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Article

Analysis of Socio-Emotional Competencies as a Key Dimension for Sustainability in Colombian Elite Athletes

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Abstract: UNESCO highlights socio-emotional, cognitive, and behavioral learning as critical for advancing sustainability. As major events, sports generate significant social, economic, and environmental impacts. This study analyzed how academic background, gender, age, sport type, and modality influenced elite Colombian Olympic and Paralympic athletes' socio-emotional competencies. Methods: Colombian elite athletes who were members of the "Support to the Excellence Coldeportes Athlete" participated in the study. The total population studied included 334 Colombian elite athletes: mean age 27.10 ± 6.57 years old with 13.66 ± 6.37 years practicing his/her sports modality. The socio-emotional competencies of the participants were assessed using the Socio-emotional Competencies Scale (SECS). Results: Men scored higher in interpersonal regulation, self-awareness, conflict resolution, and emotional regulation. Younger athletes (≤ 25 years) had higher self-consciousness. Individual versus team sports did not differ. Paralympians showed higher motivation, self-awareness, teamwork, and emotional regulation. University educated athletes scored higher in motivation, self-awareness, teamwork, and empathy. All competencies positively correlated. Conclusion: Individualized interventions targeting improved socio-emotional performance are vital for sustainability and should account for differences across gender, age, education, and disability status.

Keywords: high performance; olympic; paralympic; gender; age; type of sport; sport modality

1. Introduction

A number of studies have demonstrated the significance of striking a balance between these three elements and the critical importance of developing socio-emotional competencies to support living in and constructing a more inclusive, just, peaceful, and sustainable society (1,2). UNESCO (3,4) has emphasized the importance of applying the three learning dimensions—cognitive, socio-emotional, and behavioral learning—in a balanced way throughout the educational process.

Social-emotional competencies are abilities for holistic growth and subjective well-being throughout life, and because of their connection to success in the workplace, in the classroom, and in personal relationships, they have attracted a lot of attention in recent years (5).

The mastery of socioemotional competencies allows us to face everyday situations by facilitating decision making, establishing satisfactory interpersonal relationships, mastering leadership strategies, or maintaining communication, among others. In addition, emotions are closely related to cognition, creative thinking, motivation, and learning (6).

On the other hand, we must bear in mind that socioemotional competencies are maintained throughout life, are sustainable, and allow for greater labor insertion and greater adaptation and

problem solving (7). The practice of sports is identified as a context for identity work and emotional development (8,9) and social (10).

Athletes, due to the characteristics of their training, should have a high mastery of socioemotional competencies and, therefore, should acquire skills to grow with future prospects and life skills. In fact, sports activities are a vehicle of emotional education for the socioemotional improvement of young people (11–13). In addition, Magrum and McCullick (14) make the point that coaches are more effective when they can identify and comprehend their own emotions as well as those of others and the potential consequences of their interactions. As such, they advise evaluating the connection between coaches' emotional intelligence, efficacy, talent acquisition, recruitment, and coaching background.

In addition, we must take into account the persistence of socioemotional skills. According to Attanasio et al. (15) the socioemotional skills of parents and children during early childhood are comparable and their intergenerational mobility is estimated. Hence the importance of analyzing athletes' mastery of these skills and their relationship with personal and academic variables.

According to the 2022 European Union Council resolution, sporting events have a major external impact on the social, economic, and environmental spheres in the communities in which they are held (16). The resolution also addressed the strategic role that sports, and physical activity play in accomplishing the 17 sustainable goals. As a result, numerous studies have demonstrated the enormous potential that sports activities offer for sustainability (17). Olympic sports are a shining example of gender equality and sustainability, and via its athletes, they serve as a legendary source of motivation and aspiration for everyone (18).

What role does sport play in the shift towards a more sustainable global scenario, as highlighted by the 2030 Agenda for Sustainability? The European Union Council asserts that physical exercise and sport are crucial to the worldwide effort to achieve the 17 Sustainable Development Goals (SDGs) and promote sustainability.

The concept of socioemotional competence is closely related to the constructs of Emotional Intelligence (EI) (19) and Multiple Intelligences (MI) (20). Social-emotional competencies are those skills necessary to effectively self-regulate one's emotions, solve problems effectively and cultivate interpersonal relationships, taking into account both personal needs and those of others (21), being also defined as the set of behaviors of emotional and social content, transferable to different contexts and work situations, which provide quality and effectiveness in the professional development of the individual who possesses them (22).

Since the mid-1990s, the progressive interest in the study of Emotional Intelligence has contributed to the rediscovery of socioemotional competencies (23). Thus, numerous studies show the importance and potential effectiveness of the use of socioemotional competencies in the educational environment, through different practices, such as the use of mindfulness (24).

From the different taxonomies proposed by different authors, Talavera et al. (22) highlight five major socio-affective competencies that are key to professional success: emotional self-awareness, self-regulation, empathy, motivation, and social skills. More recently, (22), the authors, who will be the main reference in this research, highlight seven socio-affective competencies: interpersonal regulation, motivation, self-awareness, conflict resolution, teamwork, emotional self-regulation, and empathy. These seven socio-affective competencies are briefly explained below.

Emotion regulation is typically defined as the process by which individuals influence what emotions they have, when they have them, and how they experience and express them (25). According to van Driel and Gantz (van Driel & Gantz, 2021), a love of sports can contribute to happiness. According to McCormick et al. (27) psychological theories related to emotional self-regulation, in particular self-efficacy theory and the emotion regulation process model, could shed light on how resilience performance is determined and lead to a greater understanding of how it is determined. can implement psychological interventions. Contemporary emotion regulation models, on the other hand, contend that as humans are social animals who experience, express, and regulate their emotions with and through others, emotions are seldom, if ever, experienced in a social vacuum (28). Consequently, interpersonal emotion regulation, a kind of emotion regulation that places an

emphasis on social elements and their indisputable influence on an individual's capacity to control emotions either directly or indirectly, has just been recognized as an efficacious method of emotion management (29). Research on emotion regulation in sport has predominantly focused on intrapersonal regulation of emotion response systems (i.e., subjective experience, cognitions, behaviors, or physiological responses) (30). In this regard, sport researchers have mostly adopted an intrapersonal perspective by focusing on how individual athletes appraise stressors, how they experience, express and regulate their own emotions, and how they cope with stress before and during competitions, with few studies adapting an interpersonal and multilevel approach to examine the ways in which athletes try to regulate their own and their teammates' emotions (31). Accordingly, a study including participants from 50 interdependent sports teams demonstrated the significance of emotion regulation behaviors among teammates for anxiety and performance outcomes; however, this effect is mitigated when athletes exhibit emotional self-regulation (32). Findings from other studies highlight the role that both individual goals and ego involvement can play in optimizing efficient interpersonal regulation during competition at the team level (33), other studies have shown that athlete roles and interpersonal factors influence interpersonal regulation of emotions (34). Most of the research on emotion regulation has ignored aspects pertaining to situational circumstances and individual variances (35). According to gender theories, there are disparities between men and women when it comes to the importance of emotional support and how it affects wellbeing; women are more likely than men to seek out emotional support, and they may also benefit from it more (36). As a result, plans must be made to implement the 2030 United Nations Agenda for Sustainable Development's goal number five, which is "gender equality and the empowerment of women and girls." This goal states that gender equality is not only a fundamental human right but also the cornerstone of a world that is peaceful, prosperous, and sustainable (37). In the study of Kucharski and Strating (35), athletes can make flexible use of a variety of emotional regulation strategies, although their use will depend on the context (pre- and post-competition) and emotional style.

The energy that propels someone to carry out actions is known as motivation, and it can come from both internal and external sources (38). The following are some of the several ways that we might witness motivation in action (39), intrinsic motivation, in which the athlete acts motivated by the satisfaction that training or competing produces in him/her, based solely on the pleasure he/she experiences when participating in it; extrinsic motivation, which is derived from an athlete's accomplishments and societal acknowledgment and where motivation levels may fluctuate based on rewards realized on a personal level; and demotivation, which is the process of losing the meaning and motivations that underpinned the action and is marked by a decline in interest. The results of different studies with athletes have shown differences according to gender and competitive level (40,41) the age (42), the type of sport (43) or educational level (44,45). In addition, the Sport Education Model (SEM) promotes more intrinsic motivation and prosocial attitudes compared to the traditional, direct, skill drill instructional styles used in physical education. (46).

The capacity to conduct introspection and reflection in order to comprehend one's thoughts, feelings, and behaviors is known as self-awareness (47), considering the previous step to control our emotions or to know and understand the emotions of others (22). Self-awareness is the underlying basis for many existing psychological interventions and tools such as Post-Event Reflection (PER), which practitioners can use to help athletes process their performances in a productive and improvement-focused manner (48), or biofeedback and neurofeedback training intervention for optimal performance: learning to improve self-awareness and self-regulation with athletes. (49). Thus, self-awareness is a basic element for optimal sport performance due to its fundamental role in skill development, skill execution, arousal regulation and emotional control. According to one study's findings, in this regard, coaches' impressions did not match the data that was recorded. This emphasizes the necessity for techniques that raise coaches' self-awareness (50).

As for conflict resolution, interpersonal conflicts occur in any type of social relationship, including the sports environment, so that proper emotional management can improve the well-being, coexistence, and performance of athletes (51), having demonstrated in the sports context the connection between the type of emotion experienced in unfavorable outcomes and the differential

use of regulation strategies (52). Thus, the advantages of implementing mediation as the method par excellence for conflict resolution in the world of sports have been demonstrated (53). On the other hand, it is important to highlight new trends, such as the use of branched emotional education programs for the assertive resolution of conflicts in sports (51).

McEwan and Beauchamp (54) define teamwork as a dynamic process that entails members working together to efficiently carry out the independent and interdependent behaviors necessary to maximize the possibility that a team will succeed in its goals. It has been demonstrated that teamwork training enhances how well athletes collaborate with one another (55). In this sense, different models created to adequately guide teamwork stand out, such as the Optimal Team Functioning (OTF) model, which comprises 8 key components for optimal team functioning: (a) individual attributes, (b) team attributes, (c) foundational communication process, (d) team structural processes, (e) individual regulation processes, (f) team regulation processes, (g) context and (h) desired results (56). For the (57) teamwork skills are considered essential for personal, academic and professional achievement. There appear to be gender differences, with girls having higher teamwork skills, except in leadership (57,58).

Emotional self-regulation refers to the ability to manage emotions with special emphasis on the avoidance of prolonged feelings of anxiety or irritability, constituting a flexible, adaptive and cognitive-emotional process that involves the management and control of emotions and includes both the modulation and cessation of negative emotions and the initiation and maintenance of positive emotions (22). In this sense, it is important to emphasize the intricate interactions that occur between athletes' emotions, emotional expression, and self-regulation in order to accomplish a variety of objectives (such as good performances and positive social relationships), as well as the significance of looking at interpersonal processes connected to emotion and emotion regulation in team sports (59).

Finally, empathy is the characteristic feature of successful interpersonal relationships (22), currently understood as the ability to infer and share the affective states of others, plays a vital role in social interactions (60). The development of empathy techniques for athletes is thought to enhance perspective taking and interpersonal communication, elevate moral and ethical views in sports, and lessen aggressive and self-serving behaviors (61).

The results suggest that perspective taking, and empathic concern have a negative correlation with aggressiveness, and that this effect is stronger in female athletes than in male athletes. On the other hand, perspective taking is a negative predictor of aggressiveness and antisocial behavior in sports, and in female athletes only, anger mediated these relationships. These findings suggest that strategies based on empathy and directed emotion should be tailored to both male and female athletes in order to reduce aggressiveness in sports (62)

In elite sport, as in the case of this study's sample of high-performance Olympic and Paralympic athletes, athlete concentrations and competitions on behalf of the country are common. To all the above, adding to the continuous relationships with their teammates and coaches, other periodic interactions with other team members, socioemotional skills may have an even greater importance.

Thus, taking into account the different studies applied to sport mentioned above, focusing on one or more of the seven socioemotional competencies proposed by Talavera et al. (22) (interpersonal regulation, motivation, self-awareness, conflict resolution, teamwork, emotional self-regulation and empathy), it was considered appropriate to treat them jointly. In this sense, the Socioemotional Competencies Scale (SCS) was developed. (22) due to the need for a reliable and valid instrument for the evaluation of the seven socioemotional competencies mentioned above, having been used mainly in the educational context (23,63).

There are not many studies that analyze the association between the level of socioemotional competencies and performance in sports activities. In this line, a first approach has been carried out by Portela-Pino et al. (5) reaching the conclusion that girls have greater skills in relationship management and boys in self-management and that students who perform extracurricular activities of a sporting nature do not have greater socioemotional skills, but those who perform musical or artistic activities do.

In university students, it has been found that students have highly developed interpersonal and communication skills, followed by adaptive and decision-making skills. The lowest scores correspond to coordination and leadership skills. And if there seems to be a relationship between extracurricular activities (sports, artistic and musical) and the acquisition of socioemotional skills (57).

In a study with physical education teachers (64) the influence of socioemotional skills for successful professional performance of physical education teachers and sports coaches in the educational system is tested.

If the emotional intelligence factors are taken into account, there is evidence of improved emotional attention in boys who exercise and have strong social skills; better emotional clarity in girls who exercise and have strong social skills; and better emotional repair in girls younger than 13 who exercise, have good academic records, and have strong social skills.

Taking into account all of the above, the objective of the present research is to produce new knowledge on the use of socioemotional competencies, as a key dimension for sustainability, of the Colombian elite considering gender, age, type of sport, sport modality and academic training, as well as the correlations between the seven SECS competencies.

2. MATERIALS AND METHOD

This study was conducted online using the Internet platform Google Forms in Spanish (<https://docs.google.com/forms/>). A correlational design with incidental convenience sampling was used.

2.1. Participants

Being a part of the Colombian Ministry of Sports' "Support to the Coldeportes Athlete of Excellence" program served as the inclusion criterion for this study. Achieving significant successes by high-performing Colombian athletes, particularly in international events and the Olympic, Paralympic, and Deaflympic Games, is the primary goal of the Coldeportes program. As a result, this program offers players technical assistance based on sports science. 334 elite athletes from Colombia were included in the total population studied. They were 27.10 ± 6.57 years old, had 3.62 ± 3.12 years spent in the program, 13.66 ± 6.37 years spent practicing their sport, and had achieved a position of 4.05 ± 3.96 in the most recent international competition. There were 178 female athletes (26.24 ± 6.25 years) and 156 male athletes (28.10 ± 6.80 years); 177 were 26 years or older (31.92 ± 5.12 years) and 157 were 25 years or younger (21.68 ± 2.59 years); 287 athletes from individual sports (26.86 ± 6.45 years) and 47 from collective sports (28.74 ± 7.16 years); 284 from Olympic sports (26.16 ± 5.66 years), and 50 from Paralympic athletes (32.46 ± 8.59 years).

The Coldeportes program classifies athletes in the following 7 categories, according to their sporting achievements: 1. "Talent" (17 years old): Gold medalist in the South American / Para-South American Championships or medalist in the South American Youth Games, or good results in the Para-American Youth Games; 2. "Junior": medalist at the World Junior or Pan American / Para Pan American Championships; 3. "Development": medalist at South American / Para South American Sports Games or Silver or Bronze medalist at Central American and Caribbean Sports Games; 4. "Promotion": Qualified for the Summer or Winter Olympic Games, or Silver or Bronze Medalist in Para/Parapan American Championships, or Medalist in Youth Olympic/Paralympic Games; 5. "Advanced": gold medalist at the Pan American/Parapan American Championships, or medalist at the World Games; 6. "Elite": 4th to 8th place at the World Championships, or 6th to 8th place in the World Ranking at the end of the season, or Gold Medalist at the Para/Parapan American Games; 7. "Altius": Summer or Winter Olympic/Paralympic Games medalist, or World Championship medalist, or 1st to 5th place in the world ranking at the end of the season.

The other main characteristics of the athletes in the sample are shown in Table 1.

Table 1. Athlete characteristics.

Variable	Category	Frequency	Percentage
Sports modality	Olympic	284	85.0
	Paralympic	50	15.0
Type of sport	Collective	47	14.1
	Individual	287	85.9
Average hours of training/week	Less than 10 hours	21	6.3
	Between 10 and 15 hours	60	18.0
	Between 15 and 20 hours	83	24.9
	Between 20 and 25 hours	76	22.8
	Between 30 and 35 hours	58	17.4
	Between 40 and 45 hours	19	5.7
	Between 45 and 50 hours	13	3.9
Program category	More than 50 hours	4	1.2
	1. Talent	28	8.4
	2. Junior	17	5.1
	3. Development	94	28.1
	4. Promotion	74	22.2
	5. Advanced	60	18.0
	6. Elite	40	12.0
	7. Altius	21	6.3

2.2. Procedure

The Sports Positioning and Leadership Directorate of the Coldeportes program sent out a link inviting people to participate in the study. Out of the 420 athletes who were integrated into the program, 334 (79.52%) answered the questionnaire. Of them, 284 (79%) from Olympic sports and 50 (81%) from Paralympic sports (358 from Olympic sports) answered. Participants in this study were able to identify themselves without providing any personal information, and participation was entirely voluntary. In accordance with the Declaration of Helsinki (2013), the athletes gave their consent before beginning the questionnaire prior to participation and the process for completing it using the aforementioned platform was explained. All procedures were approved by the Ethics Committee of the Institución Universitaria "Escuela Nacional del Deporte" of Cali (Colombia) (approval number: 17.163).

2.3. Instruments

The SECS (Spanish version) was applied (22), of great utility in the analysis of the educational context, more specifically in university education (23,63). This scale, with a Cronbach's reliability of .895, consists of 38 items grouped into seven self-report subscales, each of which measures a specific socioemotional competency. The seven socioemotional competencies are as follows: interpersonal regulation (6 items), motivation (6 items), self-awareness (5 items), conflict resolution (5 items), teamwork (5 items), emotional self-regulation (5 items) and empathy (6 items). The subject must indicate the degree of identification with the statement contained therein, on a 5-point Likert scale: not at all identified, little identified, occasionally identified, quite identified, totally identified.

2.4. Statistical Analysis

Statistical analysis was performed with the SPSS statistical package (Statistical Package for Social Sciences, version 25 for Windows, IBM Corporation, Armonk, NY, USA) and the level of significance was set at $p < 0.05$.

Next, a reliability analysis was performed to calculate the internal consistency of the questionnaires. For this purpose, Cronbach's alpha was used, with a value equal to or greater than .70 indicating good consistency (65). The McDonald omega coefficient was also calculated, which also

serves to verify the internal consistency of the variables used in the research, and according to some authors, shows evidence of greater precision. In the McDonald omega coefficient, the established range is between 0 and 1, with the highest values providing the most reliable measurements (66). However, to consider an acceptable confidence value using the omega quotient, it must be greater than .70 (67).

The analysis of the differences in the variables gender (male and female), age (25 years and younger or 26 years and older), sport modality (Olympic or Paralympic) and type of sport (individual or group) was performed using Student's t-test for independent samples. A one-way ANOVA with Bonferroni correction was used to establish comparisons according to the academic training of the athletes (basic education, vocational training or university education). Cohen's D was used to calculate the effect size. A bivariate correlation analysis was performed with Pearson's correlation coefficient to test the association between the ESEC variables.

3. RESULTS

Table 2 shows the mean values of the 7 subscales of the SECS. The internal consistency results suggest an adequate level of internal consistency, with Cronbach's alpha and McDonald's omega coefficient values above .70 for all variables, except for the "Conflict resolution" subscale which, however, presents values above .60.

Table 2. Descriptive statistics and reliability analysis.

Variables	N	Minimum	Maximum	M	SD	α	ω
Interpersonal regulation	334	1,67	5,00	3,49	,61	.81	.82
Motivation	334	2,83	5,00	4,35	,48	.75	.75
Self-awareness	334	1,40	5,00	3,82	,63	.79	.79
Conflict resolution	334	2,20	5,00	3,61	,56	.61	.63
Teamwork	334	2,60	5,00	4,23	,52	.76	.76
Emotional self-regulation	334	1,40	5,00	3,45	,61	.72	.72
Empathy	334	2,33	5,00	3,81	.55	.74	.74

M: mean, SD: standard deviation, α : Cronbach's alpha, ω : omega coefficient.

3.1. Gender

The differences found according to the gender variable (female or male), showed significant differences in the variable "Interpersonal regulation" ($p = .033$), with males ($M = 3.57$) presenting a higher mean than females ($M = 3.43$). On the other hand, in the variable "Self-awareness" ($p = .037$), males ($M = 3.90$) present a higher mean than females ($M = 3.76$). Likewise, in the variable "Conflict resolution" ($p = .018$), men ($M = 3.68$) present a higher mean than women ($M = 3.54$). In the variable "Emotional self-regulation" ($p = .001$), men ($M = 3.59$) have a higher mean than women ($M = 3.32$).

Table 3. Diferencias entre los atletas femeninos y masculinos.

Variables	Gender	N	Mean	SD	t	p Value	Effect size
Interpersonal regulation	Male	156	3,57	,62	2,146	,033*	,143
	Woman	178	3,43	,60	2,142		
Motivation	Male	156	4,36	,49	,566	,572	,030
	Female	178	4,33	,47	,564		
Self-awareness	Male	156	3,90	,591	2,091	,037*	,144
	Female	178	3,76	,66	2,108		
Conflict resolution	Male	156	3,68	,54	2,369	,018*	,144
	Woman	178	3,54	,57	2,377		
Teamwork	Man	156	4,25	,53	,746	,456	,043
	Woman	178	4,21	,51	,744		

Emotional self-regulation	Man	156	3,59	,57	4,223	,001**	,278
	Woman	178	3,32	,63	4,251		
I tieda	Male	156	3,78	,55552	-1,020	,308	-,062
	Woman	178	3,84	,55014	-1,020		

SD: standard deviation; t: t de Student; *valor p <0,05, **valor p <0,01.

3.2. Age

Significant changes were observed in the variable "Self-awareness" when taking the age variable into account (p=.001), with subjects aged 25 years or younger (= 3.70) having a higher mean t than subjects aged 26 years or older (= 3.93). On the other hand, in the variable "Emotional self-regulation" (p= .033), participants aged 25 years or younger (= 3.37) obtained a lower mean t than those aged 26 years or older (= 3.51).

Table 4. Differences among athletes between athletes aged 26 years or older and those aged 25 years or younger.

Variables	Ag	N	Mean	SD	t	p Value	Effect size
Interpersonal regulation	25 o <	157	3,52	,63	,822	,411	,055
	> 25	177	3,47	,591			
Motivation	25 o <	157	4,30	,51	-1,536	,126	-,080
	> 25	177	4,38	,45			
Self-awareness	25 o <	157	3,70	,67	-3,362	,001**	-,229
	> 25	177	3,93	,57			
Conflict resolution	25 o <	157	3,61	,53	-,046	,963	-,003
	> 25	177	3,61	,58			
Teamwork	25 o <	157	4,22	,56	-,481	,631	-,027
	> 25	177	4,24	,48			
Emotional self-regulation	25 o <	157	3,37	,63	-2,138	,033*	-,143
	> 25	177	3,51	,60			
Empathy	25 o <	157	3,79	,57	-,718	,473	-,043
	> 25	177	3,83	,54			

25 or <: subjects aged 25 years or younger, > 25: subjects aged 26 years or older; SD: standard deviation; t: Student's t; *p-value <0.05, **p-value <0.01.

3.3. Sports Modality

Considering the sport modality (individual or collective), no differences were found in any of the variables (Table 5).

Table 5. Differences between individual and collective sports.

Variables	Sports Modality	N	Mean	SD	t	p Value	Effect Size
Interpersonal regulation	Individual	287	3,49	,60	-,097	,923	-,009
	Collective	47	3,50	,69	-,088		
Motivation	Individual	287	4,35	,48	,749	,455	,057
	Collective	47	4,30	,48	,749		
Self-awareness	Individual	287	3,83	,64	,572	,568	,057
	Collective	47	3,77	,60	,601		
Conflict resolution	Individual	287	3,61	,56	,500	,618	,044
	Collective	47	3,57	,57	,498		

Teamwork	Individual	287	4,23	,53	,263	,793	,022
	Collective	47	4,21	,50	,277		
Emotional self-regulation	Individual	287	3,43	,62	-1,413	,159	-,138
	Collective	47	3,56	,56	-1,517		
Empathy	Individual	287	3,81	,55	-,190	,849	-,017
	Collective	47	3,83	,57	-,184		

SD: standard deviation; t: Student's t; *p-value <0.05, **p-value <0.01.

3.4. Type of Sport

Regarding the sport (Olympic or Paralympic), there were notable variations in the "Motivation" variable ($p = .007$), with Paralympic athletes ($M = 4.32$) having a higher mean than Olympic athletes ($M = 4.51$). There are also significant differences in the variable "Self-awareness" ($p = .006$), with Paralympic athletes ($M = 4.05$) having a higher mean than Olympic athletes ($M = 3.78$). Likewise, there are significant differences in the variable "Teamwork" ($p = .038$), with Paralympic athletes ($M = 4.37$) having a higher mean than Olympic athletes ($M = 4.21$). There are also significant differences in the variable "Emotional self-regulation" ($p = .005$), with Paralympic athletes ($M = 3.67$) having a higher mean than Olympic athletes ($M = 3.41$).

Table 6. Differences between Olympic and Paralympic sports.

Variables	Type of sport	N	Mean	SD	t	p Value	Effect size
Interpersonal regulation	Olympic	284	3,48	,59	-1,006	,315	-,094
	Paralympic	50	3,57	,71			
Motivation	Olympic	284	4,32	,48	-2,696	,007**	-,196
	Paralympic	50	4,51	,45			
Self-awareness	Olympic	284	3,78	,65	-2,742	,006**	-,263
	Paralympic	50	4,05	,48			
Conflict resolution	Olympic	284	3,58	,54	-1,728	,085	-,147
	Paralympic	50	3,73	,62			
Emotional self-regulation	Olympic	284	4,21	,51	-2,085	,038*	-,166
	Paralympic	50	4,37	,55			
Empathy	Olympic	284	3,41	,62	-2,837	,005**	-,265
	Paralympic	50	3,67	,54			

SD: standard deviation; ES: effect size; t: Student's t; *p-value <0.05, **p-value <0.01.

3.5. Academic Background

When comparing the variables according to the different levels of training, significant differences were observed in the variable "Motivation" ($p = .020$), with athletes with a basic level of training ($M = 4.29$) having a lower mean than those with university training ($M = 4.43$). Similarly, significant differences were observed in the variable "Self-awareness" ($p = .001$), with athletes with a basic level of training ($M = 3.73$) having a lower mean than those with university training ($M = 4.04$). On the other hand, the results showed significant differences in "Teamwork" ($p = .018$) with athletes with a basic level having a lower mean ($M = 4.18$) than athletes with professional training ($M = 4.44$). Finally, significant differences were observed in the variable "Empathy" ($p = .049$), with athletes with a basic level of studies ($M = 3.78$) having a lower mean than subjects with professional training ($M = 4.06$) (Table 7).

Table 7. Differences according to educational levels.

Variables	N	Mean	SD	CI (95%)		Min	Max	F	p-Value	Bonferroni	
				Lower limit	Upper limit						
Interpersonal regulation	BE	213	3,49	,62	3,40	3,57	1,67	5,00	1,011	365	No differences
	VT	26	3,65	,64	3,39	3,91	2,83	5,00			
	UT	95	3,46	,57	3,35	3,58	2,17	5,00			
	Total	334	3,49	,61	3,43	3,56	1,67	5,00			
Motivation	BE	213	4,29	,49	4,22	4,36	2,83	5,00	3,933	,020*	1-3=,049
	VT	26	4,47	,46	4,29	4,66	3,50	5,00			
	UT	95	4,43	,43	4,34	4,52	3,33	5,00			
	Total	334	4,35	,48	4,29	4,40	2,83	5,00			
Self-awareness	BE	213	3,73	,63	3,64	3,81	1,40	5,00	8,641	,001**	1-3=,001
	VT	26	3,84	,68	3,56	4,11	2,00	5,00			
	UT	95	4,04	,55	3,93	4,15	2,80	5,00			
	Total	334	3,82	,63	3,76	3,89	1,40	5,00			
Conflict resolution	BE	213	3,56	,55	3,48	3,63	2,20	5,00	2,189	114	No differences
	VT	26	3,73	,53	3,51	3,95	2,60	4,40			
	UT	95	3,68	,57	3,56	3,79	2,60	5,00			
	Total	334	3,61	,56	3,55	3,67	2,20	5,00			
Teamwork	BE	213	4,18	,53	4,10	4,250	2,60	5,00	4,064	,018*	1-2=,045
	VT	26	4,44	,50	4,23	4,64	2,80	5,00			
	UT	95	4,30	,49	4,20	4,40	3,20	5,00			
	Total	334	4,23	,52	4,17	4,29	2,60	5,00			
Emotional self-regulation	BE	213	3,39	,62	3,31	3,47	1,60	5,00	2,468	,086	No differences
	VT	26	3,55	,70	3,27	3,84	1,40	4,60			
	UT	95	3,54	,57	3,43	3,66	2,20	4,80			
	Total	334	3,45	,61	3,38	3,51	1,40	5,00			
Empathy	BE	213	3,78	,56	3,71	3,86	2,33	5,00	3,045	,049*	1-2=,042
	VT	26	4,06	,45	3,88	4,25	3,33	5,00			
	UT	95	3,81	,54	3,70	3,92	2,67	5,00			
	Total	334	3,81	,55	3,75	3,87	2,33	5,00			

BE; basic education, VT: vocational training, UT: university education; CI: confidence interval; F: variation between sample means; * p -value $<0,05$, ** p -value $<0,01$.

3.6. Correlational Analysis

The links between the seven SECS scale dimensions—Interpersonal Regulation, Motivation, Self-awareness, Conflict Resolution, Teamwork, Emotional Self-regulation, and Empathy—are displayed in Table 8. A statistically significant P -value of 0.001 is shown for each dimension.

Table 8. Correlation analysis between variables.

Variables	IR	M	S	CR	TE	ES	E
Interpersonal regulation	r	1					
Motivation	r	,464**	1				

Self-awareness	r	,411**	,551**	1				
Conflict resolution	r	,639**	,399**	,390**	1			
Teamwork	r	,571**	,607**	,412**	,513**	1		
Emotional self-regulation	r	,344**	,449**	,494**	,380**	,343**	1	
Empathy	r	,651**	,419**	,377**	,524**	,517**	,268**	1

Sig. =.0001 in all cases. Legend: IR= Interpersonal regulation; M=Motivation; S= Self-awareness; CR= Conflict resolution; TE= Teamwork; ES= Emotional self-regulation; E= Empathy.

4. DISCUSSION

The objective of this study was to analyze the use of socioemotional competencies, as a key dimension for sustainability, by Colombian elite athletes considering gender, age, type of sport, sport modality and academic background, as well as the correlations among the seven SECS competencies. The results showed significant differences in a significant number of the dependent variables studied, as well as strong positive correlations among the seven SECS socioemotional competencies.

4.1. Gender

Gender matters because conceptions and ideals about bodies, behaviors, and belonging influence and generate forms of agency, legitimacy, authority, and access to material and discursive resources (68). One of the 17 Sustainable Development Goals (SDGs) emphasizes gender equality, particularly the equality of men and women (69), while the other SDGs contain a gender dimension that must not be overlooked (70). In relation to the above, the differences found according to gender (male or female) showed significant differences in "Interpersonal regulation", "Self-awareness", "Conflict resolution" and "Emotional self-regulation", with males presenting a higher mean than females in all cases. Some studies have shown gender differences in some of the analyzed variables. For instance, the socioemotional skills of the teenagers in Portela-Pino et al. (5) were strong, emphasizing self-awareness, relationship management, and decision making. Self-management and social awareness received the lowest marks. Boys exhibited better self-management, while girls demonstrated better relationship management.

A study conducted with young Chinese adolescents, using the Interpersonal Regulation Questionnaire (IRQ), a scale developed to measure the tendency and efficacy of intrinsic regulation of interpersonal emotions through positive and negative affective states, showed, contrary to our study, higher competence in the variable "Interpersonal Regulation", with females reporting higher negative efficacy and positive tendency than males, while no gender variations were found for the remaining two factors (71). In relation to the variable "Self-awareness", the results of this study go in the same direction as others conducted in other contexts. Thus, for example, a study conducted with high school students showed that with regard to readability only boys showed a significant correlation between self-awareness and performance (72).

The fact that the evils presented in the study higher average than women in "Conflict Resolution" does not seem to agree with the fact of how women and men react to confrontations, reporting the scientific literature that in general women are less belligerent than men, as a result of the moral dilemmas they face and, among other reasons, because they prioritize the care of others and mutually agreed solutions, while men give greater importance to the application of justice, sometimes occurring that women who have the desire to practice competitive sports and remain "feminine" face social isolation and ridicule, so that, by choosing an active life, they move away from the traditional expectations of the feminine role (73). However, these results may be influenced by sociocultural aspects of the country (Colombia) (74).

The results for "Emotional Self-Regulation", with males presenting a higher mean than females, are in line with studies, such as the one conducted to examine self-regulation with elite and non-elite

male and female competitive swimmers, in which all males presented more frequently the Problem Identification component than all females (75). Similarly, a study conducted on college students revealed that those who participated in physical activity scored higher on all aspects of self-regulation and lower on all aspects of procrastination, except for learning from mistakes (76).

4.2. Age

The environmental attitudes of most age groups are the same (concerns, values, commitments, and attitudes toward environmental conduct), or they represent varying degrees of pro-environmental behavior (77). When age was taken into account, however, substantial differences were discovered in the "Self-awareness" variable, with respondents 25 years of age or younger having a higher mean than subjects 26 years of age or older. In this way, whereas private self-awareness first manifests as a unique characteristic in adolescence, it is more likely to become noticeable and indicative of social conduct in maturity (78).

On the other hand, in the variable "Emotional self-regulation", participants aged 25 years or younger obtained a lower mean than those aged 26 years or older. These results are in line with the results of other studies that have shown that people who tend to report difficulties in emotion regulation are younger, with more maladaptive, reckless, and careless behaviors (79). In affinity with these findings, a study conducted with Olympic and Paralympic athletes during the COVID-19 lock-in revealed that the under-26 group felt they had less control over all aspects of life in the past month than the 26-year-old group; also, the under-26 athletes more often felt angry/angry about events happening to them that were out of their control, and had a greater sense that problems were piling up without being able to overcome them than the 26 and older group (80).

4.3. Sports Modality

None of the factors differed when the sport modality (individual or collective) was taken into account. Significant differences were found in various socioemotional competences variables among Olympic and Paralympic athletes during the COVID-19 pandemic study. Specifically, athletes in individual sports felt more capable of handling personal issues in the past month compared to those in collective sports, and athletes in collective sports were more concerned about being unable to compete in sports due to confinement (80). Another study also carried out with Olympic and Paralympic athletes during the COVID-19 lock-in showed that individual athletes obtain higher scores than those practicing collective sports (81). We must keep in mind that empathy involves other skills such as communication understood as the ability to listen reflectively or accessibility such as comfort and personal connection (82).

4.4. Type of Sport

The factors "Motivation", "Self-awareness", "Teamwork", and "Emotional self-regulation" showed substantial differences depending on the sport (Olympic or Paralympic), with Paralympic competitors consistently having a higher mean than Olympic athletes. The only differences found in the personality variables (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experiences) between Olympic and Paralympic athletes during the COVID-19 lock-in pertain to the Paralympic athletes' higher scores in Consciousness, Self-awareness, and Self-regulation (81). However, another study carried out during the COVID-19 pandemic revealed that Paralympic athletes felt less alone than Olympic athletes and were better equipped to handle personal issues. They also believed that life events went well more frequently than Olympian competitors (80). All of the above results seem to confirm that Paralympic athletes have greater socioemotional skills than Olympic athletes.

4.5. Academic Background

According to a study, employees of all educational levels hold the same perspective on workplace social sustainability (77). When comparing the variables according to the different

educational levels (basic education, vocational training or university education), significant differences were observed in the variables "Motivation", "Self-awareness", "Teamwork" and "Empathy", with university-educated athletes having a higher mean in all cases than subjects with a basic educational level. These findings appear to indicate that scores in a considerable range of socioemotional abilities are positively correlated with higher educational attainment. According to a study done on Olympic and Paralympic athletes during the COVID-19 confinement, athletes with professional training score lower on the kindness factor than athletes with a basic or university education; on the other hand, the results show that the group with a basic education scored higher on psychological inflexibility than the other groups (81). A different study done during the COVID-19 epidemic with Olympians and Paralympians revealed that athletes with less education missed out on socializing with other athletes more than those with a college degree (80,83).

4.6. Correlational Analysis

The seven subscales of the SECS questionnaire—interpersonal regulation, motivation, self-awareness, conflict resolution, teamwork, emotional self-regulation, and empathy—show strong correlations with each other and with the socioemotional dimensions examined in this study. These correlations are both significant and positive.

5. CONCLUSIONS

This article analyzed the socioemotional competencies, as a key dimension for sustainability, of Colombian elite athletes according to gender, age, type of sport, sport modality and academic background, as well as the correlations among the seven SECS competencies. The results showed that men had higher levels of interpersonal regulation, self-awareness, conflict resolution and emotional self-regulation than women. Athletes aged 25 years or younger had higher self-awareness than subjects aged 26 years or older. Athletes in individual sports did not show differences in any of the variables. Paralympic athletes presented higher levels of motivation, self-awareness, teamwork and emotional self-regulation than Olympic athletes. Athletes with university education presented higher values of motivation, self-awareness, teamwork and empathy than subjects with basic education. Finally, all the values of the socioemotional competencies correlated positively with each other.

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