the *UniEmotion Program*. Meanwhile, the students from the remaining degree programs served as the control group.

In a more specific breakdown of the control group data, the most notable results came from students in the MACI program, who obtained the highest scores in all emotional competencies: Emotional Awareness (EA), Personal Autonomy (PA), Social Competence (SC), Emotional Regulation (ER), and Life Skills and Well-Being (LSW). It is thus understood that MACI students already had a higher level of socioemotional development compared to their peers from other groups before the *UniEmotion Program* intervention. This reflects what was mentioned by Llanos-Bardales and Machuca-Cabrera (2023), who emphasized the importance of implementing educational programs that promote continuous improvement and positive change, benefiting students not only personally but also in their long-term academic performance.

In contrast, the lowest scores were obtained by students from CNEA in Emotional Awareness and Social Competence, and by students from LELI in Personal Autonomy. These results showed a marked disparity between groups, which justifies the need for targeted interventions based on student characteristics, since favorable and adapted educational environments directly influence the development of their emotional competencies (Hachem, Gorgun, Chu & Bulut, 2022; Wang, Zeng, & King, 2024). This is necessary, as Greenberg et al. (2003) argue that socioemotional learning programs and their components are key to preventing risk behaviors and promoting assertive performance.

As for the posttest, the findings showed a general convergence between groups. No significant differences were identified between the experimental group (IDEX students who received the *UniEmotion Program* intervention) and the control groups in any of the five socioemotional competencies evaluated, except in one specific case: Emotional Awareness. The experimental group slightly outperformed the LELI control group in emotional awareness at the end of the program. In all other dimensions—Emotional Regulation (ER), Personal Autonomy (PA), Social Competence (SC), and Life Skills and Well-Being (LSW)—the post-intervention differences between the experimental and control groups were statistically non-significant.

This result shows that, while the program did not generate significant changes in most of the evaluated dimensions, a specific improvement was observed in emotional awareness in comparison to one control group (LELI). This pattern may reflect the demands of the educational context, where emotional awareness tends to develop earlier than other competencies, which often require longer and more sustained interventions (Mehler, Balint, Gralla, Pöbnecker, Gast, Hölzer et al., 2024).

On the other hand, the fact that only emotional awareness showed a significant advantage suggests that the impact of the *UniEmotion Program* was specific rather than broad. While the program proved effective in enhancing emotional self-awareness, it did not produce clear differential improvements in other competencies, such as emotional regulation or life skills. In line with this, although there was progress, the extent of the change was modest (Hodzic, Scharfen, Ripoll, Holling & Zenasni, 2017; Powell, Brown, Yap, Hallam, Takac, Quinlivan et al., 2024).

It is worth noting that, although the within-group analyses did not yield statistically significant differences for the experimental group, slight numerical improvements were observed in some dimensions such as

emotional awareness, personal autonomy, and social competence. These small gains, although not statistically conclusive, may indicate the program's potential as a pilot intervention. Partial improvements may also have occurred naturally or through other educational experiences within the control groups, resulting in minimal final differences between the groups. In sum, the *UniEmotion Program* had a modest and beneficial effect on certain competencies—mainly emotional awareness—but did not produce broad advantages across all the evaluated dimensions. These variations suggest possible practical improvements in specific competencies that could be further explored in longitudinal studies with ongoing follow-up (Zhou, Tavan, Kavarizadeh, Beheshti, Zhang & Mokhtari, 2024).

These results align with the findings of Bisquerra-Alzina and Pérez-Escoda (2007), who in a similar program addressed the five competencies and demonstrated a significant increase in the experimental group's scores, indicating the effectiveness of this type of socio-emotional program. More specifically, Hodzic et al. (2017) and Nélis et al. (2009) concurred that short-term emotional intelligence interventions tend to generate small and targeted effects, especially in self-awareness, and less so in regulation or overall well-being. This supports the need to continue exploring the potential of longer and more targeted programs for each emotional dimension. As Sánchez-Calleja et al. (2018) point out, mastering emotional competencies provides essential resources to cope with the contemporary social and academic-professional demands we face daily—an indicator of adaptive flexibility both individually and collectively.

Within this encouraging scenario, our study contributes relevant insights by focusing on university-level students (future teachers) and a short-term intervention. This is consistent with some studies that have explored interventions in higher education. For instance, Gilar-Corbi, Pozo-Rico, Pertegal-Felices and Sanchez (2018) implemented an emotional intelligence program with teacher education students and found significant improvements in emotional skills for the experimental group compared to the control. Likewise, recent meta-analyses showed that short-term emotional intelligence interventions produce small gains, especially in self-conscious emotions and subjective well-being (Hodzic et al., 2017; MacCann, Jiang, Brown, Double, Bucich & Minbashian, 2020).

In retrospect, it can be noted that although the *UniEmotion Program* did not produce statistically significant results across all the dimensions evaluated, specific progress was identified in the dimension of emotional awareness. This may indicate that the impact of the program, as well as emotional competencies themselves, could depend on several factors, including the students' profiles and, above all, the fact that emotional education is still not part of the official curriculum. Therefore, having initiated this process already represents an important step forward in raising awareness of the role of emotions in teacher training.

Although this study was conducted in a teacher education context, the findings may also be relevant to technology and science education, where academic demands are high. Emotional competencies can support students' engagement and their capacity to cope with such needs. Therefore, emotional education can be understood as a transversal component of higher education, linking not only personal development but also professional preparation in complex educational contexts.

This highlights the need for more continuous and in-depth emotional education interventions, particularly through longitudinal approaches. Along these lines, research by Nelis, Kotsou, Quoidbach, Hansenne, Weytens, Dupuis et al. (2011) has shown that even short-term programs can improve emotional regulation, self-awareness, and participants' subjective well-being. Similarly, the study by Filella-Guiu et al. (2014) demonstrated that implementing an educational program that addressed all dimensions of emotional competence resulted in significant increases in emotional awareness, regulation, autonomy, social competence, and well-being in children. Furthermore, Oberle and Schonert-Reichl (2016) argue that the development of these competencies in future teachers strengthens their comprehensive capacities, social skills, and positive emotions, making them emotional role models for their students, who benefit both from their guidance and their example. Thus, the importance of mastering the five socioemotional competencies is reaffirmed.

Apart from these benefits, an important contribution of this study lies in its context and application, specifically the implementation of an emotional competence program in a Latin American higher education setting, with a focus on pre-service teachers. The study does not propose methodological innovations. However, it provides evidence from an underrepresented context and suggests directions for future research.

It is therefore understood that although the IDEX students, as the only experimental group, showed overall improvement in their socioemotional competencies after the program, the statistically significant differences compared to the control groups were limited. The most noteworthy finding is the improvement in emotional awareness (EA) among IDEX students compared to LELI students, which can be attributed to the intervention. The *UniEmotion Program* had a specific effect on emotional awareness and represented a significant first step toward incorporating the emotional dimension in higher education. In a context where this approach has been scarcely explored, this study does not aim to provide a definitive answer but rather invites further, more focused, and longer-term research that can help consolidate more human and holistic educational proposals—ones in which the emotions of future teachers are acknowledged, understood, and strengthened.

5. Conclusions

The purpose of this study was to determine the impact of the *UniEmotion Program: Discover and Strengthen Your Competencies* on the development of emotional competence among university education students. Although no statistically significant differences were found between the experimental group and the control group, the findings revealed relevant opportunities for strengthening the program and for pedagogical reflection.

No radical changes were observed in the overall levels of emotional competence or in its specific dimensions. Nevertheless, this result should be interpreted beyond statistical significance alone. Initial differences were identified between the control and experimental groups in dimensions such as emotional awareness, personal autonomy, and social competence, suggesting that the starting conditions were not fully comparable and may have influenced the post-intervention results.

Moreover, although the scores of the students in the experimental group were slightly higher at the end of the program, especially in emotional awareness, these differences were not statistically significant in most comparisons ($p > 0.05$). Nevertheless, the observed moderate improvement, particularly in emotional awareness, proposes that the program has the potential to be strengthened.

These findings indicate that *UniEmotion Program* should be implemented in a deeper and more sustained manner to evaluate its long-term effects. Short-term interventions may be insufficient to generate significant changes, particularly when students have already developed certain competencies through other educational experiences. In addition, contextual factors such as academic workload, social environment, and program characteristics may influence how emotional education initiatives are received and internalized.

Taking all this into account, it is believed that some aspects of the *UniEmotion Program* should be reconsidered: extending its duration, adapting its methodology to more experiential and ongoing monitoring formats, and considering the possibility of providing sustained support over time. Similarly, future studies should consider using more controlled experimental designs that allow for clearer isolation of the effects of the intervention.

In summary, although the results were not as expected in terms of immediate impact, the journey undertaken has provided valuable insights. The study made it possible to identify strengths and limitations of the *UniEmotion Program*, while confirming that emotional development in future educators is an achievable and necessary task when supported by consistency and commitment.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

References

- Abarca, M., Marzo, L., & Sala, J. (2002). La educación emocional y la interacción profesor/a-alumno/a. *Revista Electrónica Interuniversitaria de Formación del Profesorado*, 5(3), 1. Available at: <http://dialnet.unirioja.es/servlet/articulo?codigo=1034495>
- Barra-Quispe, D.E., Mamani-Flores, A., Atencio-Mendoza, C.M.R., Ferro-Supo, F.W., Chura-Flores, J.C., Huanacuni-Zapana, T.H. et al. (2024). Influence of emotional intelligence on the academic performance of students at a national university in Perú. *Edelweiss Applied Science and Technology*, 8(6), 6374-6382. <https://doi.org/10.55214/25768484.v8i6.3381>
- Barrientos-Fernández, A., Sánchez-Cabrero, R., & Arigita-García, A. (2019). Formación emocional del profesorado y gestión del clima de su aula. *Praxis & Saber*, 10(24), 119-141. <https://doi.org/10.19053/22160159.v10.n25.2019.9894>
- Bisquerra-Alzina, R. (2003). Educación emocional y competencias básicas para la vida. *Revista de Investigación Educativa*, 21(1), 7-43. Available at: <https://dialnet.unirioja.es/servlet/articulo?codigo=649432>
- Bisquerra-Alzina, R., & Pérez-Escoda, N. (2007). Las competencias emocionales. *Educación XXI*, 10, 61-82. Available at: <https://www.redalyc.org/pdf/706/70601005.pdf>
- Bisquerra-Alzina, R., Agulló, M., García-Navarro, E., & López-Cassá, E. (2012). *La educación emocional en la práctica*. Wolters Kluwer.
- Bouhafa, Y., Bharaj, P.K., & Simpson, A. (2023). Examining the relationships between teacher self-disclosure and emotional and behavioral engagement of STEM undergraduate research scholars: A structural equation. *Education Sciences*, 13(8), 821. <https://doi.org/10.3390/educsci13080821>
- Collaborative for Academic, Social and Emotional Learning - CASEL (2020). *The CASEL framework for systemic social and emotional learning (SEL)*. Available at: <https://casel.org/fundamentals-of-sel/what-is-the-casel-framework/>
- Dowling, K., & Barry, M.M. (2020). The effects of implementation quality of a school-based social and emotional well-being program on students' outcomes. *European Journal of Investigation in Health, Psychology and Education*, 10(2), 595-614. <https://doi.org/10.3390/ejihpe10020044>
- Durlak, J.A., Weissberg, R.P., Dymnicki, A.B., Taylor, R.D., & Schellinger, K.B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405-432. <https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Durlak, J.A., Weissberg, R.P., & Pachan, M. (2010). A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents. *American Journal of Community Psychology*, 45(3-4), 294-309. <https://doi.org/10.1007/s10464-010-9300-6>
- Filella-Guiu, G., Pérez-Escoda, N., Agulló-Morera, M.J., & Granado, X.O. (2014). Resultados de la aplicación de un programa de educación emocional en Educación Primaria. *Estudios Sobre Educación*, 26, 125-147. <https://doi.org/10.15581/004.26.125-147>

- Flores-Gutiérrez, J.J.O. (2023). *Relación entre inteligencia emocional y resiliencia en estudiantes de medicina de la Universidad Privada de Tacna, 2023*. Tesis de licenciatura. Universidad Privada de Tacna.
- Gebre, Z.A., Demissie, M.M., & Yimer, B.M. (2025). The impact of teacher socio-emotional competence on student engagement: a meta-analysis. *Frontiers in Psychology*, 16, 1526371. <https://doi.org/10.3389/fpsyg.2025.1526371>
- Gilar-Corbi, R., Pozo-Rico, T., Pertegal-Felices, M. L., & Sanchez, B. (2018). Emotional intelligence training intervention among trainee teachers: A quasi-experimental study. *Psicología: Reflexão e Crítica*, 31(1), 33. <https://doi.org/10.1186/s41155-018-0112-1>
- Goldstein, G.S., & Benassi, V.A. (1994). The relation between teacher self-disclosure and student classroom participation. *Teaching of Psychology*, 21(4), 212-217. https://doi.org/10.1207/s15328023top2104_2
- Greenberg, M.T., Weissberg, R.P., O'Brien, M.U., Zins, J.E., Fredericks, L., Resnik, H. et al. (2003). Enhancing School-Based Prevention and Youth Development Through Coordinated Social, Emotional, and Academic Learning. *American Psychologist*, 58(6-7), 466-474. <https://doi.org/10.1037/0003-066X.58.6-7.466>
- Hachem, M., Gorgun, G., Chu, M.W., & Bulut, O. (2022). Social and emotional variables as predictors of students' perceived cognitive competence and academic performance. *Canadian Journal of Education*, 45(4), 1045-1070. <https://doi.org/10.1177/08295735221118474>
- Hernández-Sampieri, R., Fernández-Collado, C., & Baptista-Lucio, P. (2014). *Metodología de la investigación* (6.ª ed.). McGraw-Hill Education.
- Hernández-Sampieri, R., & Mendoza, C.P. (2018). *Metodología de la investigación: Las rutas cuantitativa, cualitativa y mixta* (1.ª ed.). McGraw-Hill Education.
- Hodzic, S., Scharfen, J., Ripoll, P., Holling, H., & Zenasni, F. (2017). How efficient are emotional intelligence trainings: A meta-analysis. *Emotion Review*, 10(2), 138-148. <https://doi.org/10.1177/1754073917708613>
- Huaraca-García, A.M., Ninamango-Solís, O.L., Orihuela-Romero, C.C., Villa-Ricapa, L.F., Caro-Baldeón, C.C., & Torres-Ruiz, F.J. (2024). Inteligencia emocional y rendimiento académico pos pandemia en los estudiantes de una Universidad de la provincia de Chanchamayo. *e-Revista Multidisciplinaria del Saber*, 2(15). <https://doi.org/10.61286/e-rms.v2i.15>
- Jennings, P., & Greenberg, M. (2009). The Prosocial Classroom: Teacher Social and Emotional Competence in Relation to Student and Classroom Outcomes. *Review of Educational Research*, 79(1), 491-525. <https://doi.org/10.3102/0034654308325693>
- Llanos-Bardales, J., & Machuca-Cabrera, Y.J. (2023). Inteligencia Emocional y Rendimiento Académico en el Perú: Revisión Sistemática Periodo 2020 al 2023 y Meta-Análisis. *Ciencia Latina Revista Científica Multidisciplinar*, 7(5), 9733-9748. https://doi.org/10.37811/cl_rcm.v7i5.8536
- MacCann, C., Jiang, Y., Brown, L.E.R., Double, K.S., Bucich, M., & Minbashian, A. (2020). Emotional intelligence predicts academic performance: A meta-analysis. *Psychological Bulletin*, 146(2), 150-186. <https://doi.org/10.1037/bul0000219>
- Mamani-Humpiri, M.V. (2024). *Inteligencia emocional relacionada con el estrés académico en el estudiante de la Facultad de Ciencias de la Salud de la Universidad Nacional Jorge Basadre Grohmann – Tacna, 2023*. Tesis de licenciatura. Universidad Nacional Jorge Basadre Grohmann.
- March, A., Stapley, E., Hayes, D., Town, R., & Deighton, J. (2022). Barriers and facilitators to sustaining school-based mental health and wellbeing interventions: A systematic review. *International Journal of Environmental Research and Public Health*, 19(6), 3587. <https://doi.org/10.3390/ijerph19063587>

- Márquez-Cervantes, M.C., & Gaeta-González, M.L. (2017). Desarrollo de competencias emocionales en pre-adolescentes: el papel de padres y docentes. *Revista Electrónica Interuniversitaria de Formación del Profesorado*, 20(2), 221-235. <https://doi.org/10.6018/reifop/20.2.232941>
- Mehler, M., Balint, E., Gralla, M., Pöbnecker, T., Gast, M., Hölzer, M. et al. (2024). *Training emotional competencies at the workplace: A systematic review and meta-analysis*. *BMC Psychology*, 12, 718. <https://doi.org/10.1186/s40359-024-02198-3>
- Moraleda-Ruano, Á. (2015). *Justificación de la necesidad De una educación emocional. Diseño de un Programa de intervención psicopedagógica de educación emocional*. Universidad Complutense de Madrid. Available at: <https://eprints.ucm.es/33062/1/T36368.pdf>
- Nelis, D., Quoidbach, J., Mikolajczak, M., & Hansenne, M. (2009). Increasing emotional intelligence: (How) is it possible? *Personality and Individual Differences*, 47(1), 36-41. <https://doi.org/10.1016/j.paid.2009.01.046>
- Nelis, D., Kotsou, I., Quoidbach, J., Hansenne, M., Weytens, F., Dupuis, P. et al. (2011). Increasing emotional competence improves psychological and physical well-being, social relationships, and employability. *Emotion*, 11(2), 354-366. <https://doi.org/10.1037/a0021554>
- Oberle, E., & Schonert-Reichl, K.A. (2016). Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. *Social Science and Medicine*, 159, 30-37. <https://doi.org/10.1016/j.socscimed.2016.04.031>
- Powell, C., Brown, T., Yap, Y., Hallam, K., Takac, M., Quinlivan, T. et al. (2024). Emotional intelligence training among the healthcare workforce: A systematic review and meta-analysis. *Frontiers in Psychology*, 15, 1437035. <https://doi.org/10.3389/fpsyg.2024.1437035>
- Pérez-Escoda, N., Filella, G., Alegre, A., & Bisquerra, R. (2012). Desarrollo de la competencia emocional de maestros y alumnos en contextos escolares. *Electronic Journal of Research in Educational Psychology*, 10(3), 1183-1208.
- Reyes, M.R., Brackett, M.A., Rivers, S.E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology*, 104(3), 700-712. <https://doi.org/10.1037/a0027268>
- Sánchez-Calleja, L., Rodríguez-Gómez, G., & García-Jiménez, E. (2018). Emotional competences development through the program AEdEm for secondary education. *Revista Complutense de Educación*, 29(4), 975-994. <https://doi.org/10.5209/RCED.54402>
- Shaoan, M.M.R., Namanyane, T., Feng, M., & Arif, M. (2025). A systematic literature review on the importance of teacher recruitment and retention in global educational reform. *Frontiers in Education*, 9. <https://doi.org/10.3389/educ.2024.1447752>
- Vara-Horna, A.A. (2012). *Desde la idea hasta la sustentación: Siete pasos para una tesis exitosa. Un método efectivo para las ciencias empresariales* (3ª ed.). Instituto de Investigación de la Facultad de Ciencias Administrativas y Recursos Humanos. Universidad de San Martín de Porres.
- Vanderweele, T.J. (2017). On the promotion of human flourishing. *Proceedings of the National Academy of Sciences of the United States of America*, 114(31), 8148-8156. <https://doi.org/10.1073/pnas.1702996114>
- Wang, F., Zeng, L.M., & King, R.B. (2024). University students' socio-emotional skills: The role of the teaching and learning environment. *Studies in Higher Education*, 50(8), 1670-1687. <https://doi.org/10.1080/03075079.2024.2389447>

Wettstein, A., Ramseier, E., & Scherzinger, M. (2021). Class- and subject teachers' self-efficacy and emotional stability and students' perceptions of the teacher–student relationship, classroom management, and classroom disruptions. *BMC Psychology*, 9, 103. <https://doi.org/10.1186/s40359-021-00606-6>

World Health Organization (2022). *World Mental Health Report: Transforming mental health for all*. WHO. Available at: <https://www.who.int/publications/i/item/9789240049338>

Zhang, J., Zhao, S., Deng, H., Yuan, C., & Yang, Z. (2024). Influence of interpersonal relationship on subjective well-being of college students: The mediating role of psychological capital. *PLoS One*, 19(9), e0293198. <https://doi.org/10.1371/journal.pone.0293198>

Zhang, Y., Zhou, S., Wu, X., & Cheung, A.C.K. (2024). The effect of teacher training programs on pre-service and in-service teachers' global competence: A meta-analysis. *Educational Research Review*, 45, 100627. <https://doi.org/10.1016/j.edurev.2024.100627>

Zhou, Z., Tavan, H., Kavarizadeh, F., Beheshti, R., Zhang, T., & Mokhtari, A. (2024). The relationship between emotional intelligence, spiritual intelligence, and student achievement: A systematic review and meta-analysis. *BMC Medical Education*, 24, 217. <https://doi.org/10.1186/s12909-024-05208-5>

Published by OmniaScience (www.omniascience.com)

Journal of Technology and Science Education, 2026 (www.jotse.org)



Article's contents are provided on an Attribution-Non Commercial 4.0 Creative commons International License.

Readers are allowed to copy, distribute and communicate article's contents, provided the author's and JOTSE journal's names are included. It must not be used for commercial purposes. To see the complete licence contents, please visit <https://creativecommons.org/licenses/by-nc/4.0/>.