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Article

Emotional Knowledge in a Sample of University Students

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Abstract: One of the current challenges in Higher Education is the development of students' emotional competencies, and consequently, how these competencies can be trained. Moreover, this must be addressed within the UN framework of inclusive, equitable, quality education (United Nations Agenda 2030) (SDG 4). To address this challenge, the present study set the following objectives: (1) to analyze pre-service teachers' level of interest in EI and their perceived level of general EI knowledge, (2) to examine their self-perception of certain variables of emotional knowledge, according to their degree program and year of studies, (3) to analyze the relationship between these emotional knowledge variables and perceived emotional intelligence (EI); and (4) to study the predictive capacity of the study variables on future teachers' emotional knowledge variables. The study sample contained a total of 434 university students from three degree programs at two universities in Spain, of which 82.70% were women, and the mean age was 20.91 years. Two instruments were used: an ad hoc questionnaire, which assessed perceived emotional knowledge according to three variables (General knowledge of EI, where level of training in EI is considered; Intrapersonal knowledge of EI; and Theoretical-practical knowledge related to teaching), and the Trait Meta-Mood Scale (TMMS-24), which assesses metaknowledge of emotional states across three variables (Attention, Clarity, and Repair). Results of the study suggest that there are differences in perceived EI knowledge according to students' year of studies and according to their degree, and indicate that students present high interest, while their perceived level of knowledge is low. In addition, emotional clarity is the EI variable that was identified as being important in the emotional knowledge of future teachers. This study shows evidence of the importance of social-emotional competencies in initial teacher training.

Keywords: emotional intelligence; scale; higher education; emotional knowledge; teacher training

1. Introduction

Emotional intelligence in the educational context is a highly relevant concept due to its large number of implications for education, in both psycho-educational and social-labor aspects. It must also be stressed that, in the wake of COVID-19, all players involved in the educational process have been immersed in circumstances that have forced them to very quickly respond to a new reality and new educational challenges. In this regard, it is essential that both in-service teacher training and pre-service training address the development of students' emotional competencies and their success in practice, considering that EI is a key competency and an essential resource for an effective educational system [1-6]. All this has repercussions, in turn, in the construction of a democratic, multicultural society [7,8]. Developing students' emotional competencies could be an instrument toward achieving the Sustainable Development Goals (SDG): By working on emotions, our students are able to develop empathy toward the issues set out in the UNESCO Agenda 2030 (peace, justice, sustainable development). By means of emotional intelligence, we will prepare critical, responsible citizens who collaborate in building a more sustainable world [9].

Even though success in higher education was formerly assessed in terms of students' acquisition of cognitive components, overlooking social-emotional components, we now find ourselves in a period of transformation and transition from educational goals focused mainly on knowledge, to other educational goals with more weight on affective and emotional components, thus encompassing interpersonal competencies, discipline, classroom management, self-esteem, and so on [10]. Despite this, student formation has not shown evidence of the positive attitudinal change that would address the social-emotional requirements for teacher training [10]. Preparation of future teachers is considered one of the main challenges of our day, where future generations of teachers would be able to apply effective interpersonal interaction in the learning process and in their teaching practice and be capable of responding to any change in the larger context of education [8].

An important consideration is that the development of emotional competence must not be limited to theoretical training, but should take place through practical, active methodologies, which encourage student participation. In other words, adequate resources must be used to stimulate these competencies [11, 12]. In this way, application of emotional competencies would be more easily transferred to one's professional practice. As López-Goñi and Goñi [13] has pointed out, these competencies require thorough training that results in a correct teaching process, one that meets of purpose of stimulating EI in the classroom.

According to Zabalza [14], the professional competencies of future teachers not only include theoretical and experiential knowledge, acquired through practice, but also specialized knowledge, emphasizing direct instruction on how to implement this knowledge in their future professional practice. Despite this, emotional competencies are not considered fundamental in initial teacher training [13], even though research suggests that their development during this time is basic to the teacher's professional development and to teaching quality. Initial teacher training is understood to be the foundation on which later in-service training will build [5]. For Cassullo and García [15], the educational context represents a privileged setting for encouraging skills and for developing social-emotional competencies, thus contributing to a positive outlook on individuals' psychological and social well-being.

In this regard, Bueno et al. [16] indicate that the competency profile of teachers is broad and complex, and they consider the affective dimension as key to managing information and managing conflicts. According to these authors, teachers will have to be expert facilitators of their students' learning, leading them to develop the competency of identifying and managing their own feelings, and of coping positively with conflict situations. One line of work that these authors identify is that of sensitizing future teachers to look on social-affective/emotional objectives as competencies to be developed in their students, given that these competencies encourage not only better coexistence but also better academic achievement [17]. This follows the recent findings of Sospedra-Baeza et al. [18], who stress the importance of social-emotional competencies for optimizing university students' achievement. Educational institutions therefore have identified this as a need [11].

Results from Peñalva et al. [19] showed that one of every two students training to become primary education teachers showed limitations in their emotional competencies (personal and interpersonal skills), even though their skills in this area were higher than those of the university population in general [16]. In the same line, Pertegal-Felices et al. [20] showed that students are not receiving whole-person training, in reference to emotional competencies, for their successful incorporation into the professional world; they lack sufficient skills in teamwork, in working with persons, in adapting to continuous change, controlling their emotions, and so on.

In this regard, Extremera et al. [21] recently claimed that new teachers consider the learning and teaching of social-emotional tools to be necessary in both the short and long term, in order to adequately perform their professional work. This is an encouraging fact in relation to teacher attitudes, given that emotional competencies impact their attitude and knowledge for effective teaching practice [22]. For their part, Peláez-Fernández et al. [23] sustained that formative programs in EI could be supplemented with positive psychology interventions on the job, thereby encouraging the growth of positive attitudes toward teaching. In this regard, Vivas [24] proposed the inclusion of programs with Emotional Education content where teachers are prepared and trained in how to be

(intrapersonal skills) and in how to live with others (interpersonal skills). However, Ruiz-Melero et al. [25] underscored that this training should be implemented using scientifically validated programs, and with the joint participation of the whole educational community.

So then, development of the emotional knowledge and competencies needed for adequate classroom implementation is a challenge for initial teacher training [26], and the literature has identified several possible shortcomings [27, 28]. It is fundamental that teachers work on and stimulate their own emotional skills [5, 29, 30]. The literature proposes preservice teacher training in these competencies in order to favor quality education, adapted to the new challenges posed by today's society [26, 31].

After the literature review, then, the evidence supports the relevance of training future teachers in these types of social-emotional competencies. University education should enable future teachers, from their initial teacher training, to acquire adequate social-emotional competencies, and allow them to become a model of emotional balance, empathy, conflict resolution, etc. In short, their training should be based on equipping them with tools for successful teaching practice. Attitudes such as optimism, perseverance, empathy, engagement, and leadership should be encouraged. These dimensions are all connected with EI [10].

One must note, however, that the scientific bibliography that explores EI knowledge and attitudes toward EI is still limited, whether in reference to future teachers or in-service teachers. This reality poses a wide-open challenge for research in the field. In this line, the present study set four overall objectives: (1) to analyze the level of interest in EI and level of general EI knowledge that teacher training students feel they have, (2) to examine their perceived emotional knowledge, according to their degree program and year of studies, in students pursuing a Primary Education degree, and students doing a double degree in Early Childhood and Primary Education, (3) to analyze the relationship between two self-report measures of EI (ad hoc questionnaire, and the TMMS-24); and (4) to study the predictive capacity of the study variables on future teachers' emotional knowledge variables.

2. Materials and Methods

2.1. Participants

A total of 434 students from two universities in the Region of Murcia (Spain) made up the participant sample. Their ages were between 18 and 56 years ($M = 20.91$; $SD = 4.36$), and 82.90% were female. The students were enrolled in undergraduate degree programs in primary education (54.1%), early childhood education (22.1%) or a double degree in early childhood and primary education (23.7%). First-year students represented 46.8% of the sample, 24.0% were second-year students, and 29.3% were fourth-year students. The first-year students were enrolled in either early childhood education or primary education, the fourth-year students were enrolled in a primary education degree, and the second-year students were pursuing the double degree. Sample selection was incidental and non-probabilistic, following the ethical requirements for scientific research [32].

2.2. Instruments

The present study made use of two instruments:

A questionnaire designed ad hoc, whose purpose is to study self-perception of EI knowledge and attitude toward EI. It also collects certain sociodemographic data and asks some general questions related to the importance of studying EI during initial teacher training.

The questionnaire contains 39 items, with agreement rated on a four-point Likert-type scale, where 1 means "Not at all" and 4 is "Very much". These items enabled the future teachers to rate their theoretical and procedural knowledge of EI, as well as their attitude toward learning EI. For the present study, we analyzed the factor structure of the instrument and obtained four factors that explain 49.82% of the variance. Items in the first group related to general emotional knowledge, with six items referring to the future teachers' perceived level of formation in EI. An example item states: "I have knowledge about the purpose of Emotional Intelligence". A second factor contained five

items and was labeled Intrapersonal Knowledge about EI. These assess the teacher’s skill in managing and identifying their own emotions, in connection with their future professional practice. An example item for this factor is: “I am able to identify my own emotions and their physiological and cognitive sensations”. A third factor contained 23 items that refer to Theoretical-practical knowledge related to teaching; an example item is: “As a future teacher, I have knowledge about how to design an Emotional Education program”. And finally, a fourth factor included the remaining five items, referring to attitude toward the development of these emotional competencies. This final factor was not considered for the present study, because the proposed objectives addressed factors relating to emotional knowledge.

Questionnaire reliability was analyzed using two statistics for this study. On one hand, Cronbach’s alpha produced a result of .940. And on the other, the Guttman split-half coefficient yielded a value of .881. Both values show adequate internal consistency from a statistical point of view.

Trait Meta-Mood Scale (reduced version, TMMS-24), designed by Salovey et al. in 1995, Spanish version adapted by Fernández-Berrocal et al. [33].

The scale consists of 24 items on a 5-point Likert scale, from 1 (totally disagree) to 5 (totally agree). The three dimensions and their items are as follows: Emotional attention (items 1-8), Emotional clarity (items 9-16), and Emotional repair (items 17-24). The items associated with Emotional attention relate to giving appropriate attention to one’s feelings, those related to Emotional clarity assess adequate understanding of one’s emotional states, and the Emotional repair items refer to the ability to adequately regulate one’s emotional states.

Previous studies that used this instrument found adequate reliability values. Angulo and Albarracín (2018) obtained global reliability through a Cronbach alpha of .890, and Ruiz-Melero et al. [25] obtained .914. For this study, we also obtained adequate reliability for this questionnaire from a statistical point of view, calculating Cronbach’s alpha at .898.

2.3. Procedure

In order to conduct this study, we first carried out a bibliographic search in different Social Sciences databases, according to our study objectives. Second, we designed an ad hoc assessment instrument, which was submitted to the judgment of experts in the area of EI. Third, we selected the sample of participants and administered the questionnaires. We then digitized the results and conducted the pertinent data analyses for our objectives, using SPSS version 28 for Windows.

3. Results

To address our proposed objectives, we first collected the descriptive statistics of all variables considered, the variables relating to both Perceived emotional knowledge and Perceived EI. Table 1 shows that mean scores for the emotional knowledge variables fall in a central distribution, with little dispersion. The highest mean score was in the General emotional knowledge variable. Similar descriptive data was found for the emotional skill variables, where the mean scores gathered in a central distribution, suggesting an adequate level in each of these. Concerning these emotional skill variables assessed through the TMMS-24, the participants perceived themselves as more competent in Attention than in Clarity or Repair, suggesting that they focus on their emotions. The values obtained for skewness and kurtosis are adequate from a statistical point of view for all the study variables.

Table 1. Descriptive statistics of the study variables (ad hoc EI questionnaire and TMMS-24).

	Min.	Max.	Mean	SD	Skewness	Kurtosis
General emotional knowledge	1.67	4.00	2.95	.46	.03	-.09
Intrapersonal Knowledge	1.00	4.00	2.74	.56	-.13	-.21

Theoretical-practical knowledge	emotional	1.04	3.61	2.18	.54	.28	-.60
Emotional attention	TMMS-24	2.25	5.00	3.65	.72	-.07	-.88
Emotional clarity	TMMS-24	1.25	5.00	3.11	.91	.23	-.64
Emotional repair	TMMS-24	1.00	5.00	3.21	.90	.25	-.83

Next, to analyze our first objective relating to the study participants' perceived level of EI knowledge, rated on a four-point scale from very low to very high, 66.20% of the participants perceived a low level, while 25.90% consider this knowledge level to be high. Consequently, a high proportion of the sample of future teachers indicated that, in general, their knowledge about emotional intelligence may be limited (see Table 2).

Table 2. Frequencies related to participants' perceived level of knowledge about emotional intelligence.

Level	Very Low	Low	High	Very High
Frequency	31	284	111	3
Percentage	7.2	66.2	25.9	.7

Along these lines, by analyzing the frequencies, we can observe in Table 3 that the participants' degree of interest in EI training is high: a total of 61% indicated high interest in this subject, and 32.50% considered their interest to be very high. The majority of this group, then, assigns great relevance to this variable in the educational sphere.

Table 3. Frequencies of participants' expressed interest in developing their Emotional Competence.

Level	Very Low	Low	High	Very High
Frequency	2	26	261	139
Percentage	.51	6.1	61	32.5

Before moving on to the data analyses for meeting our study objectives, we carried out Kolmogorov-Smirnov's test for normal distribution of the variables considered. The variables did not fit a normal distribution, but due to the size of our study sample ($n > 30$), we opted to use a parametric statistic.

Collected below are the obtained results in relation to the second study objective, regarding participants' perception of their own EI knowledge as a function of their year of studies.

As observed in Table 4, the first-year students generally obtained the highest means, except in the General EI knowledge variable, where fourth-year students scored slightly higher. In analyzing the significance of the differences of means, we observe that the differences favoring the first-year students, in comparison to second-year and fourth-year, were statistically significant only in the variable of Theoretical-practical knowledge linked to teaching. However, the effect size was very low.

Table 4. Descriptive statistics and difference of means according to year of studies, for the emotional knowledge variables, of undergraduate students in Primary Education, Early Childhood Education, or Double degree in Early Childhood and Primary Education.

	Year of Studies	Mean	SD	Min.	Max.	Anova and Welch	Post Hoc	Effect size***
General emotional	First	2.97	.48	1.67	4	F (2, 409) = 2.363; p=.095		.011
	Second	2.86	.40	1.67	3.83			
	Fourth	2.99	.46	1.67	4			
Intrapersonal Knowledge	First	2.81	.60	1	4	F (2, 409) = 2.888; p=.057		.014
	Second	2.67	.52	1	4			
	Fourth	2.68	.51	1.2	4			
Theoretical-practice	First	2.31	.57	1.04	3.52	F (2, 227.145) = 13.255; p ≤ .001	1>2; 1>4**	.06
	Second	2.01	.42	1.26	3.61			
	Fourth	2.10	.51	1.09	3.13			

*Equality of variances not assumed

** Statistic used: Dunnett T3

***Statistic used: Eta squared

Also noteworthy is the variable of Intrapersonal EI knowledge: although the difference is not statistically significant, it does approach significant values in distinguishing the first-year students, who again obtained the highest mean score. Based on these results, we might state that the future teachers' perceived emotional knowledge did not improve on account of their preservice teacher training, that is, during their undergraduate university studies.

In order to inquire further into these differences among the emotional knowledge variables, we shifted our focus to the study participants' degree program (Bachelor's degree in Primary Education, Bachelor's degree in Early Childhood Education, and Double Bachelor's degree in Early Childhood and Primary Education). In this case, from the descriptive data, students of Early Childhood Education perceived themselves more competent in the study variables. Significant differences were observed in the variable of General emotional knowledge, where students of Early Childhood Education had higher perceived competence than those pursuing the double degree. In the Theoretical-Practical Knowledge variable, statistically significant differences were obtained between the three degree programs, where students of Early Childhood Education had higher perceived knowledge in this variable than students of Primary Education or of the double degree. Furthermore, differences were also found in this variable between the Primary Education students and the double degree students, in favor of the former. Students' self-perception, therefore, varied according to the degree they are pursuing, as shown in Table 5. Effect size was medium in the case of the Theoretical-practical knowledge variable, while in the General knowledge variable it was very small.

Table 5. Difference of means in the study variables, according to participants' degree pursued.

	Degree	Mean	SD	Min.	Max.	Anova and Welch	Post Hoc	Effect size ****
General emotional knowledge (EI)	Primary Education	2.96	.46	1.67	4			
	Double degree	2.85	.39	1.67	3.83	F (2, 409) = 3.235; p= .040	Double degree < Early Childhood **	.016
	Early Childhood Education	3.02	.49	1.83	4			
Intrapersonal knowledge	Primary Education	2.75	.58	1	4			
	Double degree	2.67	.52	1	4	F (2, 409) = 1.231; p = .293		.006
	Early Childhood Education	2.79	.56	1.6	4			
Theoretical-practical emotional knowledge*	Primary Education	2.17	.57	1.04	.43		Primary Ed> Double degree;	
	Double degree	2.00	.40	1.26	3.61	F (2, 209.495) = 14.516; p ≤ .001	Early Childhood > Primary Ed;	.058
	Early Childhood Education	2.37	.52	1.22	3.52		Early Childhood > Double degree***	

*Equality of variances not assumed

** Statistic used: Tukey

*** Statistic used: T3 Dunnett

****Statistic used: Eta squared

After analyzing the emotional knowledge variables according to students' degree and their year in the degree program, and returning to the scientific literature on this topic, one of the variables with the most weight in future teacher's perceived EI knowledge and its implementation is their own emotional skill. We therefore established a third research objective to analyze the relationship between participants' emotional skill and their perception of their own emotional knowledge. Toward this end, we conducted a correlational analysis using Spearman's Rho (see Table 6).

Table 6. Correlations between participants’ perceived emotional knowledge and their emotional skills.

	1	2	3	4	5	6
1. General EI knowledge	--					
2. Intrapersonal EI Knowledge	.441**	--				
3. Theoretical-practical EI Knowledge	.516**	.572**	--			
4. TMMS 24. Attention	.239**	.357**	.305**	--		
5. TMMS 24. Clarity	.487**	.635**	.437**	.438**	--	
6. TMMS 24. Repair	.305**	.351**	.288**	.166*	.452**	--

We can observe in Table 6 that the correlations are positive and statistically significant in all cases, with magnitudes from weak to moderate. It should be noted that the relationships between the emotional knowledge variables considered throughout this study show moderate magnitudes at the intra-test level, most notably between Theoretical and practical EI knowledge and Intrapersonal EI knowledge. If we examine the relationships between these variables and the emotional skills assessed through the TMMS-24, we observe that the Emotional clarity variable presents the highest magnitude correlations with respect to all the perceived emotional knowledge variables. Emotional clarity correlates most strongly with the Intrapersonal EI knowledge variable. This may indicate that adequate understanding of one’s own emotions can favor perceived intrapersonal EI knowledge.

To address our fourth study objective, to determine the impact of the TMMS-24 emotional skill variables on the future teachers’ perceived level of emotional knowledge, Table 7 presents data from the regression analysis. Toward this end, we considered separately the three emotional knowledge variables from the ad hoc questionnaire (General EI knowledge, Intrapersonal EI knowledge, and Theoretical-practical knowledge of EI related to teaching), because the exploratory factor analysis carried out for this study pointed to three independent factors.

First, we focus on the General EI knowledge variable, using the independent variables of gender, year of studies, degree pursued, and the emotional skills of Emotional Attention, Clarity, and Repair (TMMS-24). The first model obtained showed adequate fit values, $R = .543$; adjusted $R^2 = .265$, and was statistically significant $F(6, 142) = 9.891$; $p < .001$, but upon analysis of the resulting model, Degree pursued was identified as not contributing significantly to the perception of general emotional knowledge, so it was eliminated from the regression model. In this way, a second regression model was obtained that presented better fit values, specifically, $R = .542$; adjusted $R^2 = .269$, and was also statistically significant $F(5, 143) = 11.871$; $p < .001$. These results indicate that the variables considered in this model are adequate to explain the variable of General emotional knowledge, and, even though there are other possible influencing factors not considered in this study, 26.90% of the variance was explained by the variables considered here.

These data suggest that the variables included in the model are adequate to explain students’ academic achievement, and despite other factors that also influence students’ grades, 37.3% of the variance was explained by the personal variables considered in this study. If we look more specifically at the results obtained, Emotional clarity proved to be an important factor in this knowledge variable, although other factors also contribute, as in the case of personal and academic variables such as gender and year of studies. Finally, we note that the TMMS-24 variable Emotional repair also proved to be a significant predictor. The ability to understand and to regulate one’s own emotions are therefore variables associated with the perception of this general emotional knowledge, just as there is a significant, positive influence from gender and year of studies, as shown in Table 7.

Table 7. Linear regression analysis for the General EI knowledge variable.

Model	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	B	Error Deviation	Beta		
(Constant)	1.473	.241		6.107	.000
Attention	.027	.046	.046	.586	.559
Clarity	.175	.041	.365	4.228	.000
Repair	.082	.038	.173	2.155	.033
Year of Studies	.056	.023	.174	2.460	.015
Gender	.263	.080	.236	3.292	.001

Next, in studying the Intrapersonal knowledge variable using the same independent variables as in the previous analysis, the obtained model was statistically significant $F(6, 145) = 17.546$; $p < .001$, indicating $R = .649$; adjusted $R^2 = .397$. But after analyzing the statistical significance of the independent variables, we observed that three of the variables did not significantly influence the dependent variable, namely, Year of studies, Degree pursued, and the Emotional Attention variable. Consequently, these variables were eliminated in order to identify the most parsimonious model. The regression analysis was then repeated, this time taking the independent variables of gender, Emotional Clarity, and Emotional repair; this second model presented better fit values, obtaining $R = .645$; adjusted $R^2 = .404$, and was statistically significant $F(3, 152) = 36.094$; $p < .001$. If we analyze the contribution of each variable, we again find that Emotional clarity was the biggest influence on Perceived intrapersonal knowledge, although gender also proved relevant in this variable. The variables considered in this regression model thus explained 40.4% of the variance. These data again suggest that the skill of understanding one's own emotional states was very important in the participants' perception of intrapersonal knowledge, as is seen in Table 8.

Table 8. Linear regression analysis for the dependent variable, Intrapersonal knowledge.

Model	Non-standardized coefficients		Standardized coefficients	<i>t</i>	Sig.
	B	Error Deviation	Beta		
(Constant)	.958	.246		3.892	.000
Emotional clarity	.389	.045	.596	8.651	.000
Emotional repair	.067	.044	.106	1.533	.127
Gender	.193	.093	.131	2.087	.039

Finally, taking Theoretical-Practical EI Knowledge related to teaching as our dependent variable, and including the same independent variables as in the previous regression analyses, a statistically significant model was obtained $F(6, 119) = 7.152$; $p < .001$, with fit values of $R = .515$; adjusted $R^2 = .228$, indicating that 22.8 % of the variance was explained by the independent variables considered. Analyzing the regression model in more detail, we observed that certain independent variables did not make a statistically significant contribution in explaining the EI knowledge variable considered in this case. These independent variables were therefore eliminated from the model, and a second

regression model was obtained, with better fit indices, after eliminating the following independent variables: degree program, gender, and Emotional repair.

The results obtained from this more parsimonious model showed adequate fit values, $R = .488$; adjusted $R^2 = .220$, and statistical significance, $F(3, 126) = 13.162$; $p < .001$. Consequently, the independent variables considered in this model (Emotional attention, Emotional attention, and Year of Studies) proved to be important variables, adequate for explaining the variable of Theoretical-Practical Knowledge, in this case accounting for 22% of the variance. If we look further into the role of each of these variables, we again observe that Emotional clarity is what has most influenced the knowledge variable considered in this case, as seen in Table 9. Consequently, the emotional skill of understanding one's own emotions proved to be a highly relevant variable in future teachers' perceived emotional knowledge in this study.

Table 9. Linear regression analysis of the study variables, taking Theoretical-practical EI knowledge as dependent variable.

Model	Non-standardized coefficients		Standardized coefficients	t	Sig.
	B	Error Deviation	Beta		
(Constant)	.839	.245		3.416	.001
Emotional attention	.125	.063	.168	1.991	.049
Emotional clarity	.237	.053	.376	4.453	.000
Year of Studies	.054	.032	.130	1.676	.096

Upon analysis of these results, participants' Emotional clarity in understanding their own emotional states proved to be the emotional skill that stood out as clearly relevant in their perceived emotional knowledge. By contrast, the skill of paying attention to one's feelings (Emotional attention), proved relevant only in Theoretical-practical knowledge related to teaching, thus suggesting that adequate attention to and understanding of one's emotions could favor future teachers' application of emotional knowledge to their professional practice in the classroom. By contrast, the skill of regulating one's emotional states (Emotional repair) had statistically significant influence only on the General Knowledge variable, which only includes items related to more theoretical knowledge about emotions. Finally, it should be noted that the gender variable was also relevant in two of the variables considered (General Knowledge and Intrapersonal Knowledge). And Year of Studies had a significant influence only in the General Knowledge variable.

4. Discussion and Conclusions

By way of a general study conclusion, as is true in other previous studies, the evidence shows the important role of teachers' pre-service and in-service training for developing social-emotional competencies that will ensure their future professional success as well as that of their students [8, 11, 12]. All this has repercussions for quality education that will meet the requirements of today's society [26, 31], with great educational implications for future generations of teachers. The learning and knowledge acquisition of Emotional Intelligence in teachers-in-training is one of the main challenges of Higher Education.

In this regard, after completing the present study, the following main ideas appear. Regarding our first objective, to analyze Education students' interest and perceived level of general EI knowledge, it is notable that the students express a high level of interest, while their perceived level of knowledge is low. As for the importance that students attribute to their initial training in EI, they identify EI as a key competency for their development and formation as future teaching professionals,

in line with the indications of Bueno et al. [16] and Pacheco-Salazar [11]. Extremera et al. [21] also indicate that new teachers consider the learning and teaching of different social-emotional resources to be fundamental for them to be able to effectively address the more frequent stressors of teaching. Concerning our finding that students' perceived level of EI knowledge was low, a number of authors have indicated the need for training in this type of social-emotional competence—a need that is perceived by the students [19, 20].

Regarding the second objective, to analyze certain perceived emotional knowledge variables (General EI knowledge, considering one's level of EI training; Intrapersonal EI knowledge; and Theoretical-practical EI knowledge related to teaching), according to degree pursued and year of studies, our results show that there is generally a very positive assessment on the part of the participants. In a similar sense, Sospedra-Baeza et al. [18] obtained adequate levels of EI in first-year undergraduate students in Education, Psychology, Speech Therapy and Social Work. On one hand, when considering participants' degree program, our results indicated that the undergraduate students in Early Childhood Education claimed greater knowledge of EI than did their peers pursuing a double degree in Early Childhood and Primary Education. By contrast, García-Vila et al. [34] reported that the undergraduate students in Early Childhood Education perceived themselves as having lower emotional competencies than did students in the Primary Education degree. As for Year of studies, the data indicate that first-year students obtained the highest means, except in the case of General EI Knowledge, where the fourth-year students obtained a slightly higher score. Differences between the first-year students and the second- and fourth-year students were statistically significant only in the variable of Theoretical-Practical Knowledge related to teaching, in favor of the first-year students. In a similar line, Maureira et al. [35] studied a sample of Physical Education undergraduates and were able to identify small improvements in the students over their four years in higher education, but the differences were not significant. However, unlike our case, Porras et al. [36] affirmed that students in their fourth year of an Education degree had better perceived intrapersonal emotional skills than those in first year.

Regarding our third objective, to analyze the relationship between emotional knowledge variables and perceived emotional intelligence, the EI variable of Emotional clarity was what presented the highest magnitude correlations with all the variables of perceived emotional knowledge. Thus, the present study offers empirical evidence of the relationship between future teachers' emotional clarity and their perceived level of EI knowledge. In this regard, Extremera and Berrocal [37] noted that the Emotional clarity dimension is characteristic of persons with high levels of intrapersonal emotional understanding. Likewise, different studies reveal emotional intelligence to be related to adequate management of one's emotions in the realm of teaching practice, and it contributes both to optimization of the teaching-learning process [26, 38, 39] and to teachers' work satisfaction and personal well-being [40].

Finally, our data concerning the study variables' ability to predict future teachers' emotional knowledge variables lead us to conclude that future teachers' emotional skills are clearly relevant in their perception of their own emotional knowledge, and their ability to understand how they feel is a skill that must be worked on explicitly within their pre-service training and beyond, with the ultimate aim of favoring the development of emotional intelligence in their students. In this regard, Ruiz-Melero et al. [25] indicate that emotional understanding in future teachers is fundamental to their perception of emotional competence for working with students in the classroom. In our study, emotional attention and repair also proved to be important skills in undergraduate Education students' perception of their own emotional competence. Similar results were obtained by Hernández-Vargas et al. [41], who indicated that the higher the level of emotion recognition and management in university students, the higher their level of dedication in their initial training.

Certain limitations of our study, on one hand, are due to its local nature. On the other hand, being a pilot study, it addressed only three degrees related to the educational field. It would therefore be interesting to be able to compare different degree programs in the field of education, and different national and international contexts, to analyze whether the obtained results corroborate our study,

and to be able to further explore the emotional profile of educational professionals in different countries and in different degree programs within this field.

In short, given the limited literature on the variables considered in this study, especially Perceived EI knowledge, it would be interesting to further explore this line of EI research in future studies, with both pre-service and in-service teachers. Moreover, given the evidence from previous studies revealing the benefits of EI in these professionals' development—that teachers' EI has a favorable influence on their teaching effectiveness and competence [2, 42]—it would be interesting to further explore this line by including other variables and through systematic educational practices in both the short and long term. Authors Hen and Sharabi-Nov [3] also indicate that future lines of research could focus on further exploration of the benefits of this type of training. For example, they could explore strategies for optimizing emotional skills in education professionals, the appropriate EI training for obtaining the maximum benefit, and for the transfer of training to educational practice. Thus, future studies would inquire further into the emotional knowledge that teachers should acquire during their teacher training, as an instrument for meeting the Sustainable Development Goals.

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