

Cómo citar este artículo:

Berrios Aguayo, B. & Pulido Mantas, L. (2020). Emotional education workshop as a tool for creative development. *MLS Psychology Research* 3 (2), 43-56. doi: 10,33000/mlspr.v3i1.559

**EMOTIONAL EDUCATION WORKSHOP AS A TOOL FOR
CREATIVE DEVELOPMENT**

Beatriz Berrios Aguayo

Universidad de Jaén (España)

bberrios@ujaen.es · <https://orcid.org/0000-0002-3791-2906>

Lorena Pulido Mantas

Universidad Autónoma de Barcelona (España)

lorenapulidomantas@gmail.com · <https://orcid.org/0000-0002-1122-3897>

Abstract. Psycho-pedagogical theories have highlighted the importance of emotions for the development of student learning. This study aimed to demonstrate the existence of relationships between dimensions of emotional intelligence (EI) and creativity, as well as to analyse the effectiveness of an emotional education (EE) workshop on EI and the creativity level. A total of 695 students from two high school participated in the study. A group of 366 students served as an experimental group (EG) and another group of 329 served as a control group (CG). The results showed statistically significant relationships between the dimensions of EI and creativity, as well as a predictive effect of these emotional dimensions on creativity. In addition, significant differences were observed between the EG and CG groups in terms of the dimensions of EI and the students' creativity. In conclusion, emotional education trainings are effective for student's emotional and creative development.

Keywords: Creativity, emotional education, emotional intelligence, high school

**TALLER DE EDUCACIÓN EMOCIONAL COMO HERRAMIENTA
PARA EL DESARROLLO CREATIVO**

Resumen. Las teorías psicopedagógicas han destacado la importancia de las emociones para el desarrollo del aprendizaje de los estudiantes. Este estudio tuvo como objetivo demostrar la existencia de relaciones entre las dimensiones de la inteligencia emocional (IE) y la creatividad, así como analizar la efectividad de un taller de educación emocional (EE) sobre la IE y el nivel de creatividad. Un total de 695 estudiantes de dos escuelas secundarias participaron en el estudio. Un grupo de 366 estudiantes sirvió como grupo experimental (GE) y otro grupo de 329 sirvió como grupo control (CG). Los resultados mostraron relaciones estadísticamente significativas

entre las dimensiones de la IE y la creatividad, así como un efecto predictivo de estas dimensiones emocionales sobre la creatividad. Además, se observaron diferencias significativas entre el GE y el CG en términos de dimensiones de la IE y la creatividad de los estudiantes. En conclusión, las capacitaciones en educación emocional son efectivas para el desarrollo emocional y creativo del estudiante.

Palabras clave: creatividad, educación emocional, inteligencia emocional, bachillerato.

Introduction

Today we are living in new times in which a more updated education is required for the learning needs of students. In this regard, research that brings pedagogies and innovative methodologies closer to the real school context is essential for achieving a quality education. The desire to generate new educational approaches has led to the creation of the terms emotional education (EE) and emotional intelligence (EI). EE is an educational innovation that responds to social needs not addressed in ordinary academic subjects. EE involves designing programs based on a theoretical framework, which, in order to put them into practice, requires duly prepared teachers. On the other hand, IE was first proposed by Salovey and Mayer (1990), who defined it as 'a type of social intelligence that includes the ability to monitor and understand one's emotions and those of others, discriminate between them and use information (affective) to guide one's thinking and actions' (189). However, the idea of an intelligence based on the awareness of emotions was not fully embraced until the arrival of the best seller, *Emotional Intelligence*, by Goleman (1996). This book is recognized as the quintessential manual of EI.

EE has as one of its functions to develop the EI. But what is the true purpose of EI? The notion tries to respond to problems that arise in daily life that, without the exclusive support of training on emotional control and self-knowledge, would be impossible to solve (García-Fernández and Giménez-Mas 2010). It is an ability based on emotional and social aspects that facilitate the adaptation of people to the continuous changes of the world and its daily challenges, as a clear bet for the future (Lopes and Salovey 2004). If this idea is applied to academics, it could be said that cognitive and emotional development are closely linked if a complete education is sought (Fernández-Berrocal and Extremera Pacheco 2002). The development of these two aspects is being studied by educational scientists who want to achieve quality education.

According to the above considerations, in this study we focused on how emotional and cognitive aspects of experience can go hand-in-hand. If we unite the emotional with the creative, an ideal combination would spring to mind mainly in academic terms and in school contexts. With regard to the brain structures supporting these two factors, one may well mention the work of He et al. (2018). These authors showed, in a sample of 213 young people, that the regional volume of gray matter in the right orbitofrontal cortex partially mediated the association between EI and creativity. Therefore, the volumetric variation of the brain in the right orbitofrontal cortex is related to the descending processing of emotion regulation, which can play a relevant role in the promotion of creativity. Furthermore, the creative process is full of emotions, either of joy when discovering something innovative, or sadness at not encountering the ideas, or elements, that were expected. Therefore, EI is really necessary to support creative behaviour (Ivcevic and Brackett 2015).

The link between EI and creativity has been analysed by investigations such as Cruz Cruz (2014), Guastello, Guastello and Hanson (2004), Sánchez-Ruiz et al. (2011), Zhou and George (2003), and Joanna (2014). Firstly, Zhou and George (2003) propose that EI plays a critical role in enabling and supporting the awakening of creativity through the following five steps: identification, gathering of information, generation of ideas, evaluation, modification of ideas and implementation of ideas. Sánchez-Ruiz et al. (2011) investigated the relationship between creativity, cognitive ability, personality, and EI (understood as emotional self-efficacy). The results showed that there is a relationship between these variables that deepens in the requirement to meet the emotional needs of people for greater creative development. A study conducted by Guastello et al. (2004) investigated people with bipolar disorders and other clinical dysfunctions, who were especially creative. They showed that EI, measured through Emotional Intelligence Scale, could be an intermediate variable between clinical conditions and creativity, measured through a wide range of divergent thinking and creative production measures. The authors demonstrated a stronger linkage of EI with what they termed 'creative personality', followed by total creative production and flexibility of cognitive style. People with higher EI produced more creative projects, whether or not they had bipolar disorders or any other affliction. Therefore, it was deduced that EI serves to counteract mood disorders and improve creative production. In parallel, analysing the connection of EI and creativity in the first stages of life, Cruz Cruz (2014) showed through theater workshops that emotional competence was closely linked to the creative development of children in early childhood education. Finally, Joanna (2014) investigated the impact of parental stress, sociodemographic characteristics, and EI on the creativity of children aged 3–5 years. Creativity was evaluated through 40 items of the Korean Creativity Traits Checklist (Jean 2006). The results demonstrated a positive correlation between EI and children's levels of creativity as well as a relationship with sociodemographic variables.

Other lines of research have sought to take advantage of the relationship between EI and creativity by conducting EI interventions in various everyday environments, as a means of fostering the creative capacity of the participants. Such was particularly the case of Carmeli, McKay and Kaufman (2014), who carried out a model of mediation with employees at three different companies. The results showed that EI and creativity had an indirect relationship: Employees who were more emotionally intelligent were at the same time more generous, which caused a greater sense of vigour; this, in turn, allowed a higher level of creativity. Similarly, Amabile et al. (2005) revealed the association between positive affect and creativity through a longitudinal study with 222 employees at seven companies. They found a positive effect on creativity of positive affect among co-workers; this could last up to two days. Along the same lines, Sy, Tram and O'Hara (2006) conducted a study with 187 employees of a restaurant franchise. The employees who demonstrated higher levels of EI showed greater personal and work satisfaction and a greater creative capacity at work.

Regarding the adolescent population, the development of interventions on EI dimensions is a complicated task. Such factors as teaching overload and careless attitudes of the youngster, in many circumstances, have reduced their effectiveness (Extremera Pacheco, Fernández-Berrocal 2013). Nonetheless, EI workshops have been shown to help students develop a higher level of self-awareness through assessments of personality, mentality, and essential life skills such as EI and creativity (Swearer et al. 2017).

In consideration of the information presented above, the objectives proposed by the study were: (a) to analyse the association between some dimensions of EI and creative capacity; and (b) to determine the effectiveness of an EE workshop on the creative level of students of secondary education.

Method

Participants

The study participants were students of two high schools in southern Spain. The sample included all the students enrolled at these institutions, resulting in a total of 695 (342 female and 353 male) between the ages of 12 and 18. In relation to grade levels, 181 (26.0%) were students of first, 223 (32.1%) of second, 178 (25.6%) of third, and 113 (16.3%) of fourth grade. As shown, proportionality was maintained between the numbers of participants according to gender; however, the number of participants at the higher grades was lower, due to an ongoing dropout of students. The study was conducted in adherence to the standards of the Declaration of Helsinki (2013 version) and the European Community's guidelines for *Good Clinical Practice* (111/3976/88 of July 1990), as well as the Spanish legal framework for clinical research on humans (Real Decreto 561/1993 on clinical trials). In addition, this study was approved by the Ethics Committee of the University of Jaen (SEP.16/2).

The two secondary education schools are located in similar areas of medium socioeconomic level. The experimental school (EG; $n = 366$) was characterised by the conducting of an EE workshop. This took place across 10 sessions, distributed over three academic quarters and generated by the school. The control school (CG; $n = 329$) provided no EE workshops or any type of pedagogy promoting the development of EI in their students.

The percentage of positive evaluations in the different subject (subject passed of students) in each of the participants during the 2017–2018 school year is shown in Table 1. Therefore, taking into account the limited difference between the percentages (± 9.28), it can be inferred that there were no significant disparities in terms of academic performance between the two schools.

Table 1

Percentages of positive evaluations

Group	Positive evaluation		
	Girls	Boys	Total
EG	62,29%	44,66%	53,01%
CG	69,26%	61,05%	65,49%

Instruments

Emotional intelligence

The Emotional Education Questionnaire (CEE-R). For this study we used the reduced version of the CEE (Álvarez and Grup de Recerca en Orientació Psychopedagogical of the University of Barcelona, 2006). The short version of this instrument is composed of 20 Likert scale items of 4 points (1 = Rarely, 2 = Sometimes, 3 = Frequently, 4 = Always) and four dimensions with five items each: Dimension 1: Consciousness and emotional control ($\alpha = .88$);

Dimension 2: Self-esteem ($\alpha = .78$); Dimension 3: Socioemotional skills ($\alpha = .67$); Dimension 4: Skills for life and subjective well-being ($\alpha = .73$) (e.g.: ‘When I see that I have bothered someone I try to apologize’, ‘I like it as I am’, ‘I feel sad for no reason’, ‘I organize my free time well’). All the scores obtained in Dimension 1 were recoded, given the inverse character of the dimension.

Trait Meta-Mood Scale (TMMS-24). For this questionnaire, we used the adapted Spanish version (Extremera and Fernández-Berrocal 2005; Fernandez-Berrocal, Extremera, and Ramos 2004; Fernández-Berrocal and Ramos 2005). It is a measure of self-report of EI, known as ‘perceived emotional intelligence’ (Salovey, Stroud, Woolery, and Epel 2002), and consists of 24 items assessed 1 to 5 point (1=Nothing of agreement, 2=Some agreement, 3=Enough of agreement 4=Very much agreement, 5=Totally agreement) (e.g.: ‘I pay close attention to the feelings’, ‘I usually spend time thinking about my emotions’, ‘I let my feelings affect my thoughts’, ‘I am clear about my feelings’) and three subscales (Perception, or attention to feelings; Comprehension, or emotional clarity; and Regulation, or repair of emotions), configuring each of the subscales’ eight items. The reported internal consistency of this test, for each of its scales, is: Perception or attention to feelings ($\alpha = 0.90$), Understanding or emotional clarity ($\alpha = 0.90$) and Regulation or repair of emotions ($\alpha = 0.86$).

Creativity

Prueba de Imaginación Creativa – Jóvenes (PIC-J). The PIC-J (Artola et al. 2010) evaluates various facets of creativity (Fluency, Flexibility, Originality, Elaboration, Title, and Special Details). In addition, the PIC-J provides two evaluation points: the graphic side (formed by one graphic creativity exercise) and the narrative, or verbal, side (formed by three narrative creativity exercises). The test consists of 4 exercises whose instructions were: Exercise 1: ‘Look at the picture and imagine everything that could be happening’. In exercise 2, the instructions were: ‘Write a list of everything that you could do with a plastic pipe’. In exercise 3, the instructions were: ‘Imagine what would happen if the floor were elastic’.

Finally, in exercise 4, the instructions were: ‘On this page you will see some incomplete drawings. Try to complete them with such originality that no one else would draw the same. When you have finished, write an interesting title for each drawing’. Children were motivated to be as creative as possible.

The questionnaire’s reliability in its entirety was $\alpha = .85$; internal consistency within each dimension was not evaluated.

Intervention

The EE workshop in which the EG participated had the following aims:

- Understand one’s feelings, talk about them, handle them, etc., through tools for effective management of emotions and interpersonal communication.
- Become aware of the importance of establishing and maintaining harmonious relationships between classmates through learning about verbal and nonverbal language.
- Recognise the threats posed by stress and the disorders it can cause, thereby learning how to avoid conflicts and reach agreements.

The workshop, as noted, consisted of 10 sessions distributed throughout the school year (three sessions in the first quarter, four in the second quarter, and another three sessions in the third quarter). The duration of each session was one hour corresponding to the mentoring sessions. In the different meetings, dynamic and group activities were carried out in which the students had to work on concepts, procedures, and techniques that allowed them to meet the

proposed objectives related to developing greater EI (e.g.: children should think about their emotions as if they were a scale and express it to other students; children must control their impulses by learning to think, reason and analyze a situation before acting, etc.).

Procedure

The investigation was authorised by the administration of each high school. Next, the students were provided with a series of documents, including the explanatory informed consent of the objectives and procedure of the study, as well as a sociodemographic questionnaire to be signed and completed by their parents as students are minors. The EI questionnaires and the creativity test were administered at the end of the school year, after the EI workshops had concluded. The data from the two schools were collected in the same week. The EI questionnaires and the creativity test were given during the same session. The data about percentage of positive evaluations of students was provided to the Delegation of Education of the province of Jaén.

Analysis of Data

The statistical program SPSS v.19.0 for Windows (SPSS Inc., Chicago, USA) was used for the statistical analysis of the data. For the descriptive analysis, we looked at the mean (M) and standard deviation (SD). For the analysis of the relationships between variables, a Pearson correlation was carried out. To determine the predictive nature of some variables over others, a multiple linear regression was conducted by successive steps. Finally, we analysed the existence of significant differences between groups through the t test and the size of the effect through the Cohen d test. This test was analysed based on those established by Cohen (1988).

Results

The data obtained from the descriptive analyses are presented below in terms of the variables studied in the present investigation. The highest score within the dimensions of EI was found in *emotional attention*, with a mean of 23.89 and a standard deviation of ± 7.03 ; followed by *emotional clarity*, $M = 23.35$, $SD = \pm 7.06$; *self-esteem*, $M = 14.31$; $SD = \pm 3.42$; *socioemotional skills*, $M = 13.69$, $SD = \pm 2.56$; *life skills and subjective well-being*, $M = 13.07$, $SD = \pm 2.68$; *emotional repair*, $M = 11.23$, $SD = \pm 5.85$; and *awareness and emotional control*, $M = 10.25$, $SD = \pm 3.84$. Regarding creative capacity, the students obtained a higher score in *narrative creativity*, $M = 22.95$, $SD = \pm 12.12$, compared to the *graph*, $M = 10.75$, $SD = \pm 5.87$. The Cronbach's alpha of each variable of this research was adequate ($0.5 < \alpha < 0.9$; see Table 2).

Relationship Between Emotional Intelligence and Creativity

To answer Objective (a) and analyse the possible relationships and predictive nature of the EI dimensions of the applied instruments and creativity, a Pearson correlation was carried out (Table 2) and, subsequently, a multiple linear regression (Table 3).

Table 2

Pearson's correlation between the dimensions of IE and creativity

		A	AC	S	SE	LSSW	EA	EC	ER	NC	GC	TC
CEE-R	AC	.81	1	-.577**	-0.209**	-.298	-.025	-.253**	-.369**	-.188**	-.155**	-.208**
	S	.79		1	,416**	,478**	,199**	,347**	,493**	,234**	,116**	,229**
	SE	.46			1	,544**	,339**	,285**	,396**	,231**	,112**	,226*
	LSSW	.54				1	,328**	,226**	,340**	,178**	,089**	,175**
TMMS-24	EA	.87					1	,188**	,286**	,127**	,036**	,114**
	EC	.86						1	,578**	,472**	,299**	,484**
	ER	.81							1	,501**	,226**	,4841**
PIC-J	NC	.85								1	,397**	,936**
	GC	.68									1	,692**
	TC	.77										1
M(DS)			10,25(3,84)	14,31(3,42)	13,69(2,56)	13,07(2,68)	23,89(7,03)	23,35(7,06)	11,23(5,85)	22,95(12,12)	10,75(5,87)	33,72(15,43)

Note: (1) Narrative creativity (NC); Graphical creativity (GC), Total creativity (TC); Awareness and emotional control (AC); Self-Esteem Social-emotional ability (SE); Life skills and subjective well-being (LSSW) Emotional attention (EA); Emotional clarity (EC); Emotional repair (ER).

(2) α =fiabilidad, M=Media, SD=Standard deviation

(3) *= $p < .05$; **= $p < .01$.

Table 2 shows that all the dimensions of the EI correlate significantly and positively, $p < .05$ and $p < .01$, respectively, with the dimensions of creativity. It can be observed that the variables *emotional clarity*, $r_{695}=.48$; $p < .01$, and *emotional repair*, $r_{695}=.48$; $p < .01$, correlate more closely with the dimensions of creativity. Also found were significant and negative relationships of the dimension of Consciousness and *emotional control* with the dimensions of creativity: *Graphic creativity*, $r_{695} = -.15$; $p < .01$, *narrative creativity*, $r_{695} = -.18$; $p < .01$, and *total creativity*, $r_{695} = -.20$; $p < .01$, given the reverse nature of this dimension of CEE-R.

Multiple linear regression was performed using the successive steps method in order to delimit the variables that most predicted creativity. The procedure was to take each dimension of EI (*attention, clarity, repair, awareness and emotional control, self-esteem, socioemotional ability, and life skills and subjective well-being*) as predictive variables (Table 3).

Table 3

Multiple linear regression of the predictive and criteria variable

Model	Predictor variables	Beta	t	R	R ²	R ² Corrected	F
				.484	.234	.233	212.270
Mode 1	(Constant)						
	Emotional clarity	1.059	14.569				
				.543	.295	.293	144.681
Mode 2	(Constant)						
	Emotional clarity	.678	7.925				
	Emotional repair	.665	7.697				

Note: resulting variables as predictor: Emotional clarity and Emotional repair; Criteria variable: Total creativity.

Firstly, it was observed through the F statistic that there is a significant linear relationship between the dependent variable and the set of independent variables, $p < .01$. Model 1 is formed only with the *emotional clarity* predictor, explaining 23% ($R^2 = .23$) of the variability of total creativity. On the other hand, Model 2 adds the variable *repair of emotions*, explaining 29% ($R^2 = .29$) the modification of the dependent variable. The relationship found in this second model is stronger than in the previous model ($r = .53$). Therefore, Model 2 is the one that predicts creativity, having greater power in its coefficient typified by *emotional clarity* (Beta =.678, $p < .01$), followed by the *repair of emotions* (Beta =.665; $p < .01$).

Effectiveness of the EE Workshop on EI and Creativity

Regarding the second objective of the research (b), Table 4 shows the performance of the dimensions of EI and creativity for both the EG and CG. As stated in the Participants section, there were no significant differences in terms of academic performance in the pre-workshop condition between the two groups. In the post-workshop condition, the EG showed higher scores than the GC on all the EI dimensions, with significant differences between the groups, p

< .05, in all variables except *emotional clarity*, $t_{695} = -1.34$; $p > .05$ n.s.; $d > .20$). Regarding creativity, the direct scores of its dimensions were higher in the EG than in the CG, with significant differences, $p < .05$, except in *narrative creativity*, $t_{695} = 1.56$; $p > .05$ n.s.; $d > .20$. With regard to the effect size, a greatest effect was observed in the dimensions of EI: *awareness and emotional control*, *self-esteem and life skills*, and *subjective well-being*.

Table 4

Differences of means between the G1 and the G2 with respect to the creative level, intellectual maturity and academic performance

Group	Variables	M(SD)	T	Sig	d' Cohen
EG	AC	9,43(3,23)	-6,109	,000	0,463
CG		11,16 (4,23)			
EG	S	15,20(2,97)	7,568	,000	0,465
CG		13,31(3,62)			
EG	SE	14,14(2,26)	4,901	,000	0,374
CG		13,20(2,77)			
EG	LSSW	13,67(2,46)	6,332	,000	0,487
CG		12,40(2,77)			
EG	EA	24,84(6,58)	3,755	,000	0,286
CG		22,85(7,37)			
EG	EC	23,01(7,20)	-1,343	,0181	0,100
CG		23,72(6,88)			
EG	ER	27,19(6,48)	3,829	,000	0,292
CG		25,17(7,37)			
EG	NC	23,64(12,02)	1,569	,117	0,119
CG		22,19(12,20)			
EG	GC	11,42(6,30)	3,205	,001	0,243
CG		10,00(5,26)			
EG	TC	35,09(15,81)	2,478	0,013	0,188
CG		32,19(14,88)			

Note: (1) Narrative creativity (NC); Graphical creativity (GC), Total creativity (TC); Awareness and emotional control (AC); Self-Esteem Social-emotional ability (SE); Life skills and subjective well-being (LSSW) Emotional attention (EA); Emotional clarity (EC); Emotional repair (ER).

(2) M=Media, DT=Desviación típica.

(3) Interpretation of the values of the Cohens' d test: trivial (<0.2), small (0.2-0.49), medium (0.5-0.79) and large (> 0.8)

Discussion and Conclusion

The objective of this study was to analyse the association between different dimensions of EI and creative development in adolescents, as well as evaluate the effectiveness of an EE

workshop on the creative level of secondary education students. The results showed a relationship between the dimensions of EI, as revealed in the questionnaires CEE-R and TMMS-24, and creativity as measured on the PIC-J. All the dimensions of EI presented a significant correlation with those corresponding to the latter. The dimensions of EI with a greater predictive effect on creativity were *emotional clarity* and *repair of emotions*. These results agree with those obtained by Ivcevic and Brackett (2015), who demonstrated that the creative capacity of secondary education students was strongly related to the regulation of emotions (measured by teacher reports) and, further, exerted a predictive effect on the creative dimension. Along the same lines, Şahin (2016) obtained significant correlations between the domains of academic creativity, sociability, and global EI in secondary school students with high cognitive abilities. Parke, Seo and Sherf (2015) demonstrated that the emotional regulative capacity allows individuals to maintain a greater positive affect when faced with unique information-processing requirements, while the ability to facilitate emotions allows the positive use of affectivity, leading to higher levels of creativity. Noteworthy here also is the research of Nori, Signore and Bonifacci (2018), who conducted a study with 376 participants aged between 12 and 88 years. They analysed psychometric intelligence and emotional competence as predictive variables of creativity. These authors demonstrated that interpersonal emotional competence is a positive predictor of creative style, whereas the intellectual quotient had no predictive value. In addition, their findings underscored that creative style can predict personal skills needed to recognise and manage one's own emotions and those of others. Finally, Tu et al. (2018) examined the connection between EI and creativity in a sample of Chinese students, aged between 15 and 24 years. They found a significant correlation between a factor of EI (facilitation of the relationship) and dimensions of creativity, narrative creativity specifically (fluency and elaboration). From these results, they inferred that EI is related to self-reported creativity. In contrast, Ferrando Prieto (2007) showed that one of the few dimensions of EI associated with creative capacity, as evaluated through the Torrance Creative Thinking Test (Torrance 1974), was social-emotional ability, thus dissociating the other dimensions of its predictive character from the creative level of the student-age participants. Similarly, Şahin, Özer and Deniz (2016) determined that the same dimension of EI had a strongly predictive character relative to the creative capacity of secondary school students. In contrast, other studies such as that of Sharma et al. (2015) found that consciousness and emotional control were not associated with what they termed 'malevolent creativity', such as was found in prisoners convicted of various crimes such as murder, rape, and robbery.

The results obtained in this research show the effectiveness of the EE workshop on the creative level of the EG, compared to the CG. Barczak, Lassk and Mulki (2010) demonstrated the antecedent character of EI on the development of creative capacity in groups of students in higher education. The authors affirm how the EI of the group as a whole fostered confidence in each member, engendering a collaborative culture that led to a greater creative capacity within the group. For their part, Ding et al. (2014) found that a week-long relaxation workshop for university students, designed to improve their mood (30 minutes each day), significantly increased the performance of creativity on a task of divergent thinking and produced an improvement in emotional regulation. Noteworthy also is the work by Obiols Soler (2005), who designed, developed, and evaluated an EE programme for students in pre-school, primary, and secondary education. The results revealed a satisfaction in both the students and the teachers with regard to what they learned in the programme. In addition, the centres' management encouraged other educational contexts to promote this type of intervention.

The limitations of the current study include the lack of a pre-test measure of the variables selected for study and, as well, a lack of diversity in the sociodemographic characteristics of the participants. However, EG and CG students part of the same level of academic performance

reflected in the evaluation indicators of SENECA (online portal of academic management of schools in Andalusia)¹. In contrast, strengths of the research include the large number of students studied in context of an EE programme for the promotion of EI on creative development of secondary education students as well as the statistical robustness achieved. In addition, the duration of the intervention program that covered a full school year.

In conclusion, working with adolescents some dimensions of EI is an effective tool for the development of higher creative level mainly in school environments. According to Salavera et al. (2017), there is a clear need to work on programmes in the classrooms that develop EI and creativity in an integral way as a fundamental part of the curriculum. In addition, the equitable distribution of sessions during the school year produces a positive effect allowing achieving the objectives set in the program. It must be considered that classrooms are the best space to enhance the creative and emotional students' capacities, mainly at vulnerable ages such as adolescence.

References

- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and Creativity at Work. *Administrative Science Quarterly*, 50(3), 367–403. doi: 10.2189/asqu.2005.50.3.367
- Artola, T., Barraca, J., Martín, C., Mosteiro, P., Ancillo, I., & Poveda, P. (2010). *PIC-J. Prueba de Imaginación Creativa - Jóvenes*. Madrid: Tea Ediciones.
- Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of Team Creativity: An Examination of Team Emotional Intelligence, Team Trust and Collaborative Culture. *Creativity and Innovation Management*, 19(4), 332–345. doi: 10.1111/j.1467-8691.2010.00574.x
- Carmeli, A., McKay, A. S., & Kaufman, J. C. (2014). Emotional Intelligence and Creativity: The Mediating Role of Generosity and Vigor. *The Journal of Creative Behavior*, 48(4), 290–309. doi: 10.1002/jocb.53
- Cruz Cruz, P. (2014). Creatividad e Inteligencia Emocional. (Como desarrollar la competencia emocional, en Educación Infantil, a través de la expresión lingüística y corporal). *Historia Y Comunicación Social*, 19(0), 107–118. doi: 10.5209/rev_HICS.2014.v19.44944
- Ding, X., Tang, Y.-Y., Tang, R., & Posner, M. I. (2014). Improving creativity performance by short-term meditation. *Behavioral and Brain Functions*, 10(1), 9. doi: 10.1186/1744-9081-10-9
- Extremera, N., & Fernández-Berrocal, P. (2005). Inteligencia emocional y diferencias individuales en el metaconocimiento de los estados emocionales: una revisión de los estudios con el Trait Meta-Mood Scale. *Ansiedad Y Estrés*, (11), 101–122.
- Extremera Pacheco, N Fernández-Berrocal, P. (2013). Inteligencia emocional en adolescentes. *Revista Padres Y Maestros*, (352), 34–39. Retrieved from revistas.upcomillas.es/index.php/padresymaestros/article/view/1170
- Fernández-Berrocal, P. Ramos, N. (2005). Evaluando la inteligencia emocional. In *Corazones Inteligentes* (pp. 35–38).
- Fernandez-Berrocal, P., Extremera, N., & Ramos, N. (2004). Validity and Reliability of the Spanish Modified Version of the Trait Meta-Mood Scale. *Psychological Reports*, 94(3), 751–755. doi: 10.2466/pr0.94.3.751-755
- Fernández-Berrocal, P., & Extremera Pacheco, N. (2002). La inteligencia emocional como una habilidad esencial en la escuela. *Revista Iberoamericana de Educación*, 29(1), 1–6. Retrieved from <https://rieoei.org/RIE/article/view/2869>

¹ <https://www.juntadeandalucia.es/educacion/portalseneca/web/seneca/inicio>

- Ferrando Prieto, M. (2007). *Creatividad e Inteligencia Emocional. Un estudio empírico en alumnos con altas habilidades*. Universidad de Murcia. Retrieved from <https://www.tdx.cat/handle/10803/11026>
- García-Fernández, M., & Giménez-Mas, S. I. (2010). La inteligencia emocional y sus principales modelos: propuesta de un modelo integrador. *ESPIRAL. CUADERNOS DEL PROFESORADO*, 3(6), 43. doi: 10.25115/ecp.v3i6.909
- Goleman, D. (1995). *Emotional intelligence: Why it can matter more than I.Q.* New York: Bantam Books.
- Guastello, S. J., Guastello, D. D., & Hanson, C. A. (2004). Creativity, Mood Disorders, and Emotional Intelligence. *The Journal of Creative Behavior*, 38(4), 260–281. doi: 10.1002/j.2162-6057.2004.tb01244.x
- He, L., Mao, Y., Sun, J., Zhuang, K., Zhu, X., Qiu, J., & Chen, X. (2018). Examining Brain Structures Associated With Emotional Intelligence and the Mediated Effect on Trait Creativity in Young Adults. *Frontiers in Psychology*, 9, 925. doi: 10.3389/fpsyg.2018.00925
- Ivcevic, Z., & Brackett, M. A. (2015). Predicting creativity: Interactive effects of openness to experience and emotion regulation ability. *Psychology of Aesthetics, Creativity, and the Arts*, 9(4), 480–487. Retrieved from <http://psycnet.apa.org/buy/2015-47832-001>
- Jean. (2006). *Infantile Creative Characteristics Survey*. Seul: Academician.
- Lopes, P., & Salovey, P. (2004). Toward a broader education: Social, emotional and practical skills. In J. E. Zins, R. P. Weissberg, M. C. Wang, & H. J. Walberg (Eds.), *Building school success on social and emotional learning* (pp. 79–93). New York: Teachers College Press.
- Nori, R., Signore, S., & Bonifacci, P. (2018). Creativity Style and Achievements: An Investigation on the Role of Emotional Competence, Individual Differences, and Psychometric Intelligence. *Frontiers in Psychology*, 9, 1826. doi: 10.3389/fpsyg.2018.01826
- Obiols Soler, M. (2005). Diseño, desarrollo y evaluación de un programa de educación emocional en un centro educativo. *Revista Interuniversitaria de Formación Del Profesorado*, 54, 137–152. Retrieved from <https://dialnet.unirioja.es/servlet/articulo?codigo=2126768>
- Parke, M. R., Seo, M.-G., & Sherf, E. N. (2015). Regulating and facilitating: The role of emotional intelligence in maintaining and using positive affect for creativity. *Journal of Applied Psychology*, 100(3), 917–934. doi: 10.1037/a0038452
- Şahin, F. (2016). General intelligence, emotional intelligence and academic knowledge as predictors of creativity domains: A study of gifted students. *Cogent Education*, 3(1218315), 1–16. doi: 10.1080/2331186X.2016.1218315
- Şahin, F., Özer, E., & Deniz, M. E. (2016). The Predictive Level of Emotional Intelligence for the Domain-specific Creativity: A Study on Gifted Students. *Eğitim ve Bilim*, 41(183), 181–197. doi: 10.15390/EB.2016.4576
- Salavera, C., Usán, P., Chaverri, I., Gracia, N., Aure, P., & Delpueyo, M. (2017). Emotional Intelligence and Creativity in First- and Second-year Primary School Children. *Procedia - Social and Behavioral Sciences*, 237, 1179–1183. doi: 10.1016/J.SBSPRO.2017.02.176
- Salovey, P., & Mayer, J. (1990). Emotional Intelligence. *Imagination, Cognition and Personality*, 9, 185–211. doi: 10.2190/DUGG-P24E-52WK-6CDG
- Salovey, P., Stroud, L. R., Woolery, A., & Epel, E. S. (2002). Perceived Emotional Intelligence, Stress Reactivity, and Symptom Reports: Further Explorations Using the Trait Meta-Mood Scale. *Journal of Personality and Social Psychology*, 83(4), 611–627. doi: 10.1080/08870440290025812
- Sánchez-Ruiz, M. J., Hernández-Torrano, D., Pérez-González, J. C., Batey, M., & Petrides, K. V. (2011). The relationship between trait emotional intelligence and creativity across subject domains. *Motivation and Emotion*, 35(4), 461–473. doi: 10.1007/s11031-011-

9227-8

- Sharma, N., Prakash, O., Sengar, K., Chaudhury, S., & Singh, A. (2015). The relation between emotional intelligence and criminal behavior: A study among convicted criminals. *Industrial Psychiatry Journal*, 24(1), 54. doi: 10.4103/0972-6748.160934
- Swearer, S. M., Martin, M., Brackett, M., & Palacios, R. A. (2017). Bullying Intervention in Adolescence: The Intersection of Legislation, Policies, and Behavioral Change. *Adolescent Research Review*, 2(1), 23–35. doi: 10.1007/s40894-016-0037-9
- Sy, T., Tram, S., & O'Hara, L. A. (2006). Relation of employee and manager emotional intelligence to job satisfaction and performance. *Journal of Vocational Behavior*, 68(3), 461–473. doi: 10.1016/J.JVB.2005.10.003
- Torrance, E. P. (Ellis P. (1974). *The Torrance tests of creative thinking: norms-technical manual*. Bensenville Ill.: Scholastic Testing Service.
- Tu, C., Guo, J., Hatcher, R. C., & Kaufman, J. C. (2018). The Relationship between Emotional Intelligence and Domain-Specific and Domain-General Creativity. *The Journal of Creative Behavior*. doi: 10.1002/jocb.369
- Zhou, J., & George, J. M. (2003). Awakening employee creativity: The role of leader emotional intelligence. *The Leadership Quarterly*, 14(4–5), 545–568. doi: 10.1016/S1048-9843(03)00051-1
- Joanna. (2014). Impact of Parenting Stress, Children's Environmental Variables and Emotional Intelligence on Children's Creativity Traits. *The Journal of Creativity Education*, 14(1), 49–70. Retrieved from <http://www.newnonmun.com/article=62117>

Receipt date: 23/09/2020

Review date: 11/10/2020

Acceptance date: 01/11/2020