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 Fernando Joel Rosario Quiroz¹
 Juan Carlos Chumacero Calle²
 Paola Galvez Montoya³
 Carlos Luy-Montejo⁴

Effects of a program for the development of emotional skills in university students

Abstract

The objective of this study was to evaluate the effects of the program I discover my potentialities in a group of first cycle university students; the study design was pre-experimental, it worked with a sample of 382 students from the business, engineering and humanities areas, of both sexes and from national and private schools; BarOn's ICE emotional intelligence inventory was used for pre and post measurement. Significant differences were found between the pre and post after applying the PRODPE, which shows that the program achieved the development of emotional skills.

Keywords: Intelligence, emotion, emotional intelligence, university, program.

Introduction

When studying emotional intelligence it is necessary to make some clarifications about the term "emotion" which was described by Aristotle (DA 403a 16-18; cited in Trueba, 2009) as psychophysical conditions associated with physiological alterations and, which entail sensations of pain and/or pleasure.

Bisquerra (2003; quoted by Balsalobre, 2014) defines emotions as a complex situation within the organism that is characterized by an alteration or movement that persuades the execution of a certain response, considering that emotions are consequences when faced with internal or external situations of the organism. In general, the initial definitions of emotion have a negative aspect in the human

being, since they carry some symptoms that are unpleasant for him.

As for the term, intelligence, its conceptualization has been developed over time, covering various positions. In the middle of the 19th century there was interest in knowing more in depth this term, since then certain advances were made that made possible the subsequent development of this construct; it is known that until the decade of the 1970s the IQ was prioritized as a basis for the development of human beings, that is basically it was considered from the cognitive aspect. Thus, there have been numerous approaches to intelligence such as the models centred on the formation of intelligence which tried to find the aspects which structured or determined it; there are also the models

Fernando Joel Rosario Quiroz¹, Universidad de Lima, Perú. frosario@ulima.edu.pe
Juan Carlos Chumacero Calle², Universidad de Lima, Perú. jchumace@ulima.edu.pe
Paola Galvez Montoya³, Universidad Autónoma del Perú, Perú. paolagm@gmail.com
Carlos Luy-Montejo⁴, Universidad Tecnológica del Perú, Perú. c19469@gmail.com

centred on the cognitive activity of intelligence and, unlike the previous Dueñas (2002), it proposes, based on Horn's theory (1985), a staggered model of intelligence, in which it divides them into four levels: The lowest level contains the perceptive functions (visual, auditory); followed by the level containing the associative functions; on level III are the functions responsible for the classification of the information received on level I and finally, there is fluid and crystallised intelligence, the same functions that will be in charge of carrying out the relational hypotheses. It is from this classification that new theories are initiated to explain intelligence, thus coming to conceive it as a socio-emotional intelligence and it is Stember (1985) who considers intelligence as an ability that human beings have to process and incorporate information that they will later use to solve problems in the different areas of their lives.

In the academic world it is known that Salovey and Mayer in 1990 coined the term Emotional Intelligence (EI) and defined it as a type of social intelligence, which includes the ability to regulate our emotions and to understand the emotions of others, as well as to use the information they provide us to direct the way we think and act (Reyes and Carrasco, 2014; Akgul, 2016).

Fernández-Berrocal and Extremera (2009) explain that Goleman is one of the representatives of emotional intelligence and that he has redefined it in various ways; initially he linked it to the "character" of the person, then he conceived it as a group of social and emotional skills that make success possible.

Theoretical Foundations

In order to understand emotional intelligence, various theoretical models have been put forward to try to explain it. Mayer and Salovey (1997) maintain that emotional intelligence is formed by a group of 4 emotional skills which are: "the ability to perceive, value and express emotions accurately; the ability to access and/or generate feelings that facilitate thinking; the ability to understand emotions and emotional knowledge; and the ability to regulate emotions by promoting emotional and intellectual growth" (Fernández-Berrocal and Extremera, 2009; Shahjahani, & Bokharayan, 2016).

On the other hand, Dueñas (2002) points out that another model that explains EI is the one proposed by Daniel Goleman who proposes five components, three of them related to the personal dimension (knowledge of one's own emotions, managing emotions and motivating oneself) and two to the social

dimension (recognizing the emotions of others and establishing good relationships).

Finally, there is the theoretical model proposed by Reuven Bar On, which was used as the basis for the implementation of the program of this research. It proposes that emotional intelligence is the capacity that human beings have to understand and direct their emotions, to seek the benefit of their emotional states and, consequently, to allow them to behave efficiently and effectively in all the dimensions of life. This model is based on 5 components and 15 emotional skills. The components are linked to intrapersonal aspects referring to the capacity to know oneself, express what one thinks and feels, value positive and negative aspects of oneself, make decisions and seek self-realization; the interpersonal component linked to the capacity to understand others as well as to establish good interpersonal relationships; the adaptability component understood as the capacity to solve the different problems of life, through flexible thinking and taking into account the conditions of reality. The stress management component is characterized by the ability to remain calm and have self-regulation of impulses in the face of stressful events; finally, the general mood component explained as the ability to experience states of well-being and confidence in the face of different situations (Reyes and Carrasco, 2014).

In summary, Baron (1997; cited in Ugarriza, 2001) conceptualizes emotional intelligence as a group of intra- and interpersonal skills that determine our adaptation to the demands and constraints of the environment. In this sense, he considers it of great relevance in determining the skill to be successful in life and consequently associates it positively with general well-being and emotional stability.

From what has been said, it could be inferred that emotional intelligence is a relevant psychological construct in personal and interpersonal development in various fields of action such as family, social, work, affective and academic aspects. As for the academic aspect, it is considered as a space where not only occurs the process of learning concepts and theories, but it becomes a vital space of the human being since he lives in it since his first years of life until his professional university formation (university), in that sense, the university context is an important and determinant environment in life since it is considered a complex stage for every young person who goes through it.

On the other hand, Londoño (2009), considers that the admission and entrance to

university is increasingly earlier which has generated for both institutions and students a level of mutual adequacy either in their methodology or in their behavior as the case may be, the student is required to have personal and academic skills that allow him/her to succeed academically. Another aspect mentioned as a determining factor is the process of adaptation to university life. Students entering the university during the first academic semesters present a high percentage of dropouts, because it is not easy for school students, often adolescents, to adapt to the demands and requirements, since they do not present adequate emotional health. In this sense, Lluch (1999) considers that emotional health is determined by the influence of different factors such as the interaction of psychological and social factors as well as psychosocial factors that provide a high level of psychological well-being characterized by feelings of personal complacency, positive behaviour for the benefit of oneself and others, the ability to regulate emotions, independence, the ability to solve various problems and to establish or weave interpersonal links; and these would be the same skills that would allow an adolescent or young person who is beginning his or her university life to adapt to this new stage.

In 2013, the National Institute of Statistics and Information (INEI) provided information on the number of students enrolled in different universities, observing that there is a great difference between the number of students enrolled in public and private universities, with the latter having the highest number (762,002) at the national level, while the former reach 345,422.

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More recent research such as that of MacCann, Jiang, Brown, Double, Bucich, & Minbashian, (2020) indicates that possessing a high level of emotional intelligence is a good predictor of adequate academic performance in various aspects; This is corroborated by Mattingly & Kraiger (2019) who identify that the training of emotional skills favors the participants of this type of interventions; Chao, Humphrey, Qian & Pollack (2019) found that emotional intelligence is inversely proportional to Machiavellianism and psychopathy, while mentioning that it is not associated with narcissism; on the other hand Abe, Evans, Austin, et al. (2013) found that workshops to develop emotional intelligence are effective

but observed differences in values found according to gender and nationality. Arora, Asrafian, Davis; Athanasiou, Darzi and Sevdalis (2010) found that women have higher emotional intelligence and that this variable is related to teamwork and communication skills. Cabello, Navarro, La Torre, Fernandez-Berrocal (2014) identified that the variables that are associated with emotional intelligence are age and educational level, they mentioned that education would enhance emotional intelligence. Likewise, Teal, Downey, Lomas, et al. (2019) mentioned that recognition, emotional expression, control and emotional management are directly related to full attention; at the same time I corroborate that the use of programs with a basic theoretical model. Jan, Anwar and Warraich (2018) found significant correlations between emotional intelligence and academic performance among participants; Angela and Caterina (2020) found that gifted adults had high scores in emotional intelligence. Li, Fu, Ma et al. (2020) found that sensitivity is linked to emotional intelligence; at the same time Shi and Du (2020) found that emotional intelligence and gratitude help to understand empathy; Thomas & Allen (2020) found that emotional intelligence has a significant direct effect on behavioral and emotional engagement. Zhoc, King and Chung, et al. (2020) obtained results that indicated that emotional intelligence predicts behaviors such as student engagement and favorable learning outcomes. Bibi, Saleem,, Adnan,& Shafique (2020) showed results that indicated a negative association between emotional intelligence and aggression. Yip, Stein, Côté, & Carney (2020) concluded that inadequate emotional intelligence can lead to maladaptive decision-making. Aqqad, Obeidat & Tarhini (2019) found that emotional intelligence as well as conflict management styles was significantly and positively related to job performance. Peña-Sarrionandia, Mikolajczak & Gross (2019) obtained results that show that individuals with high emotional intelligence work their emotions and manage the emotional trajectory while successfully regulating their emotions when necessary. Kotsou, Mikolajczak, Heeren, Gregoire & Leys (2019) conducted a systematic review of programs and identified effectiveness of programs to enhance emotional intelligence. Finally, Susanto (2020) found a significant effect of parental guidance on emotional intelligence and subsequent improvement in learning achievement.

Given the evidence of the previously presented research work, the following research question is posed what is the effect

of an experiential program for the development of emotional skills in university students?

Methodology

Design: We worked with a pre-experimental design with pretest-posttest of a single group, in this design an observation is made before introducing the independent variable (O1) and another one after its application (O2) (Campbell and Stanley, 1978).

O1-----X-----O2

Instrument: EQ-iBar On Emotional Quotient inventory, which was studied by Nelly Ugarriza and works with young people from 16 years onwards, was used with the 133-item version.

Study variables:

Independent variable: Program I discover my emotional potentialities (PRODPE)

Dependent variable: Emotional intelligence

Population: 1940 university students in the first cycle of humanities, engineering and business studies. The population is determined by the number of students entering the university.

Sample and sampling: 382 first cycle students who participated in the PRODPE program in the pre and post-test, who met the exclusion criteria established by the Ice de BarOn emotional intelligence inventory. An intentional or convenience non-probabilistic sample was used (Arias-Gómez; Villasís and Miranda-Navales, 2016). 26.7% (102) belonged to the business area, 31.2% (119) to the engineering area and 42.2% (161) were humanities students. 49.2% (188) were female and 50.8% (194) were male; finally, 62% (237) were from national schools and 38% (145) were from private schools.

The elimination criteria established in the Bar On emotional quotient inventory were the following: choose alternative one, two or three in item 133, maximum 6% of items omitted, the results of the inconsistency index must be less than 12, an emotional quotient of 130 or more in the positive or negative impression invalidates the test.

Structure of the applied program

The programme consists of 14 sessions, once a week and 70 hours in chronological order. The focus of the program was experiential.

Results

The following are the results obtained after applying the "I discover my emotional potentialities PRODPE Program".

Table 1.
Pre and Post Application Program Comparison Test "I discover my emotional potential PRODPE" for the total sample

Pre and post comparison tests	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-7.063	381	.000
Emotional self-awareness	-5.318	381	.000
Asertivity	-6.199	381	.000
Auto concept	-4.021	381	.000
Autorrealization	-4.224	381	.000
Independence	-3.262	381	.001
Interpersonal emotional quotient	-7.102	381	.000
Empaty	-2.354	381	.019
Relationship	-6.165	381	.000
Social responsibility	-2.800	381	.005
Interpersonal emotional quotient	-5.211	381	.000
Problem solving	-3.931	381	.000
Reality check	-4.198	381	.000
Flexibility	-3.823	381	.000
Stress Management	-5.615	381	.000
Stress Management	-6.669	381	.000
Impulse control*	-1.569	381	.117
Stress Management Ratio	-4.494	381	.000
Happiness	-4.913	381	.000
Optimism	-3.335	381	.001
General mood quotient	-4.949	381	.000

Table 1 shows that there are statistically significant differences between the results in pre and post for the ratios and sub-components evaluated by the Ice de Bar on, however, it is identified that in the case of

impulse control there are no statistically significant differences in pre and post, this could indicate that there was no effect of the program in this subscale.

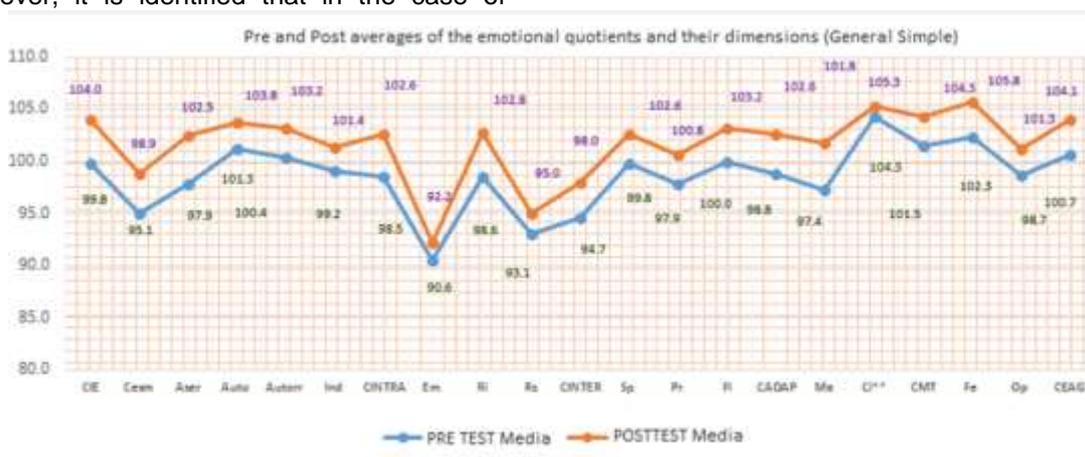


Figure 1.
Pre and Post averages for the general sample

Figure 1 presents the means obtained by the general sample for emotional intelligence

and its subscales, observing that in the case of impulse control the means obtained are very

close (Pretest mean=104.3 and Posttest mean=105.3) this reinforces the indications

found in the student t test.

Table 2.

Test of comparison of the Pre and Post application of the Program I discover my emotional potential "PRODPE" for the female sex

Sex: female	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-7.253	187	0.000*
Emotional self-awareness	-4.917	187	0.000*
Asertivity	-4.711	187	0.000*
Autoconcept	-4.015	187	0.000*
Autorrealization	-2.735	187	0.007*
Independence	-2.87	187	0.005*
Intrapersonal emotional quotient	-6.272	187	0.000*
Empaty	-2.181	187	0.030*
Relationship	-5.578	187	0.000*
Social responsibility	-3.938	187	0.000*
Interpersonal emotional quotient	-5.538	187	0.000*
Problem solving	-3.453	187	0.001*
Reality check	-4.879	187	0.000*
Flexibility	-3.08	187	0.002*
Adaptability Quotient	-5.459	187	0.000*
Stress Management	-5.333	187	0.000*
impulse control	-3.624	187	0.000*
Stress Management Ratio	-5.045	187	0.000*
Hapiness	-5.616	187	0.000*
Optimism	-2.586	187	0.010*
Stress Management Ratio	-4.764	187	0.000*

$p < 0.05$

Table 2 and 3 show that there are statistically significant differences between pre and post results between all the components of emotional intelligence for the female sex; in the case of the female sex there are no

statistically significant differences in pre and post results in self-concept and independence, nor in social responsibility, proof of reality, impulse control and happiness.

Table 3.

Pre and Post Application Comparison Test of the "PRODPE" Program I discover my emotional potential for the male sex

Sex: male	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-3.196	193	.002*
Emotional self-awareness	-2.701	193	.008*
Asertivity	-4.064	193	.000*
Autoconcept	-1.620	193	.107
Autorrealization	-3.230	193	.001*
Independence	-1.729	193	.085
Intrapersonal emotional quotient	-3.920	193	.000*
Empathy	-1.221	193	.223
Relationship	-3.269	193	.001*
Social responsibility	-.550	193	.583
Interpersonal emotional quotient	-2.249	193	.026*
Problem solving	-2.196	193	.029*
Reality check	-1.507	193	.134
Flexibility	-2.339	193	.020*
Cociente de adaptabilidad	-2.749	193	.007*
Stress Management	-4.171	193	.000*
Impulse control	.887	193	.376
Stress Management Ratio	-1.568	193	.118
Hapiness	-1.652	193	.100
Optimism	-2.106	193	.037*
General mood quotient	-2.199	193	.029*

$p < 0.05$

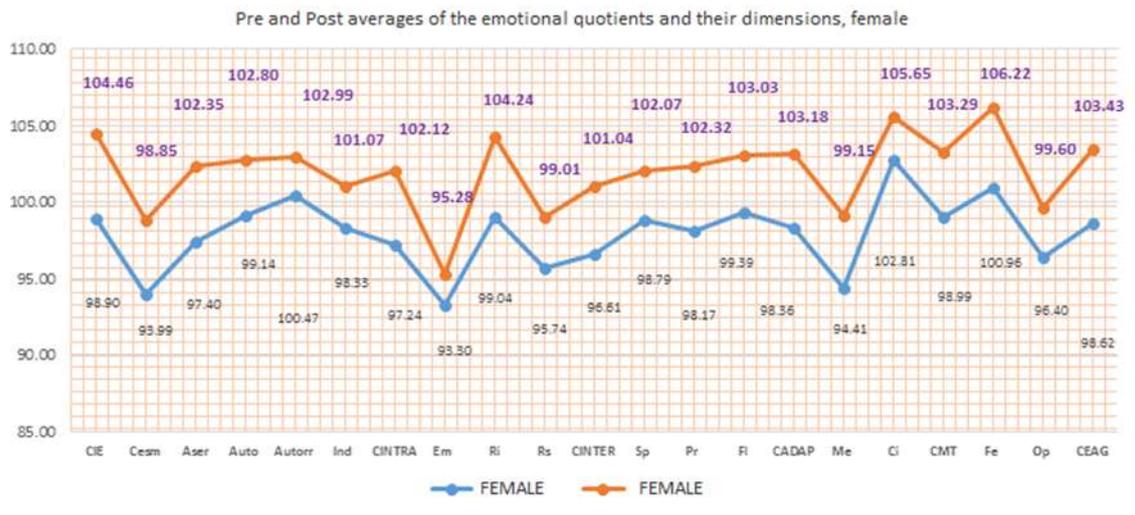


Figure 2.
Pre and Post Female Socks

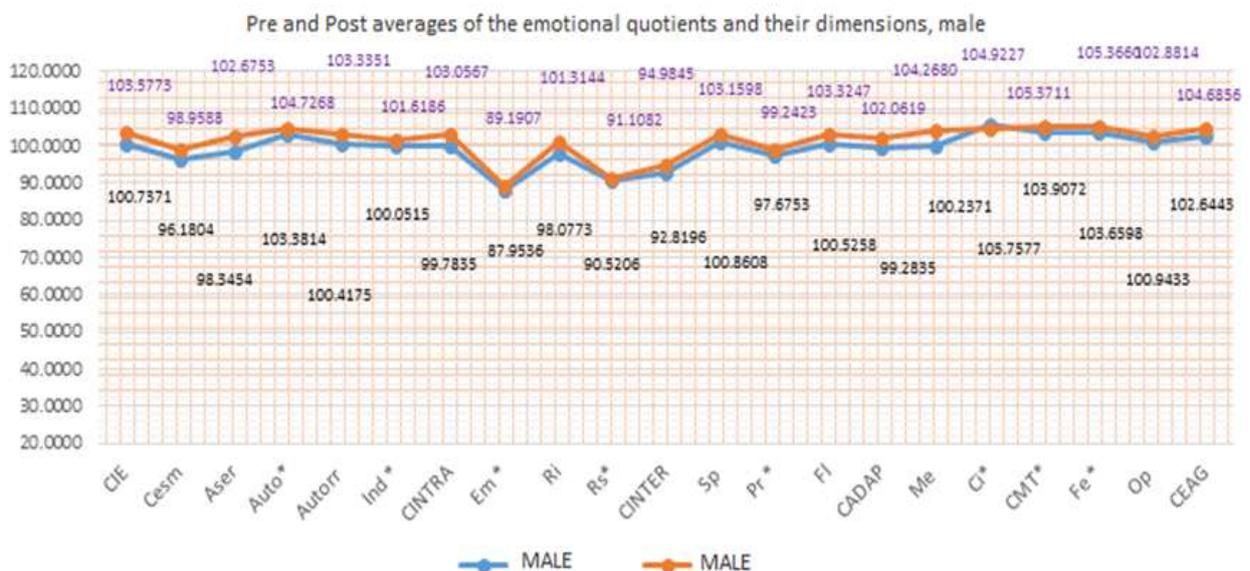


Figure 3.
Pre and Post Male Socks

Figure 2 shows the averages obtained by the female sample for emotional intelligence and its subscales. Figure 3 shows the

averages obtained by the male sample for emotional intelligence and its subscales.

Table 4.
Test of comparison of the Pre and Post application of the Program I discover my emotional potential PRODPE" for the professional business area

Empresariales areas	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-3.887	101	.000*
Emotional self-awareness	-2.943	101	.004*
Asertivity	-3.351	101	.001*
Autoconcept	-2.608	101	.010*
Autorrealization	-2.636	101	.010*
Independence	-2.484	101	.015*
Intrapersonal emotional quotient	-4.366	101	.000*
Empathy	-1.749	101	.083
Relationship	-3.766	101	.000*

Social responsibility	-2.006	101	.047*
Interpersonal emotional quotient	-3.290	101	.001*
Problem solving	-1.290	101	.200
Reality check	-1.797	101	.075
Flexibility	-1.363	101	.176
Adaptability Quotient	-2.252	101	.026
Stress Management	-3.639	101	.000*
Impulse control	-.821	101	.414
Stress Management Ratio	-2.340	101	.021*
Happiness	-3.546	101	.001*
Optimism	-.258	101	.797
General mood quotient	-2.083	101	.040*

$p < 0.05$

Table 4 shows that there are statistically significant differences between the results in pre and post for the ratios and the sub-components evaluated by the Ice de Bar on; however, it is identified that in the case of problem solving, reality testing, flexibility,

Table 5.

Test of comparison of the Pre and Post application of the Program "I discover my emotional potential PRODPE" for the professional area engineers

Área ingenieras	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-2.816	118	.006*
Conocimiento emocional de sí mismo	-2.913	118	.004*
Asertivity	-2.961	118	.004*
Autoconcept	-2.281	118	.024*
Autorrealization	-1.518	118	.132
Independence	-.268	118	.789
Intrapersonal emotional quotient	-3.040	118	.003*
Empathy	-1.368	118	.174
Relationship	-3.520	118	.001*
Social responsibility	-1.240	118	.217
Interpersonal emotional quotient	-2.838	118	.005*
Problem solving	-1.478	118	.142
Reality check	-.844	118	.400
Flexibility	-.959	118	.340
Adaptability Quotient	-1.404	118	.163
Stress Management	-3.431	118	.001*
Impulse control	-.020	118	.984
Stress Management Ratio	-1.798	118	.075
Happiness	-1.837	118	.069
Optimism	-2.874	118	.005*
General mood quotient	-2.687	118	.008*

$p < 0.05$

Table 5 shows that there are statistically significant differences between the pre and post results for the ratios and the sub-components evaluated by the Bar on Ice; However, it is identified that in the case of self-realization, independence, empathy, social responsibility, problem solving, reality test, flexibility, impulse control and happiness there are no statistically significant differences in the

impulse control and optimism there are no statistically significant differences in pre and post, this could indicate that there was no effect of the program in this subscale in the careers of business areas.

pre and post, there are also no differences in the adaptability and stress management quotient, this could indicate that there was no effect of the program on the variables mentioned in the engineering area careers.

Table 6.

Test of comparison of the Pre and Post application of the Program I discover my emotional potentialities PRODPE for the professional area humanities

Humanities areas	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-5.619	160	.000*
Conocimiento emocional de sí mismo	-3.323	160	.001*
Asertividad	-4.411	160	.000*
Autoconcepto	-2.215	160	.028*
Autorrealización	-3.230	160	.002*
Independencia	-2.848	160	.005*
Intrapersonal emotional quotient	-5.009	160	.000*
Empatía	-1.094	160	.276
Relación	-3.495	160	.001*
Responsabilidad social	-1.730	160	.086
Interpersonal emotional quotient	-3.016	160	.003*
Resolución de problemas	-4.020	160	.000*
Prueba de la realidad	-4.616	160	.000*
Flexibilidad	-4.285	160	.000*
Adaptability Quotient	-6.283	160	.000*
Gestión del estrés	-4.443	160	.000*
Control de impulsos	-1.942	160	.054
Stress Management Ratio	-3.584	160	.000*
Felicidad	-3.267	160	.001*
Optimismo	-3.050	160	.003*
General mood quotient	-3.708	160	.000*

$p < 0.05$

Table 6 shows that there are statistically significant differences between the results in pre and post for the ratios and the sub-components evaluated by the Ice de Bar on; however, it is identified that in the case of social responsibility and impulse control there

are no statistically significant differences in pre and post, this could indicate that there was no effect of the program on the variables mentioned in the humanities careers.

Table 7.

Pre and Post Application Comparison Test of the PRODPE" Program for National Schools

National Colleague	t	gl	Sig. (bilateral)
General emotional intelligence quotient	-6.554	236	0.000*
Emotional self-awareness	-4.202	236	0.000*
Asertividad	-6.916	236	0.000*
Autoconcepto	-3.138	236	0.002*
Autorrealización	-4.258	236	0.000*
Independencia	-2.635	236	0.009*
Intrapersonal emotional quotient	-6.511	236	0.000*
Empatía	-2.776	236	0.006*
Relación	-6.393	236	0.000*
Responsabilidad social	-2.409	236	0.017*
Interpersonal emotional quotient	-5.29	236	0.000*
Solución de problemas	-4.34	236	0.000*
Prueba de la realidad	-3.679	236	0.000*
Flexibilidad	-3.481	236	0.001*
Adaptability Quotient	-5.391	236	0.000*
Manejo de estrés	-5.673	236	0.000*
Control de impulsos	-0.579	236	0.563
Stress Management Ratio	-3.29	236	0.001*
Felicidad	-4.188	236	0.000*
Optimismo	-3.238	236	0.001*
General mood quotient	-4.455	236	0.000*

$p < 0.05$

Table 7 shows that there are statistically significant differences between the results in pre and post for the quotients and the sub-components evaluated by the Ice de Bar on; however, it is identified that in the case of

impulse control there are no statistically significant differences in pre and post, this could indicate that there was no effect of the program on the mentioned variables in the students of national schools.

Table 8.

Pre and Post Application Comparison Test of the PRODPE" Program for Private Schools

Privacy colleague	t	gl	Sig. (bilateral)
Cociente de inteligencia emocional general	-3.232	144	0.002*
Conocimiento emocional de sí mismo	-3.249	144	0.001*
Asertividad	-2.03	144	0.044*
Autoconcept	-2.506	144	0.013*
Autorrealization	-1.522	144	0.130*
Independence	-1.918	144	0.057
Intrapersonal emotional quotient	-3.368	144	0.001*
Empathy	-0.27	144	0.787
Relaciones interpersonales	-2.011	144	0.046*
Social responsibility	-1.462	144	0.146
Interpersonal emotional quotient	-1.707	144	0.09
Solución de problemas	-1.049	144	0.296
Prueba de la realidad	-2.149	144	0.033*
Flexibility	-1.731	144	0.086
Adaptability Quotient	-2.338	144	0.021*
Manejo de estrés	-3.584	144	0.000*
Control de impulsos	-1.956	144	0.052*
Stress Management Ratio	-3.092	144	0.002*
Hapiness	-2.585	144	0.011*
Optimism	-1.562	144	0.120
General mood quotient	-2.42	144	0.017*

$p < 0.05$

Table 8 shows that there are statistically significant differences between the results in pre and post for the quotients and sub-components evaluated by the Ice de Bar on; however, it is identified that in the case of independence, empathy, social responsibility, problem solving, impulse control and optimism there are no statistically significant differences in pre and post.

Discussion

The development of emotional intelligence has as explanatory factors a set of variables, both personal, surrounding and structural of the individual immersed in a social reality where he develops; It is also important to mention that emotional intelligence directly influences the development of well-being and psychological adjustment, specifically indicating that university students with greater emotional intelligence present fewer symptoms of social anxiety, better self-esteem, use more coping strategies, it is also indicated that high emotional intelligence is related to positive interactions, Less presence of conflicts Extremera, Natalio, & Fernández (2004), which is why it is very important to

know how important it is to develop emotional intelligence as well as to know valid strategies or programs which could be used in different contexts, in Peru Benavente (2009) elaborated a psychoeducational program that works with emotion and art which proved to be effective in a group of fifth grade students; On the other hand Ferrer (2008) also applied a psychoeducational program to increase emotional intelligence to a group of students who are trained in the education career, finding that there were no differences between the control and experimental group; At present there is no research on programs for the development of emotional skills in university students who are inserted into the university world, however there is evidence of the importance of emotional intelligence in university life.

Thus, Gómez, Limonero, Trallero, Montes, Tomás (2018) identified that suicide risk was inversely related to emotional regulation and life satisfaction, this research was conducted with first year students of the psychology career. At the same time, Prieto (2018) reflects on the link between psychology and education, considering that education has an integral character that includes all the

dimensions of the human being at the level of his or her emotions; The PRODPE program is on this path because it seeks to develop emotional skills through an active methodology.

This task was accomplished because significant differences were found in most cases with respect to the skills proposed in the Bar-On classification, which would demonstrate the value of the program used in this research. This type of work is similar to the one proposed by Luy (2019) who used the Bar-On classification using the ABP problem-based learning methodology, finding significant differences at the intrapersonal, interpersonal, adaptability, stress management and general state of mind level. This type of methodology generates autonomy and constant reflection in the student, generating methodologies where the student can experience and find his own answers, improving emotional skills.

Conclusions

The experiential program has a significant effect on the development of emotional skills in college students. There is an increase in all emotional skills assessed in women, unlike men who do not show improvements in self-concept, independence, empathy, social responsibility, reality check, impulse control and happiness. Improvements in emotional skills are observed in all professional areas; differences are found in both schools of origin, which are greater in the state schools.

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