

## Article

# Can We Measure the Level of Socio-Emotional Competencies of Adolescents?

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**Abstract:** The present study aimed to evaluate the evidence of validity and reliability of the Social Emotional Competence Questionnaire (SECQ) in Spanish students and to verify if gender is a determining factor in their development. An intentional sampling was carried out on 429 students between 12 and 16 years old. Three factorial structures were tested: the original model, the original re-specified model, and the six-factor model that was achieved. The results maintain that the original re-specified model presented values with the best absolute fit, a slightly more favorable comparative fit, and a parsimonious fit with lower values than the other models. The reliability analysis showed considerable internal consistency. Boys were shown to have better self-management, and girls showed greater management in their social relationships. It is concluded that the questionnaire has adequate psychometric properties and is expressly useful in the population of interest with a relevant weight in the evaluation of socio-emotional competence.

**Keywords:** compulsory secondary education; psychometric properties; instrument; socio-personal skills



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## 1. Introduction

The concept of social–emotional competencies has gained great relevance in recent years and seems to be important across all age groups [1]. Socio-emotional competencies refer to a set of knowledge that must be put into practice in order to provide thoughtful, sensitive, and effective responses in accordance with the demands of every specific environment [2]. They correspond to a series of knowledge, skills, and attitudes that are useful for understanding and managing emotions, making responsible decisions, achieving positive goals, maintaining healthy relationships, and feeling and showing empathy for others [3,4].

During childhood and adolescence, these competencies allow us to adapt more effectively to the demands of today’s society: complex, digital, ecological, active, critical, committed, diverse, intercultural, and global [5,6]. Therefore, experts highlight the need for teaching children how to be (to know who they are, what they want and do not want, and what they want to achieve) and to feel (to be able to identify, recognize, and name their feelings and emotional states) in order to become an active citizen among young people by providing individual balance, improving interpersonal relationships and facilitating learning [7]. Hence the relevance of working on these socio-emotional competencies in school and family environments in order to develop upstanding and tolerant individuals, with good emotional regulation and high social awareness.

Recent studies have highlighted the success of social and emotional learning programs [1,8–10]. These are generally holistic programs encompassing cognitive, affective, and behavioral domains. In educational programs, it has been clearly demonstrated that functional or technical competencies (associated with a specific trade or profession) are

not the only ones that need to be worked on to achieve academic success and that socio-personal competencies (which allow the individual to build and value their own identity, act competently, relate satisfactorily with other people and face life's demands, challenges and difficulties) are now more than ever a fundamental part of the teaching-learning process [11]. The importance of carrying out a coordinated strategy between the school, the families, and the community is also frequently emphasized in these projects, where the teacher plays a key role in the implementation of these programs. Thus, it has been shown that working on socio-emotional competencies in the educational context improves problem solving, positive attitudes, pro-social behavior, empathy, emotional skills, and even academic performance [12,13].

Given these educational and social implications, it is essential to have instruments that allow teachers to identify these types of socio-emotional competencies in students and to know which ones should be reinforced. This will favor the design and evaluation of programs to develop these skills at school and in the community, providing guidelines for families and local organizations.

Although there is a clear consensus on the need to assess socio-emotional competencies, the number of instruments to do so is still very limited. Moreover, they are not always included in a single questionnaire or measured as a single construct [14]. Indeed, despite the existence of instruments that measure social and emotional competence in children and young people [15], the psychometric and implementation characteristics of these measures are not optimal for this group. In fact, some are too long for children and youth populations, while others are aimed at adult populations and groups with specific characteristics, which makes it difficult for participants to self-report [16]. Faced with this problem, Zhou and Ee [17] designed the Social Emotional Competence Questionnaire (SECQ), a questionnaire that assesses socio-emotional competence in the adolescent period, which has already proved to be reliable and has been validated in other populations in Eastern and Asian countries [18,19]. The authors argued that it would be necessary to replicate their findings using students from other cultures, such as Western cultures, which are diverse and heterogeneous.

In Spain, Aguilar et al. [1], in their work as part of the Learning to be project involving several European countries, carried out an exploratory study using this same instrument in primary and secondary education in 12 Spanish schools in Andalusia, Madrid, Castile and Leon, Galicia, and Asturias. The study concluded that the values found for the SECQ dimensions indicated that self-management and social awareness were less developed, while self-awareness scores were high. Also, the results showed a negative relationship between social and emotional competencies and bullying habits.

Furthermore, considering gender as a key analytical and explanatory variable in this research, socio-emotional competencies could be considered as contingent upon gender differences. Thus, studies indicate that gender differences begin in adolescence since girls are more in contact with emotional competencies than boys from childhood onwards [20,21]. Similarly, it was verified in the review carried out by Suberviola [22] that the significant differences between men and women in certain emotion-related skills do not appear at an early age but become more pronounced with age due to differential emotional socialization based on gender.

However, taking into account that the SECQ was originally built in English and has been used in studies with almost exclusively Asian [17,19] and European [18] populations, the main aim of the present study was to examine the factorial validity and reliability of a Spanish-translated version of the SECQ, based on a sample of Spanish adolescents, with the purpose of contributing to the development of social and emotional skills, which are so relevant to an individual's life. Likewise, the aim was to check whether gender is a determining factor in the development of socio-emotional competencies. The hypotheses proposed were the assessment instrument will show adequate reliability (H1) and factorial validity (H2), and the female gender will present better socio-emotional competencies than the male gender (H3).

## 2. Materials and Methods

The research type was instrumental, as it aimed to translate and adapt an existing assessment instrument to a new application context so that with sufficient theoretical and practical support, a useful questionnaire could be presented [23].

### 2.1. Participants

The intentional sample included 429 students of Compulsory Secondary Education (ESO, acronym in Spanish) with ages ranging between 12 and 16 years ( $M = 14.05$ ;  $SD = 1.46$ ). A total of 53.8% were female, and 46.2% were male, and they studied in 16 compulsory secondary education centers in the autonomous region of Galicia (northwest of Spain).

### 2.2. Instrument

The *Social Emotional Competence Questionnaire* (SECQ) was designed by Zhou and Ee [17] following the guidelines of the Collaborative for Academic, Social, and Emotional Learning [4], which defined socio-emotional competencies as the set of skills that include recognizing and managing our emotions, developing care and concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations in a constructive and ethical way. The questionnaire assesses whether children or adolescents are aware of themselves and others and how they respond within family, school, and community contexts at the personal, social, and ethical levels. It was developed with the intention of helping educational practitioners and researchers to assess students' level of socio-emotional competence and subsequently identify those personal and social areas that require improvement.

The instrument included five domains containing 25 items on a Likert-type scale from 1 to 6, where 1 meant strongly disagree with the proposed statement, and 6 meant strongly agree with the proposed statement. The domains in the original scale were as follows: self-awareness (items 1 to 5); social awareness (items 6 to 10); self-management (items 11 to 15); relationship management (items 16 to 20); and responsible decision making (items 21 to 25).

This instrument was originally administered in English, so using it in this study required an adaptation and translation procedure, using the backtranslation process to ensure complete equivalence between the original test and the translated test [24]. The translation followed the international methodological standards proposed by the International Test Commission [25]. In this case, the SECQ was translated and backtranslated [26]. Thus, first, the items were translated into Spanish and then back into English. The English-translated items were compared to those of the original scale, observing a great coincidence. The items in Spanish were evaluated by experts, who considered them relevant for measuring students' socio-emotional competencies. Prior to this research, the scale was administered to a small group of secondary school students to verify the correct understanding of the items.

### 2.3. Procedure

Once the authorization and agreement of the school principals had been obtained and informed consent had been provided by the families, the students completed the test collectively during Physical Education lessons. It was voluntary and anonymous, and all ethical procedures for data collection followed the ethical standards recognized by the Declaration of Helsinki (revision of Fortaleza, Brazil, October 2013), the recommendations of Good Clinical Practice of the European Economic Community (document 111/3976/88 of July 1990) and the current Spanish laws governing research, as well as the Standards for Educational and Psychological Testing (AERA).

### 2.4. Statistical Data Analysis

To check the questionnaire's normality (Likert-type scale items), the mean, standard deviation, corrected homogeneity index (item-total correlation without the item analyzed), Cronbach's alpha if an item is removed, skewness, and kurtosis were calculated for every

item. The questionnaire was then tested with an initial sample of 200 schoolchildren in order to apply Exploratory Factor Analysis (Maximum Likelihood method with Oblimin rotation) to determine the number of latent factors. Then, with a new sample ( $N = 229$ ; different from the pilot sample), the model validity was tested (Confirmatory Factor Analysis using the Generalized Least Squares method). To evaluate the models, absolute goodness-of-fit measures ( $\chi^2/df$  ranges between 2.0 and 5.0,  $GFI \geq 0.90$ ,  $RMSEA < 0.08$ ,  $SRMR \leq 0.08$ ), comparative fit ( $CFI \geq 0.90$ ,  $TLI \geq 0.90$ ) and parsimonious fit (AIC) were used as criteria [27–29]. In addition, the construct reliability from Cronbach’s alpha ( $\alpha$ ), omega ( $\omega$ ), and coefficient H has been evaluated. Finally, in order to test whether gender influenced each of the SECQ subscales, a multivariate analysis of variance was performed. The statistical software SPSS 22.0 and AMOS v.24 was used to analyze the data.

### 3. Results

#### 3.1. Descriptive Analysis

Table 1 presents the descriptive statistics of the results of the application of the SECQ in students from compulsory secondary education. The mean score achieved for every item of the questionnaire ranged from item 8 (which has the lowest mean of 3.45) to item 4 (which has the highest mean of 5.35), and the standard deviation fluctuated between 1.05 and 1.60. The item–factor correlation presented acceptable eigenvalues ranging from 0.26 (item 4) to 0.62 (item 23). As far as the Cronbach’s alpha eigenvalues if an item is removed are concerned, none of them exceeded the eigenvalue for the whole test ( $\alpha = 0.894$ ), which indicates that the removal of any of the items would not increase the reliability of the questionnaire as a whole. Finally, the skewness and kurtosis values were within the range  $+/-2$ , except for items 4 (Kurtosis = 2.30) and 17 (Kurtosis = 2.04), which are slightly outside this range. Consequently, based on these data, it was observed that most of the items adequately contribute to the scale as a whole, showing univariate normality of the items. Furthermore, by means of Mardia’s test, multivariate normality was also confirmed since Mardia’s coefficient = 181.56, which is lower than the eigenvalue obtained by using the expression  $p \times (p + 2)$ , where  $p$  is the number of variables observed:  $25 \times (25 + 2) = 675$ .

**Table 1.** Mean (M), standard deviation (SD), item-total correlation (Ri-t), skewness (A), kurtosis (K), and alpha excluding item ( $\alpha$ -i) of the SECQ.

ITEMS	M	SD	Ri-t	A	K	$\alpha$ -i
1. Sé lo que pienso y lo que hago. <i>I know what I am thinking and doing.</i>	4.81	1.15	0.43	−0.86	0.31	0.889
2. Entiendo por qué hago las cosas que hago. <i>I understand why I do what I do.</i>	4.66	1.21	0.43	−0.84	0.30	0.889
3. Entiendo mis estados de ánimo y mis sentimientos. <i>I understand my moods and feelings.</i>	4.41	1.42	0.36	−0.62	−0.49	0.891
4. Sé cuándo estoy de malas. <i>I know when I am moody.</i>	5.35	1.05	0.26	−1.69	2.30	0.892
5. Sé reconocer una cara de enfado. <i>I can read people’s faces when they are angry.</i>	5.03	1.08	0.32	−0.99	0.31	0.891
6. Viendo las expresiones faciales de la gente puedo saber cómo se sienten. <i>I recognize how people feel by looking at their facial expressions.</i>	4.38	1.23	0.44	−0.58	−0.11	0.888
7. Me es fácil entender por qué la gente se siente de una manera determinada. <i>It is easy for me to understand why people feel the way they do.</i>	4.10	1.31	0.48	−0.40	−0.54	0.888
8. Si alguien está triste, enfadado o contento, creo que sé lo que está pensando. <i>If someone is sad, angry or happy, I believe I know what they are thinking.</i>	3.45	1.38	0.45	−0.08	−0.74	0.888

Table 1. Cont.

ITEMS	M	SD	Ri-t	A	K	$\alpha$ -i
9. Entiendo por qué la gente reacciona de una determina forma. <i>I understand why people react the way they do.</i>	3.94	1.28	0.45	−0.20	−0.65	0.888
10. Si un amigo está alterado o molesto, me hago una idea bastante aproximada de por qué se siente así. <i>If a friend is upset, I have a pretty good idea why.</i>	4.46	1.18	0.51	−0.47	−0.44	0.887
11. Puedo mantener la calma en situaciones de estrés. <i>I can stay calm in stressful situations.</i>	3.65	1.56	0.49	−0.22	−1.02	0.887
12. Mantengo la calma y domino los nervios en situaciones nuevas o cambiantes. <i>I stay calm and overcome anxiety in new or changing situations.</i>	3.69	1.49	0.50	−0.19	−0.91	0.887
13. Mantengo la calma cuando las cosas salen mal. <i>I stay calm when things go wrong.</i>	3.57	1.51	0.49	−0.11	−0.95	0.887
14. Sé controlar cómo me siento cuando pasa algo malo. <i>I can control the way I feel when something bad happens.</i>	3.73	1.43	0.51	−0.22	−0.78	0.887
15. Cuando estoy molesto con alguien, espero a calmarme antes de hablar de lo que me molesta. <i>When I am upset with someone, I will wait till I have calmed down before discussing the issue.</i>	3.72	1.62	0.46	−0.17	−1.06	0.888
16. Siempre me disculparé cuando haga daño a un amigo sin querer. <i>I will always apologise when I hurt my friend unintentionally.</i>	5.17	1.26	0.45	−1.56	1.60	0.888
17. Intento siempre consolar a mis amigos cuando están tristes. <i>I always try and comfort my friends when they are sad.</i>	5.25	1.09	0.32	−1.57	2.04	0.891
18. Intento no criticar a un amigo cuando discutimos. <i>I try not to criticise my friend when we quarrel.</i>	4.43	1.43	0.50	−0.72	−0.32	0.887
19. Soy tolerante con los errores de mis amigos. <i>I am tolerant of my friend's mistakes.</i>	4.49	1.28	0.50	−0.66	−0.13	0.887
20. Me hago valer sin despreciar a los demás. <i>I stand up for myself without putting others down.</i>	4.83	1.23	0.43	−1.02	0.57	0.889
21. Cuando tomo una decisión, tengo en cuenta las consecuencias de mis acciones. <i>When making decisions, I take into account the consequences of my actions.</i>	4.55	1.29	0.55	−0.74	−0.15	0.886
22. A la hora de elegir algo, me aseguro de que tiene más efectos positivos que negativos. <i>I ensure that there are more positive outcomes when making a choice.</i>	4.45	1.42	0.56	−0.68	−0.38	0.885
23. Valoro los puntos fuertes de la situación antes de decidir hacer algo. <i>I weigh the strengths of the situation before deciding on my action.</i>	4.38	1.28	0.62	−0.58	−0.22	0.884
24. Tengo en cuenta los criterios elegidos antes de recomendar algo. <i>I consider the criteria chosen before making a recommendation.</i>	4.49	1.22	0.57	−0.60	−0.26	0.886
25. Antes de usar una estrategia, valoro sus puntos fuertes y débiles. <i>I consider the strengths and weaknesses of the strategy before deciding to use it.</i>	4.53	1.39	0.53	−0.82	−0.12	0.886

### 3.2. Exploratory Factor Analysis

An exploratory factor analysis was carried out using the first sample (Table 2). A maximum-likelihood factor analysis with Oblimin rotation was used, where the Kaiser–Meyer–Olkin test (0.883) and Bartlett’s sphericity ( $p < 0.001$ ) confirmed the possibility of factoring the correlation matrix.

The obliquely rotated factor solution reported the existence of five latent factors (M5F-R) that explain 56.35% of the variance, with the factor loadings exceeding the inclusion criteria: inserting every item in a single factor, establishing estimates of 0.40 as the minimum saturation value, and including the item that saturates in more than one factor

in the factor determined by the original questionnaire. The first factor includes the first four items and corresponds to the hypothetical latent factor of self-awareness (SEA); the second factor includes the next six items and could correspond to the latent factor of social awareness (SOA); the third factor contains the next five items and could correspond to the latent factor of self-management (SEM); the fourth factor includes the next five items and could correspond to the latent factor of relationship management (RSM); and finally, the fifth factor contains the last five items and could correspond to the latent factor of responsible decision making (RDM).

**Table 2.** Matrix of rotated components, communalities, and variance explained by the SECQ factors after rotation with the sample ( $n = 200$ ).

Items	Factors					Communalities
	SEA	SOA	SEM	RSM	RDM	
SECQ2	0.937					0.828
SECQ1	0.444					0.349
SECQ3	0.431					0.315
SECQ4	0.405					0.302
SECQ9		0.671				0.462
SECQ7		0.659				0.493
SECQ8		0.628				0.436
SECQ6		0.538				0.369
SECQ10		0.496				0.403
SECQ5		0.409				0.301
SECQ13			0.815			0.692
SECQ12			0.798			0.663
SECQ11			0.763			0.616
SECQ14			0.658			0.519
SECQ15			0.407			0.309
SECQ16				0.669		0.491
SECQ17				0.612		0.420
SECQ18				0.561		0.424
SECQ19				0.498		0.427
SECQ20				0.480		0.326
SECQ22					0.761	0.600
SECQ23					0.741	0.623
SECQ25					0.720	0.524
SECQ24					0.569	0.501
SECQ21					0.467	0.396
Eigenvalues	7.095	2.452	1.771	1.432	1.032	
% Variance explained	28.380	9.808	7.083	5.728	5.353	% Accumulated 56.351

Self-awareness (SEA); social awareness (SOA); self-management (SEM); relationship management (RSM); and responsible decision making (RDM). Extraction method: maximum likelihood. Rotation method: Oblimin normalization with Kaiser.

### 3.3. Confirmatory Factor Analysis

Next, the re-specified five-factor model obtained from the previous exploratory factor analysis (M5F-R), the original five-factor model (M5F), and a single-factor model (M1F) were tested (Figure 1).

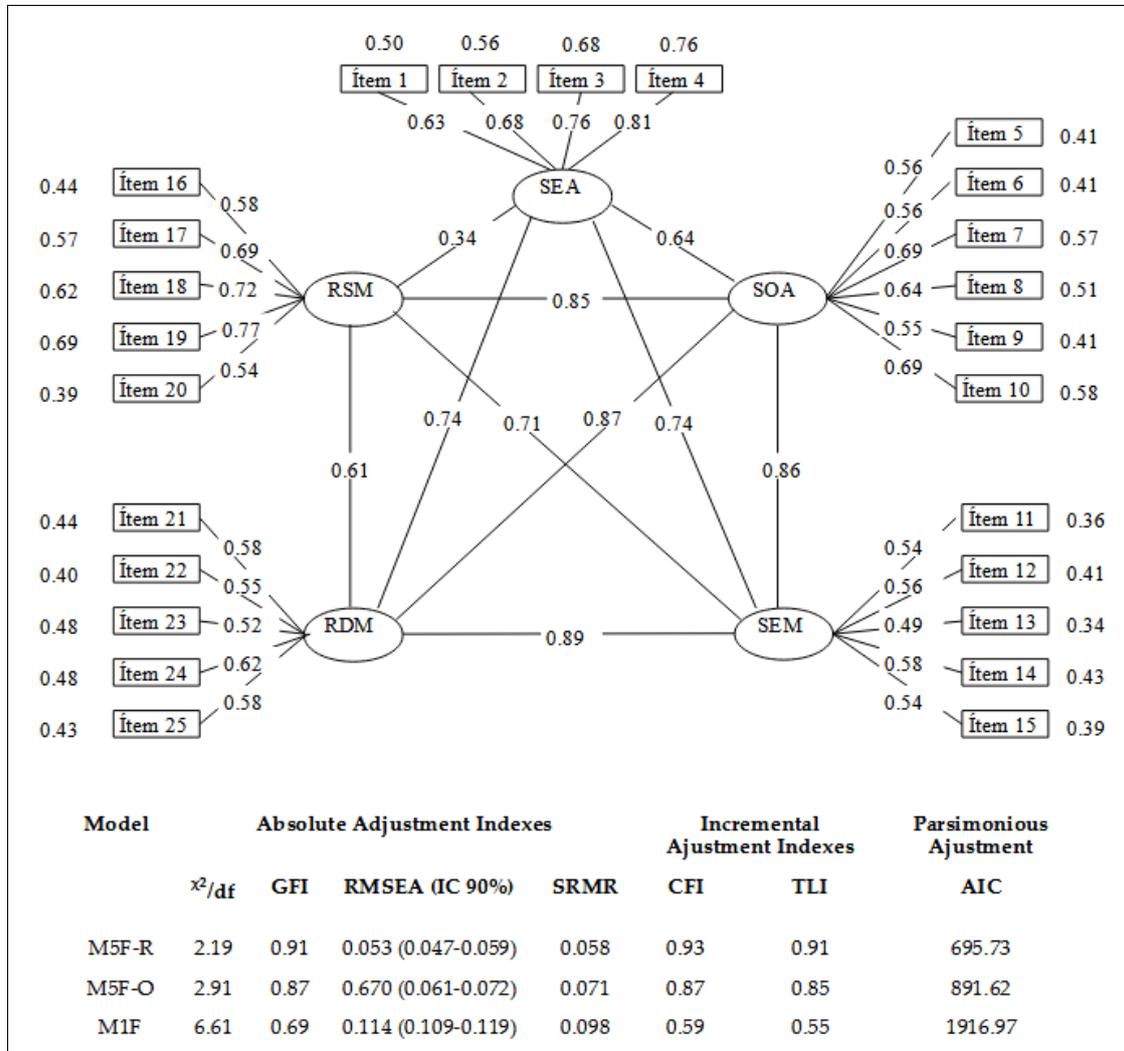


Figure 1. Re-specified pentafactor model (M5F-R) and goodness-of-fit indicators for the three models.

Consequently, the data obtained indicated that the model that yielded the best fit of the three analyzed was the re-structured five-factor model (M5F-R:  $\chi^2/df = 2.19$ ; GFI = 0.91; RMSEA = 0.053; SRMR = 0.058; CFI = 0.93; TLI = 0.91; AIC = 695.73), followed by the original five-factor model (M5F:  $\chi^2/df = 2.36$ ; GFI = 0.90; RMSEA = 0.056; SRMR = 0.061; CFI = 0.91; TLI = 0.89; AIC = 736.24) and the single-factor model, with the worst fit (M1F:  $\chi^2/df = 6.61$ ; GFI = 0.691; RMSEA = 0.114; SRMR = 0.098; CFI = 0.590; TLI = 0.553; AIC = 1916.97). Note that there are no correlated residuals in the model.

### 3.4. Reliability

Finally, the reliability for the SECQ questionnaire is calculated based on the five-factor model: in the first factor (self-awareness), the coefficient  $\alpha$  was 0.650 (IC95%: 0.578, 0.726), the composite reliability ( $\omega$ ) obtained an index of 0.750, and the coefficient H was 0.824; in the second factor (social awareness), the coefficient  $\alpha$  was 0.779 (IC95%: 0.716, 0.832), the composite reliability ( $\omega$ ) obtained an index of 0.849, and the coefficient H was 0.869; in the third factor (self-management), the coefficient  $\alpha$  was 0.836 (IC95%: 0.800, 0.864), the

composite reliability ( $\omega$ ) obtained an index of 0.839, and the coefficient  $H$  was 0.856; in de fourth factor (relationship management), the coefficient  $\alpha$  was 0.754 ( $IC95\%$ : 0.694, 0.805), the composite reliability ( $\omega$ ) obtained an index of 0.809, and the coefficient  $H$  was 0.833; and, in the fifth factor (responsible decision making), the coefficient  $\alpha$  was 0.834 ( $IC95\%$ : 0.803, 0.856), the composite reliability ( $\omega$ ) obtained an index of 0.836, and the coefficient  $H$  was 0.839.

Furthermore, it was found that the five dimensions that make up the SECQ questionnaire are related to each other ( $0.34 < r < 0.90$ ), forming an interrelated factor structure of socio-emotional competence, that is, consistent.

### 3.5. Multivariate Analysis (MANOVA)

The means and standard deviations obtained for males and females in the scores of the different subscales of the Social Emotional Competence Questionnaire (SECQ): Self-Awareness (SA), Social Awareness (SOA), Self-Management (SM), Relationship Management (RM), and Responsible Decision-Making (RD) are presented in Table 3.

**Table 3.** Means, standard deviations, and multivariate analysis of the subscales of the SECQ questionnaire as a function of gender.

SECQ Scales	Girls (G)	Boys (B)	F	p	$\eta^2p$	Power	Prevalence
	M (SD)	M (SD)					
Self-Awareness	19.02 (3.13)	19.46 (3.63)	1.88	0.171	0.004	0.278	-
Social Awareness	25.64 (5.05)	25.03 (5.29)	1.46	0.227	0.003	0.226	-
Self-Management	17.52 (2.94)	19.33 (5.77)	10.12	0.002	0.023	0.888	B > G
Relationship Management	24.89 (4.03)	23.33 (4.86)	13.08	<0.001	0.030	0.950	G > B
Responsible Decision-Making	22.68 (5.19)	22.09 (5.09)	1.41	0.235	0.003	0.221	-

Gender was found to significantly influence the subscales of the Social Emotional Competence Questionnaire (SECQ), Wilks' Lambda = 0.91,  $F(5, 423) = 8.27$ ,  $p < 0.001$ ,  $\eta^2p = 0.089$ , power = 1. Univariate analyses indicated that there was a significant difference between female and male students in the self-management and relationship management subscales. Boys showed higher self-management ( $M = 19.33$ ,  $SD = 5.77$ ) than girls ( $M = 17.52$ ,  $SD = 5.94$ ),  $F(1, 427) = 10.12$ ,  $p < 0.01$ ,  $\eta^2p = 0.023$ , power = 0.888. By contrast, girls presented greater relationship management ( $M = 24.89$ ,  $SD = 4.03$ ) than boys ( $M = 23.33$ ,  $SD = 4.86$ ),  $F(1, 427) = 13.08$ ,  $p < 0.001$ ,  $\eta^2p = 0.030$ , power = 0.950. Low effect size. However, gender did not significantly influence the other subscales of the Social Emotional Competence Questionnaire (SECQ): Self-Awareness (SA),  $F(1, 427) = 1.88$ ,  $p > 0.05$ ,  $\eta^2p = 0.004$ , power = 0.278; Social-Awareness (SOA),  $F(1, 427) = 1.46$ ,  $p > 0.05$ ,  $\eta^2p = 0.003$ , power = 0.226; and Responsible Decision-Making (RD),  $F(1, 427) = 1.41$ ,  $p > 0.05$ ,  $\eta^2p = 0.003$ , power = 0.221.

## 4. Discussion

In the last two decades, great interest in the world of emotions has become evident due to their important involvement in all facets of life [30,31]. The main aim of the study was to analyze the psychometric properties of the Social Emotional Competence Questionnaire (SECQ) to measure these competencies in Spanish students and to check whether gender is a determining factor in their development.

Firstly, our first hypothesis was confirmed, as the questionnaire presented high reliability coefficients, although the inclusion of item five in the social awareness factor is recommended in this version of the instrument. It is recommended that this item be drafted or revised in order to eliminate any ambiguity regarding its interpretation. Likewise, the second hypothesis was also corroborated since the factor analyses carried out (exploratory and confirmatory) indicate a satisfactory factor structure with high levels of internal consistency. In fact, the five dimensions (self-awareness, social awareness, self-management,

relationship management, and responsible decision making), which, according to the existing literature [17–19], make it possible to analyze the development of socio-emotional competencies, were included. Likewise, high inter-correlations are observed between the five factors, except between the factors of relationship management and self-awareness, which is low. Thus, it is assumed that the factors obtained in terms of their associated variables are not conceptually independent.

However, our study introduces a proposal that, anchored in the solid and strict original model (five factors), presents a slight modification: item 5 ('I know how to recognize an angry face') was removed from the self-awareness factor and added to the social awareness factor. Thus, the data show that the Spanish version of the questionnaire presents a re-specified five-factor model that explains 56.35% of the total variance, with a grouping of items similar to the original theoretical proposal. These findings are in line with the study by Zhou and Ee [17], in which a five-factor structure was also found with a similar distribution of items, goodness-of-fit indices, and reliability indicators.

In addition, it has been noted that, in general, adolescents rate themselves very positively on all questionnaire items. This positive trend can also be seen in other research using the SECQ questionnaire [1,18,19] and in research examining these questions using similar instruments [14].

However, despite this favorable trend of positive scores achieved in the socio-emotional competencies, the self-management and social awareness factors showed lower competence development. This can also be observed in the work by Zhou and Ee [17], Petric and Szamoskozi [18], and Aguilar et al. [1]. The same is true for the study conducted by Zych et al. [14], which showed lower values for self-management/motivation and social awareness/pro-social behavior factors. Even in the study conducted by Rahayu and Mustikasari [19] with students from three Asian tribes, the two lowest-rated dimensions in each group were self-management and social awareness.

The most valued factors were self-awareness and relationship management. This is in keeping with the research by Zhou and Ee [17] and Aguilar et al. [1]. In contrast, Rahayu and Mustikasari [19] observed that responsible decision-making was the highest-rated factor in one of the groups of their study, while self-awareness was the highest-rated factor in another.

Finally, the third hypothesis was partially confirmed, as it was only found that gender had a significant influence on adolescents' self-management and relationship management. On one hand, self-management was found to be higher in boys than in girls. These results were in line with those obtained by Zych et al. [32] and Petric and Szamoskozi [18] and suggest that boys are better at regulating their own impulses and emotions. This has also been corroborated in publications using other instruments [33–35]. On the other hand, girls presented better management of their relationships than their male counterparts. Other research also revealed these differences [33,36,37]. However, one should not lose sight of the fact that in this study, the differences between men and women are very small (the effect sizes are 2.3 and 3%).

Furthermore, the data showed the absence of a significant effect of gender on socio-emotional competencies related to self-awareness, social awareness, and responsible decision-making. In this regard, it is worth noting that our findings differ from other studies in which girls scored higher in social awareness [18,32]. In this sense, it could be interpreted that perhaps the actions aimed at breaking the gender gap in emotional competencies are bearing some fruit since in three of the five factors, no differences were observed, and the differences that do exist are very small.

Therefore, it is perceived that although gender presents significant differences in some of the competence factors, it cannot be considered a determining variable for socio-emotional competencies during adolescence.

Moreover, it should be borne in mind that the differences found in the different factors, both in general and by gender, may be due to the socio-demographic and cultural characteristics of the sample.

The limitations of the study include the time frame and the fact that the data collection was carried out by self-report. In addition, considering that many of the participants are 12 years old, it should be borne in mind that some items may be difficult to understand at such a young age. At this age, children are still at an immature stage of cognitive and emotional development, which may influence their ability to fully understand the scale items and respond accurately to what is asked. On the other hand, participants may respond more by thinking about what they are supposed to answer rather than expressing their true opinions. This carries the risk that the actual level of competence differs to some extent from the subject's own perception. This may bias the responses and affect the validity of the results.

It should also be noted that differences in means of different scales of the questionnaire could also be attributed to the fact that the items measure the respective construct with different levels of difficulty. In future research, it would be desirable to extend the sample, analyzing this construct in other contexts.

Furthermore, the instrument is ideal for evaluating social and emotional learning programs based on the implementation of specific interventions, either in a global way or from a gender perspective. Finally, future studies could focus on the evaluation of this construct in other Spanish-speaking countries.

In conclusion, it can be stated that the Spanish version of the SECQ is a valid, consistent, and reliable scale to directly assess the construct. Therefore, its use is recommended to measure the new demands that arise in the socio-emotional domain in adolescents.

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