Friendship and Socio-Emotional Skills in 3rd / 4th Year Students in Portuguese Basic Education

Ernesto Candeias Martins Martins[1]

1 Instituto Politécnico de Castelo Branco

Abstract

We carried out quantitative research (descriptive, exploratory, transversal, explanatory) analyzing interpersonal/social friendship relationships (acceptance/refusal) and the mastery of socio-emotional skills in four classes with 3rd and 4th year students of basic education (sample N=91 students), in a School Group in Castelo Branco in Portugal, in the Pre-COVID period (November 2019), not being able to carry out the intervention of an Emotional Intelligence Development Program in these study subjects. We investigated the significant differences between the social friendship relationships (sociometric friendship test) of students in the $3^{rd}/4^{th}$ year of basic education and the analysis of the results obtained by the Emotional Skills Questionnaire. The study was guided by the following objectives: analyzing the acceptance/rejection of the relationship of $3^{rd}/4^{th}$ year students from the four basic education classes; verify the significant differences in friendship relationships between $3^{rd}/4^{th}$ year students by gender; know the differences between $3^{rd}/4^{th}$ year students by class in emotional skills; Determine the socio-emotional skills by gender of $3^{rd}/4^{th}$ year students by class. The results obtained confirmed that certain student behaviors in the group/class constitute an indicator of effective and valued social skills in this socialization context.

Ernesto Candeias Martins

Polytechnique Institute of Castelo Branco/Portugal;

CeiED of Lusophony University of Humanities and Technologies

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1. Introduction

In this century, there has been a lot of discussion about the need for emotional education in schools, since for centuries

the school has been considered a place for cognitive development, suppressing the learning of socio-emotional skills in the formal curriculum. Various studies on emotional intelligence (EI) and social and emotional skills have emerged since the 1990s, with Gardner's *'Multiple Intelligences'* theory and studies by Mayer and Salovey (1990, 1997). Thus, emotion is the way in which children express themselves, opening them up to the acquisition of language, in other words, it provides them with an (inter) communication function that will be fundamental in the development of symbolic activity (D'Amico & Geraci, 2023; Bueno, 2021).

The problem of our theme arises from the need to analyze friendship relationships, coexistence relationships of students in the school context. This purpose follows the current scientific interest in emotional education, the development of EI and/or emotional skills in the school context. That's why we want, on the one hand, to know the importance of friendship and interpersonal relationships in Portuguese primary school students and, on the other hand, the benefits of teaching emotions, developing EI and emotional skills at school. In fact, our purpose is part of the objectives of the Cross-Border Program for the Development of Emotional Intelligence - Protocol between the Polytechnic Institute of Castelo Branco/Portugal and the University of Extremadura/Faculty of Education of Badajoz/Spain, which took place between 2012-13 and 2017-18, to deepen the way in which students relate and live with each other, know, control and manage their emotions and those of their peers and develop EI.

Our problem was to see whether or not there were significant differences between the interpersonal or social relationships of 3rd/4th grade students from four classes in the 1st Cycle of Basic Education (1st CBE) and the results of their socio-emotional skills. The research focus was anchored in the following objectives: To analyze the acceptance and rejection of the relationship of 3rd/4th grade 1st CBE students using the Sociometric Friendship Test; To verify the significant differences in the relationship (interpersonal relationships) of friendship between students, variables of years of schooling and gender, in the results of the Sociometric Friendship Test; To know the differences of 3rd/4th grade 1st CBE students in the Emotional Skills Questionnaire; To determine the socio-emotional skills by gender of 3rd/4th grade 1st CBE students in the ESQ.

In addition to analyzing the concepts of 'emotion', emotional education, EI and emotional skills and/or competencies, supported by the respective theories of psychology and neurosciences of emotions, we reviewed scientific research on the topic addressed, essentially articles published between 2018 to 2023, which described or analyzed this dimension of literature in the school context. In our research, we found many Spanish, Portuguese (Brazil and Portugal) and US articles that served us as a theoretical-practical framework and supported the objectives of the present study.

Educating emotions plays a fundamental role in communication and interpersonal relationships, knowing that emotions lack a functional process, as they contribute to the development of attachment and human communication, as well as to motivation and the organization of human behaviors (Bisquerra Alzina & Mateo, 2019; Bisquerra Alzina & López Cassà, 2021). The emotional part constitutes the category of mental operations, which include motivation, cognition and consciousness (Bisquerra Alzina, 2018). According to Salovey and Mayer (1997), each of these operations is different, since motivation is responsible for carrying out simple acts, such as survival and reproduction, and cognition allows us to learn from our surroundings, such as the ability to solve problems and conflicts. Thus, emotion is not governed by time,

but rather tries to respond to external changes in the relationship between the individual and the environment. According to Damásio (2018) each emotion organizes several basic behavioral responses in this relationship, which means that the subject must know and manage their emotions and those of others, as these govern daily (school) life and are with us, being influenced by the environment in which we are inserted.

We have a mind that thinks and a mind that feels, and together they interact and develop. School tests have been carried out to find out and assess children's emotional understanding, which measure emotional understanding in the recognition of their (interpersonal) emotions, their mental state, the way they regulate and differentiate these emotions, facial and body expressions, etc. (Mayer; Caruso & Salovey, 2016; Rivers et al., 2020). We know that the frequency with which certain behaviors and (interpersonal) relationships are emitted by students in a group/class, in a school context, tend to constitute an indicator for social and emotional skills, which we will value in this study. The process of acceptance and rejection of students with their peers are decisive factors for their academic, moral, affective-emotional, and personal development, and the integration of relationships increases motivation to learn (Martins, 2021; Villegas & Rojas, 2021).

The research carried out, with a quantitative methodology, is descriptive, exploratory, cross-sectional and explanatory as it aims to verify the correlations of acceptance and refusal in interpersonal relationships of friendship and in the domain of socio-emotional skills among students in the 3rd/4th year of the 1st Cycle of Basic Education, in a School Group in Castelo Branco, in the Pre-COVID period, in November 2019, in the Pre-Test phase of the application of an Emotional Intelligence Development Program (EIDP), which was not applied due to the epidemic. We intend to investigate and analyze friendship relationships and emotional skills (self-concept) in students, through the application of the Sociometric Friendship Test (SFT) and the Emotional Skills Questionnaire (ESQ), in 3rd/4th grade students.

The manuscript is methodologically structured in four points suited to the purposes of the problem, which are: first point a theoretical-conceptual framework of the theme addressing emotions and emotional education, the development of emotional intelligence in school and the social relationships of students in the group/class; the second point explains the empirical methodology, referring to the study hypotheses, the sample (N=91 of 3rd/4th grade students), the data collection techniques and/or instruments (SFT and ESQ, documentary, natural and participant observation - record notes) and the legal and ethical procedures and application; the third point is dedicated to the treatment and analysis of the results obtained in the SFT and ESQ in the 3rd/4th grade students in four study classes.

2. Literature Review: Theoretical and conceptual framework

The theoretical-conceptual framework and literature updated in recent years (Barbosa, 2023; D'Amico & Geraci,2023; Fernández Berrocal et al., 2022; Motta & Romani, 2019; Solé, 2020) on emotions (Damásio, 2018; Bisquerra Alzina, 2028; Bueno, 2021) and concept of EI (Goleman, 2003; Mayer & Salovey, 1990, 1997; Mayer; Caruso & Salovey, 2016; Puertas et al., 2020; Rivers et al., 2020) and emotional competencies (Portella; Alvariñas & Pino, 2021). We took into account new research trends on emotions and well-being in health (Bisquerra Alzina & López Cassà, 2021; Bisquerra Alzina & Rebolledo, 2021), emotional education (EE) at school (Alonso-Ferres; Berrocal de la Luna & Jiménez, 2018; López-Cassà

& Garcia-Navarro, 2020; Rubio, 2023; Valenzuela-Santoyo & Portillo, 2018; Villegas & Rojas, 2021) and, in particular EE, the development of EI and emotional skills in teaching basic Portuguese (Martins, 2021; Silva, 2022) and the application of the sociometric friendship test in the classroom in Portuguese and Spanish teaching (Merchán & González-Hermosell, 2012; Sánchez, 2021).

There are many emotional and behavioral issues that students manifest in school performance situations with implications for academic performance and the socio-educational climate of the class (Alonso-Ferres; Berrocal de Luna; Jiménez-Sánchez, 2018; Rubio, 2023; Silva, 2022; Villegas & Rojas, 2021). Students learn when their interests and motivations are considered, carrying out enjoyable activities with an emotional state that directly involves their socio-emotional skills (Barbosa, 2023). It is not just the cognitive limitations they have, but also their emotional well-being in learning how to learn, expressing their desire to learn about knowledge and values in an inclusive environment. In the school context, learning situations bring out aspects of fear, anxiety and other emotional manifestations in students that destabilize their concentration, execution, and performance. Many of them have affective deficits or needs that cannot be reconciled with learning, so it is important to educate for emotions and/or affective-emotional behavior, since learning is related to the socio-emotional climate in which learning takes place (Motta & Romani, 2019; Valenzuela-Santoyo & Portillo, 2018).

2.1. Educating for Emotions: Emotional Education

Emotions are a multifaceted phenomenon located at the intersection between the mind and the body, and their diversity and complexity are the reason for so many different approaches and conceptual differences. Emotional systems play a fundamental role in the functioning of the human organism. Brain development itself is influenced by and, at the same time, influences emotional development (Bueno, 2021; Puertas et al., 2020). In fact, emotions are behavioral and subjective reactions, produced by information coming from the external or internal world (memory) of the individual, and accompanied by neurovegetative phenomena, in which the limbic system is an important part of the brain, which is related to the elaboration of emotional behaviors. This behavioral reaction refers to the responses conducted by the organism in situations that represent danger or, on the other hand, pleasurable stimuli (Bisquerra Alzina, 2018). These reactions always occur to an event, an external event, or the combination of internal and external stimuli, since the emotional reaction is a mechanism set in motion automatically with the aim of taking place in the shortest possible time (Bisquerra Alzina & Mateo, 2019). Emotions function as a kind of 'central organizer', and the brain circuits of emotions show the brain's plasticity and reactive and proactive capacity for transformation (Bisquerra Alzina & Rebolledo, 2021; Fernández Berrocal et al., 2022; Portela; Alvariñas & Pino, 2021; Rivers et al., 2020).

In fact, emotion is a complex state of the organism, characterized by an excitement or disturbance that determines a pre-disposition or action. There are numerous conceptual definitions of the term emotions, the result of research conducted in recent years. At the end of the last century, the term 'emotional intelligence' appeared, which led to an acceleration of studies into human 'emotions'. Emotions are therefore related to moods and feelings, but they are different concepts, although they are interrelated (Fernández-Berrocal et al., 2022). They are divided according to specificity (classification into specific families, groups, or trees of emotions); intensity, which is the strength with which we feel emotions (experience); and temporality, which refers to the duration of emotions, which can be acute (short duration) or prolonged

(longer duration). Other authors classify emotions as positive (affection, love, joy, happiness...), negative (anger, fear, sadness, jealousy...) and ambiguous, according to whether they are favorable or unfavorable in relation to certain objectives; other researchers group emotions according to the sensations and feelings that provoke them, and into primary (basic, elementary, such as fear) and secondary (derived/complex: jealousy) (Bisquerra Alzina & López Cassà, 2021; Puertas et al., 2020; Solé, 2020; Valenzuela-Santoyo & Portillo, 2018; Villegas & Rojas, 2021).

Neuroscientist A. Damasio (2018) distinguishes between three categories of emotion: background emotions, which correspond to the body's regulatory responses and contribute to general well-being or malaise; primary/basic emotions, which are generated by distinct but universal neural and chemical circuits (fear, anger, disgust, sadness, surprise, happiness, etc.); and social emotions, which integrate components of background and primary emotions and are biologically determined and socially learned (compassion, jealousy, envy, gratitude, etc.), and social emotions, which integrate components of the basic and primary emotions and are biologically determined and socially learned (compassion, jealousy, envy, gratitude, sympathy, admiration, etc.). Emotion is a psychological construct in which cognitive, physiological, expressive-motor, motivational and subjective components are involved (Fernández Berrocal & Cabello-González, 2021; Villegas & Rojas, 2021).

On the other hand, emotional education aims to equip students with behavioral, cognitive, emotional and social interaction resources and strategies, with which they can better control internal and external pressure and prevent it from translating into stress/anxiety, prevent damage and improve psychological health. When we talk about teaching and practicing emotional education, we should see it as a reference for raising self-esteem, achieving self-control of both behavior and emotions, cultivating positive thinking, and building appropriate interpersonal relationships (López-Cassà & García-Navarro, 2020). This means achieving a preventive and ameliorative function of emotional states through learning, training, and practice, to minimize negative emotions and stimulate positive ones (Bisquerra Alzina & López Cassà, 2021; Bisquerra Alzina & Rebolledo, 2021; Rivers et al., 2020).

Emotional and social education is based on values, knowing that, in a specific cultural or social context, some emotions are preferable to others. We know that emotions are the externalization of affectivity and the expression of the emotional state of any subject and, for this reason, they are visible through behavioral attitudes and enable educators to capture these expressions and know what is happening now (Rivers et al., 2020). Teachers may not well understand these perceptive manifestations, in the teaching-learning process and in relationships, and so they do not intervene in these difficulties that arise with children (López-Cassà & García-Navarro, 2020; Puertas et al., 2020).

Therefore, the objectives of emotional education involve the development of emotional skills and should be worked on sequentially, using content adapted to the educational level of the students to whom the program is aimed, whose application is beneficial for the whole group and favors the processes of reflection on one's own emotions and the emotions of others (Motta & Romani, 2019). The development of emotional skills favors school learning. Motivation is intrinsically related to controlling emotions and is essential for acquiring knowledge, skills and abilities. In addition, emotional education is justified by the purpose of education - to develop the student's whole personality (cognitive and emotional); by the educational process - which is characterized by interpersonal relationships full of emotional phenomena

and requires special attention to the influence that emotions have on learning; by self-knowledge - an important aspect of the emotional education process; the fight against school failure - which requires a preventive approach to aspects of emotional education and helps students to tackle learning with other "tools", such as motivation and self-esteem; social relationships - which are often affected by an inadequate expression of emotions or a false interpretation of non-verbal signals from others; and emotional health - justified by a close relationship between emotions and health.

2.2. Developing Emotional Intelligence at School

It was Thorndike who introduced the concept of social intelligence as the ability to understand and guide human beings and to act in human relationships. Later, Thurstone and Guilford investigated aspects of intelligence with repercussions on Gardner's theory of multiple intelligences, in such a way that intelligence came to be considered the ability to solve problems or produce valuable products in the context of the diversity of cultures (Bisquerra Alzina & Mateo, 2019). Later, Mayer and Salovey (1990) proposed the concept of EI as a social intelligence type construct that included the ability to monitor and understand the subject's own emotions and those of others, guiding thoughts, and behavior, and later established the respective EI model.

Mayer and Salovey (1997) consider EI in four branches of psychological processes, organized in levels of complexity, from the most elementary to the most complex and psychologically integrated: (a)-The perception, evaluation and expression of emotion, referring to the ability to identify emotions in oneself and in other people; (b)-emotion as a facilitator of the act of thinking, considered a possible facilitation of thinking when, for example, emotions prioritize certain ideas by directing attention to more important information; (c)- the understanding and analysis of emotions when we use emotional knowledge, referring to the ability to label emotions, to interpret the meanings they bring to interpersonal relationships, to understand complex ones and to recognize the most common transitions between them; (d)- the reflexive control of emotions to promote emotional and intellectual growth, referring to the ability to remain open to feelings, pleasant or unpleasant, managing emotion in oneself and in others by moderating negative ones and valuing pleasant ones.

According to Goleman (2003, p. 54), the EI is the ability of any person "[...] to motivate oneself and persist despite frustrations; to control impulses and postpone rewards; to regulate one's own psychological state and prevent discouragement from overwhelming one's thinking; to feel empathy and to hope". He establishes five areas of skills: Emotional self-awareness - knowledge that human beings have of themselves, including their feelings and intuition; self-awareness; Emotional control - ability/skill to manage emotions, channeling them into an appropriate manifestation for each situation; Self-motivation - directing emotions towards the pursuit of set goals; being able to put feelings at our service; Recognition of emotions in other people/empathy - recognizing emotions in others and knowing how to put oneself in their place; understanding others in order to better manage relationships; Interpersonal relationship skills as aptitude and ease of relating; associated in part with empathic ability. The first three skill areas refer to intrapersonal intelligence and the last two to interpersonal intelligence (Mayer; Caruso; Salovey, 2016; Muto & Galvani, 2023; Solé, 2020).

Interpersonal Intelligence is the ability to understand other people, what motivates them, how they work and how to

collaborate cooperatively with them. They are therefore concerned with Organization of Groups with the essential skill of leadership, which involves initiative and coordination of a group's efforts, the ability to obtain recognition of leadership from the group, spontaneous cooperation; Negotiation of Solutions with the role of mediator, preventing and resolving conflicts; Empathy - Personal Attunement as the ability, by identifying and understanding people's desires and feelings, to respond (react) appropriately in order to channel them into the common interest; Social Sensitivity as the ability to detect and identify people's feelings and motives. Intrapersonal intelligence is the ability to form a true and accurate model of oneself and use it effectively and constructively. It's the same ability directed inwards at the individual (Bisquerra Alzina, 2018; Fernández-Berrocal & Cabello-González, 2021; Motta & Romani, 2019; Valenzuela-Santoyo & Portillo, 2018).

Goleman (2003) explains that among the characteristics of EI, we find the skills that allow us, for example: to motivate ourselves in the face of frustration; to control our imp; uses and be able to postpone our sources of gratification; to regulate our mood and make sure that stress doesn't stop us from thinking; to be empathetic and maintain hope in life. Therefore, EI is currently conceptualized as social skills, understood as a set of behavioral repertoires appropriate to different situations and contexts that will contribute to socio-emotional performance (D'Amico & Geraci. 2023). It is therefore essential to look at emotional intelligence to improve and develop socio-emotional skills. To develop socio-emotional skills at school, teachers need to create the conditions to mediate learning consciously and responsibly, recognizing and acting on the multiple intelligences and different cognitive-affective styles of their students (Motta & Romani, 2019; Puertas et al., 2020; Rivers et al., 2020; Silva, 2022).

2.3. Social Relations in the School group/class

In order to participate adequately in the group, a degree of acceptance is required on the part of its members and it is common to observe that, in the classroom dynamic, some children are more accepted than others; generally those who show greater acceptance or popularity demonstrate a large number of cognitive and social skills, revealing friendly and affectionate behaviors, as well as understanding and practicing effective forms of interaction (Merchán & González-Hermosell, 2012). Children who are less accepted by their peers display a pattern of characteristic behaviors, including conflicts, disrespect for their peers, indiscipline, apathy, lack of motivation to perform at school, being the target of teasing, arguments and aggression, immaturity and reduced social and cognitive skills. These aspects are more prominent in children with attention deficit problems. This is a group of children who, as well as performing poorly at school from childhood to adulthood, are also considered ineffective in social relationships and are unable to enjoy the benefits offered by these relationships (Sánchez, 2021). Children who experience constant rejection from their peers or equals take this experience, which is considered negative for their lives, into the most diverse contexts in which they find themselves. Studies on rejection have been conclusive in stating that it predisposes not only to poor school performance, but also to conduct disorders at school, in the family and in the community (Northway; Weld, 1999).

We know that at school level, the group/class in the classroom is a social group, a force field (gestalt theory) that is different from the simple sum of the tension systems that make it up. The group/class and its educational environment form a social field that encompasses its dynamics and structure in the teaching-learning process. In fact, as a social

group, the class generates and implies emotional and interpersonal relationships as students interact and develop feelings of acceptance or rejection among themselves. This form of social interaction promotes a network of relationships based on acceptance of students, rejection of others and even indifference towards many others. Some students are important to many of their peers, have a strong social status and a sense of belonging and relationship, while others are strangers, quiet and ignored (Merchán & González-Hermosell, 2012). The group/class also attribute's role expectations to its members, as some of them are expected to be leaders, to succeed, to play positive roles, while others are followers of these leaders, with little propensity to succeed and sometimes inclined to rebellion. This pattern of relationships, which creates norms and hierarchies, highlights one or a few students who have a predominant influence, which characterizes the social-affective structure of the group/class (Sánchez, 2021)

This characterization of the socio-affective structure can be obtained by applying a Sociometric Test (Northway; Weld, 1999). Sociometry is a technique for representing the choices, preferences, or interpersonal attraction patterns of individuals in a group (sociogram). The sociometric technique applied to the classes chosen for our study considered the fact that it should only be applied when the students already know each other and have lived together for some time, as was the case with choosing the 3rd and 4th year of schooling, because they are able to express their preferences when it comes to relationships. The operational resources offered by the Sociometric Test can be spatial or numerical (Northway; Weld, 1999). The spatial features form the sociograms and the numerical features form the indices. From the sociometric structure, it has been possible to identify which individuals are the most popular, which are the most rejected, but also subgroups, coalitions, etc. One aspect related to the sociometric structure that has been the subject of particular attention is group cohesion, which is the commitment of members to conduct tasks. In highly cohesive groups, members tend to be friendly and cooperative, while in less cohesive groups they tend to function more as individuals than as group members (Sánchez, 2021). Thus, groups with high cohesion exert a greater influence on their members than those with low cohesion, particularly about the tendency to conform, i.e. to accept the opinion of the majority (Merchán & González-Hermosell, 2012).

3. Empirical methodology: Design, Methods, Sample and Procedures

We conducted an exploratory, cross-sectional, descriptive, analytical and explanatory study, using quantitative methodology, with a sample of N=91 students belonging to 4 classes of the 3rd and 4th year of the 1st CBE. We formulated the following hypotheses: H1 - 3rd/4th year students from the four 1st CBE classes who present greater emotional skills in the ESQ reveal greater acceptance in the SFT (social friendship relationships) by their peers; H2 – 3rd/4th year students who have lower socio-emotional skills in the ESQ reveal greater rejection in the SFT by their peers; H3 – There will be differences in the gender variable and the year of schooling (3rd/4th year) in students in relation to the socio-emotional skills they present in the ESQ.

3.1. Materials, Methods, and Instruments

We applied the following data collection techniques: documentary observation (class dossier to analyze student

characteristics) and natural and participant observation of classes with records of field notes; the sociometric test of friendship and the execution questionnaire on emotional skills. The instruments were subjected to the validity and reliability process. Let's see the description of each of the instruments used in the research:

- Sociometric Friendship Test (SFT). Sociometric instrument, in which students assigned a numerical classification to their classmates, depending on the friendship relationship they established with them (Merchán; González-Hermosell, 2012). In this questionnaire, answers were given taking into account a Likert scale, with five levels of responses, where 1 has the value of «I don't like him at all»; 2 has the value of «Not my friend»; 3 has the value of "I don't care if I'm a friend (I don't like or dislike it)"; 4 has the value of «He is my friend» and 5 has the value of «Very my friend».

- Emotional Skills Questionnaire (ESQ) - A 45-item instrument that seeks to verify students' emotional intelligence skills. The students had three answers: 'Never', 'Sometimes' and 'Always', presented on a Likert scale of 0, 1 and 2 points respectively. At the end, the number of points obtained was counted according to the following scale of results on the development of EI: Between 0 and 20 points - 'Very weak'; Between 21 and 35 points - 'Weak'; Between 36 and 45 points 'Satisfactory'; Between 46 and 79 points 'High'; Between 80 and 90 points 'Very high'. This instrument covered, on the basis of the theory on emotions and Emotional Intelligence, the areas of (socio) emotional skills: 'Emotional perception' (knowing one's own emotions and those of others); 'Emotional facilitation' (ability to use/feel emotions, communicating feelings and using them in one's cognitive processes); 'Emotional understanding' (understanding emotional information, combining emotions and how they evolve in interpersonal transitions - emotional meanings); 'Emotional regulation' or emotional handling by the student (ability to express feelings and handle them for oneself and for other colleagues, in order to promote their understanding).

In terms of statistical analysis, the 45 items of the ESQ were grouped into six Factors: Factor 1-'Self-awareness of emotions' (self-esteem), with 13 items (1, 7, 9, 10, 17, 21, 25, 28, 30, 35, 41, 42, 45); Factor 2 -'How do I feel', with 6 items (5, 6, 11, 20, 22, 24); Factor 3 -'Emotional self-awareness', with 10 items (2, 3, 15, 19, 27, 31, 32, 34, 36, 37,); Factor 4 -'Knowing the Emotions of Others', with 5 items (16, 23, 29, 39, 40); Factor 5 -'Emotional Skills', with 7 items (14, 18, 24, 26, 33, 38, 43); Factor 6 -'Managing Problems and Conflicts' with 4 items (4, 8, 12, 13). In the following Matrix of Factors/dimensions of the ESQ we indicate the breakdown of the 6 Factors with the respective integration of the items in the questionnaire.

Matrix of factors/dimensions in the grouping of ESQ		
Factors/dimensions	**Items (total=45 questions)**	
	1	I know myself; I know what I think, what I feel and what I do
	7	When I do things well, I am happy.
	9	I know my thoughts well; about what really interests me.
	10	I see the good in things, I am extremely optimistic.
	17	I value the good things I do.
	21	I have confidence in myself, in what I can think, do and feel.
Self-knowledge (self-esteem)	25	I have a good sense of humor.
	28	I am a no-nonsense person.

	30	I know very well what I want.
	35	I'm creative, I have original ideas.
	41	I see myself as others see me.
	42	I am responsible for the things I do.
	45	I am a decisive person; I think about things and do them when they're right.
How I feel?	5	I am a person who recognizes when I am happy, sad, or angry.
	6	I am responsible for the things I do.
	11	I can smile.
	20	I know what makes me happy and what makes me sad.
	22	I know what is most important at any given moment.
	44	I talk to myself quietly, I know what I think, what I want and how I feel.
Emotional self-awareness	2	I can be cheerful to learn, study, pass and achieve something.
	3	When things go wrong, I keep my spirits up until things get better.
	15	I am able to overcome the worries I sometimes have.
	19	There are things I do not like doing, but I have to do them, and I do them.
	27	When I get nervous about something, I can immediately calm down.
	31	I control my fears and anxieties very well.
	32	If I want to be alone, I am, and I am not scared by it.
	34	I know what my flaws are and how to change them.
	36	I know which thoughts make me feel happy, sad, angry, affectionate, distressed…
	37	When I do not get what I want, I control myself well.
Get to know the emotions of others	16	I know what the people closest to me say, what they think and feel (friends, colleagues, family…).
	23	I understand what others feel.
	29	When someone seems extremely nervous, I calm them down and reassure them.
	39	I understand the point of view of others.
	40	I know what emotions (anger, joy, fury, happiness) express the people around me.
Skills Emotional	14	When people criticize me for something I did wrong, I accept the criticism because they have reason.
	18	I can have fun, wherever I am.
	24	I have conversations with others.
	26	I learn from the mistakes I make.
	33	I like being part of a group: sports team, association or culture (music, dance, theater, social media…).
	38	I talk well with the people I interact with.
	43	I adapt to new situations, even if it is difficult for me to change my behavior.
Conflict management	4	I reach agreement with other people when I have a conflict.
	8	When others intentionally provoke me, I do not respond.
	12	When I am asked to say or do something that I do not agree with, I refuse to do it.
	13	When someone criticizes me for no reason, I defend myself by talking to them person.

The Cronbach's alpha of the ESQ was determined. We obtained an overall Alpha calculation of 0.932, which is

considered very adequate, and the instrument has good internal consistency, since the value obtained is close to 1 (Table 1). We also calculated the Cronbach's Alpha coefficient for each class (3A, 3B, 4th, 4B), which gave acceptable values of between 0.849 and 0.906 (Table 2).

Table 1: ESQ of the 45 items Cronbach's Alpha coefficient Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,932	,935	45

Table 2: Cronbach's Alpha coefficient for each class

Class	3A	3B	4A	4B
Cronbach's Alpha calculation	,906	,849	,895	,904

3.2. Sample and Participants

We constituted a sample (convenience) of N=91 students from 4 classes, two 3rd year classes (3A, 3B) and two 4th year classes (4A, 4B) of the 1st CBE of the School Group (AENACB), with F= 48.36% of the female gender and M=51.64% of the male gender, with ages varying between 7 and 10 years. About years of schooling, 49.45% of students attend the 3rd year and 50.54% of students attend the 4th year of schooling. Two students from the 3rd year classes present in the sample have special educational needs but participated in the study. Regarding the context, the school is in an urban environment in the city of Castelo Branco. There was no selection of classes or study subjects as it depended on the express willingness of the teachers in charge of each class to participate in the study. The average for each group/class was around twenty-three students.

3.3. Ethical-legal and enforcement procedures

The measuring instruments were applied after the opinion of three judges who validated their constructive content. We then established the (institutional) protocol and the (in) formal contacts with the heads of the school group and the teachers of the classes involved, explaining the objectives and techniques/methods, the ethical compliance of the research process and establishing authorization (free acceptance form) from the parents of the students in the classes.

The SPSS version 25.0 for Windows and the Sociometry Pro program were used to collect the data in matrices, analyze and tabulate the answers, the latter for drawing up the sociograms. When tabulating the answers to the SFT, tables were used in Excel 2007 to record and organize the data obtained. The vertical column on the left lists the students who made their choices. The top row of the table shows the names of the students who were chosen. At the bottom of the table is the total score for each student, as well as the average for each student, for the class and the standard deviation. In the next stage, the organization of the sociogram, which is the graphical representation of the sociometric tabulation, we proceeded to order the data obtained in pictorial form. The sociograms allow us to better visualize the structure of each class and the relationships between the students (Northway & Weld, 1999; Sánchez, 2021).

About the ESQ, after analyzing the 45 items, we proceeded to group them into the respective factors. Next, we collected the data from the students' responses in each class and grouped them into the respective factors. We also calculated the means and standard deviations for students and classes, year of schooling and gender.

4. Data Analysis: Processing of SFT and ESQ - results

The group/class in the classroom is a social group that implies socio-emotional and/or interpersonal relationships that generate empathy. The interaction between students produces feelings of acceptance or rejection, creating hierarchies of prestige that constitute the socio-affective structure of the group/class. The relationships of acceptance and rejection established between students and their peers' function as an exercise for their social adaptation in future adult life. Thus, social acceptance and popularity can be predictive measures of a student's integration and relationship with their peer group, and sociometric status is a very suitable measure.

We processed and analyzed the data obtained in the SFT by sociometric networks of the four classes (3rd A, 3rd B, 4th A, 4th B) and the data in the tables, as well as the data obtained in the ESQ by tables. In the end, we made a comparison: on the one hand, the most accepted students (popular students) and the most rejected from all 4 classes; and the score obtained by the students in each factor/dimension of the ESQ relating to the development of emotional intelligence (------). In terms of the scores given and received in each class, in class 3A, these scores are clearly higher than those of the other classes. By analyzing Table 3, we can see that friendship relationships are more present in class 3A. On the other hand, we can see that class 4B is the class with the lowest average scores given and received, which could mean that the class is not very cohesive in terms of its friendship relationships (Merchán & González-Hermosell, 2012).

Table 3 – Average scores received and given by each student in the respective classes

Averages (received and given scores)	3A	3B	4A	4B
Average score received per student	4,13	3,91	3,94	3,42
Average score given per student	4,19	3,91	3,94	2,98

We can see in Table 4 that in terms of the scores given and received, overall, in the classes, the average score received by girls per class is significantly higher in two classes (3A and 4B).

Table 4 – Average score given and received by students in each class with gender variable.

Average scores by gender		3A	3B	4A	4B
Average score given by students in each class	Gender male	4,28	3,8	3,95	3,4
	Gender female	3,94	4,05	3,93	2,66
Average score received by students in each class	Gender male	3,89	3,81	4,01	3,31
	Gender female	4,46	4,02	3,87	3,5

It is important to check whether there is acceptance and rejection in the classes, to identify gender and whether there is more than one leader and more than one leader per gender. We found that, in each of the four classes, there is a student who receives a higher score from his classmates, i.e. has greater acceptance in the class (Table 5.1). There are no significant differences between scores and gender, as both boys and girls score highly and there are no major discrepancies between classes.

Table 5.1 – Scores received by students in each class (Acceptance).

Gender Variable	3A	3B	4A	4B
Male gender	104	87	110	76
Female gender	114	83	104	81

Class rejection, like acceptance, is related to the score obtained by the students. Table 5.2 shows the minimum scores obtained by both boys and girls in each class. We can see that, in three of the classes in the sample, there is a higher level of rejection in the male gender than in the female gender. It should also be noted that, in class 3A, the student with the highest level of rejection receives socio-educational support, despite not being listed as a student with Special Educational Needs in the sample. In this respect, it should be noted that the two students with Special Educational Needs are included in the 3rd year classes and, according to their scores, do not show levels of rejection.

Table 5.2 – Scores received by students in each class (Rejection).

Gender Variable	3A	3B	4A	4B
Male gender	85	73	64	41
Female gender	77	45	54	50

We tried to understand whether the students who are most accepted by the class are also those who give high scores to their classmates. In class 3A, the most accepted girl gives high scores to her classmates, but the most accepted boy does not reciprocate positively, as he gives a total of 87 points (below the class average) and considers that two students in the class are not his friends, and also that a considerable number of classmates are indifferent to him. In class 3B, both the student with the most acceptance and the student with the most acceptance in the class recorded high scores (of 4 and 5)

in the points given and received, meaning that in this class the most accepted students also accept their classmates.

Regarding the 4th grade classes, specifically in class 4A, the score given by the most accepted student in the class is generally low average, and he considers 3 classmates not to be his friends. In class 4 B, the most accepted pupil in the class gives and receives a high score. In the case of the most accepted boy in the class, in addition to receiving two low scores (1 and 2), he considers seven classmates not to be his friends. Thus, for this class, the male leader is the student with the highest number of mutual of 4 and 5 (9), but with the lowest score received from classmates, compared to the student mentioned above (73 points).

We found that, in most of the four classes, rejected students receive a high number of low scores (out of 1 and 2) from their classmates, however, the most rejected students give high scores to their classmates. From this we can conclude that these students have a low perception of their own rejection in the class and that peers, at these ages, try to use their emotional skills to avoid strongly expressing their rejection to these peers. We also found that in three classes, an average of 10% of the students in each class exchanged opposite scores (from 1 to 4; from 2 to 5; from 1 to 5) and, from this data, it can be deduced that there are students who want to be 'friends' with other, more popular peers, but these do not grant them affective openness in their circle of friends. The SFT sociogram made it possible to understand the social structure and dynamics to give teachers the opportunity to implement pedagogical practices that mediate the process of knowledge construction (Merchán & González-Hermosell, 2012; Northway & Weld, 1999; Sánchez, 2021).

Regarding the ESQ, it is necessary to ascertain the differences between each category by class, year of schooling and gender, as well as highlighting the strongest and weakest categories at these ages. The 3rd A class recorded the highest averages per student in all the emotional intelligence categories analyzed in the ESQ (Table 6). It is worth noting that it was also this 3rd A class that showed the strongest socio-affective and friendship structure among their peers. Hence, the existence of social and emotional skills in this class could be one of the causes of its strong cohesion in terms of affective relationships (friendship), stemming from previous years (Alonso-Ferres; Berrocal de la Luna & Jiménez-Sánchez, 2018; Martins, 2021; Motta & Romani, 2019).

Table 6 - Averages per student in each class In the ESQ factors/dimensions.

Factors or Dimensions	3A	3B	4 A	4B
Factor 1	1,71	1,75	1,37	1,52
Factor 2	1,78	1,88	1,34	1,65
Factor 3	1,62	1,7	1,3	1,55
Factor 4	1,64	1,63	1,33	1,52
Factor 5	1,71	1,84	1,38	1,62
Factor 6	1,6	1,46	1,06	1,04
Highest scoring factor	Factor 2	Factor 2	Factor 5	Factor 2
Lowest scoring factor	Factor 6	Factor 6	Factor 6	Factor 6

In fact, a relevant factor for group cohesion, and more broadly for the sociometric index presented by an individual, is their social and emotional skills. Students characterized as rejected in their sociometric status (more likely to have social relationship problems, be shy, quiet), are considered, according to the literature, to be prone to a training program in social and emotional skills (empathy). At the same time, the analysis of acceptance and rejection among peers using the sociometric technique does not provide sufficient indications of the behaviors to be developed. Therefore, the head teacher's task would be to identify these behaviors and then intervene with these students so that they become more sociable and friendlier, with pro-social behaviors and social competence, which brings us back to the literature on social skills (Muto & Galvani, 2023).

The factor/dimension of the ESQ with the lowest values is Factor 6, which corresponds to the ability of students to identify and seek appropriate solutions to conflict situations or less good situations. In fact, this factor was the least present in all the classes in the sample, which implies, according to the literature, that conflict management is one of the least developed skills at these ages, and that it is up to the teacher to mediate and resolve these cases. In three of the four classes, the skill with the highest average scores per student was Factor 2, which corresponds to recognizing and identifying emotions at any given moment.

These data lead to the conclusion that the sample under study, at these ages, recognizes emotions and knows how to express their emotions at any given moment. In terms of the variation in averages by gender, it can be seen that category A (self-knowledge, self-esteem) has similar averages for male and female students. In Factor 2 ('how do I feel'), there are higher values for males. In Factor 3 ('Emotional self-awareness'), male students have slightly higher averages than female students. In Factor 6 ('Conflict management'), the values do not differ significantly according to the gender variable, as shown in Table 7.

Table 7 - Averages for the gender variable in each Factor/dimension by class

Factors or Dimensions	Gender Variable	3A	3B	4A	4B
Factor 1	Male gender	1,66	1,76	1,33	1,59
	Female gender	1,76	1,74	1,4	1,51
Factor 2	Male gender	1,79	1,86	1,57	1,7
	Female gender	1,77	1,9	1,5	1,61
Factor 3	Male gender	1,62	1,66	1,29	1,61
	Female gender	1,61	1,78	1,18	1,5
Factor 4	Male gender	1,63	1,57	1,3	1,56
	Female gender	1,75	1,73	1,42	1,49
Factor 5	Male gender	1,65	1,83	1,37	1,65
	Female gender	1,77	1,86	1,37	1,59
Factor 6	Male gender	1,6	1,35	1,02	1,45
	Female gender	1,6	1,63	1,02	1,36

We then analyzed the results obtained in the ESQ emotional intelligence factors by the most accepted students, as well as the results obtained in the same factors by the least accepted students in the four classes. We checked whether there was a correlation between the most accepted students and their results on the ESQ. We then built a table showing the correlations mentioned above. We calculated the percentage of the score acquired in each Factor by each student in each class. Table 8 shows the results obtained by the most accepted students or 'Acceptance' (gender variable) in the ESQ.

Table 8 – Results obtained by the students with the highest 'Acceptance' in the classes in the various ESQ factors.

Classes / Students	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
4 A – 2	100%	100%	65%	100%	86%	62,5%
4B – 15	88,4%	91,6%	88,8%	60%	78,5%	62,5%
3 A – 5	73%	83,3%	75%	60%	78,6%	75%
3B – 15	96,1%	100%	95%	100%	78,6%	75%
4 A – 14	77%	91,6%	65%	100%	79%	50%
4B – 12	96,1%	91,6%	95%	100%	100%	75%
3 A – 10	76,9%	66,6%	50%	20%	64,3%	75%
3B – 2	96,2%	83%	80%	90%	93%	87,5%

Table 8 shows that Factor 1 ('Self-knowledge, Self-esteem') is the most developed factor among male students and the most accepted by the class. In the case of females, we found that Factor 2 ('How I feel') is the most developed dimension. The factor with the lowest score for both genders is Factor 6 ('Conflict management'). In fact, managing and resolving problems or conflicts is the least present skill in all four classes.

On the other hand, we carried out the same analysis for the most rejected students in the classes and, as Table 9 shows, we found that the most developed factor in the least accepted male students was Factor 2 ('How I feel') and in the female students it was Factor 4 ('Recognizing emotions in others'). With regard to the least developed factors, in the case of male students we found that Factor 4 ('Recognizing emotions in others') was the least developed, and in the case of female students, Factor 3 ('Emotional self-awareness, empathy') was the least developed. We also noticed that the scores on the ESQ are markedly higher in the students with the highest-class acceptance, while the scores of the least accepted students on the same test are considerably lower (3875% to 3534%, respectively) (Table 9).

Table 9 – Results obtained by the students with the highest 'Rejection' in the classes in the various ESQ factors.

Classes / Students	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
3 A - 2	96%	83%	90%	100%	100%	87,5%
3B - 11	92%	100%	100%	90%	100%	87,5%
4 A - 23	58%	58,3%	25%	40%	21,4%	63%
4B - 22	69%	67%	75%	100%	71,4%	88%
3 A - 20	77%	83%	70%	70%	93%	63%
3B - 14	80,8%	91,6%	70%	50%	79%	50%
4 A - 12	57,7%	58,3%	50%	60%	57%	63%
4B - 23	84,6%	75%	95%	50%	71%	75%

In fact, leadership is a special case of social influence, i.e. the exercise of power from a certain position in the group/class structure (Rubio, 2023; Silva, 2022). The more structured and differentiated the group/class, the more formal and complex the leadership process becomes. Students with more emotional skills tend to be natural and spontaneous leaders, as they can: give expression to collective feelings and articulate them; they know how to lead the group/class towards their goals; other peers (classmates) enjoy being with them; they convey well-being and are adept at controlling their own emotions (verbal, non-verbal); they are attuned to the reactions of other classmates; they continually adjust their social performance in relation to a goal; they are true to themselves, i.e. they act according to their thoughts and not to impress or win sympathy. The social acceptance or popularity variable and individual personality traits are determining factors in

acceptance-rejection relationships (Sánchez, 2021).

It is possible to identify a student's position in the class by the nucleus of relationships formed around each one. This nucleus of relationships constitutes a small social structure and is called a social atom. In this sense, Bustos (1979) defines this atom as the set of positive or negative choices, reciprocal or not, issued or received by a person in the group in each context. The complex chains of interrelationships between atoms are called sociometric networks. The affective-emotional aspects originate the processes of attraction and/or rejection that take place between students, and this process is called 'tele', which comprises a kind of bidirectional empathy that explains the attraction or repulsion between two individuals.

One noteworthy aspect was that the negative mutuality's are only directed at one student, which shows poor handling of aggression and makes that student the sociometric star at the level of rejection in the class. By analysing the sociometric networks drawn up for each class, we found that, as is common for their age, girls, like boys, tend to set up stronger friendship relationships with their gender peers. In addition, the 3rd A and 3rd B classes have stronger cohesion in the female gender than in the male gender, as girls are more stable and have a more developed sense of relationships and a certain disposition towards acceptability (Portela; Alvariñas & Pino, 2021; Muto & Galvani, 2023). It is worth noting that the male student with the highest rejection in class 3rd B considers all the girls to be particularly good friends but gives his gender peers low scores. There is more rivalry in the boys (between them) than in the girls' group (between them) (Puertas, et al., 2020; Mayer; Caruso & Salovey, 2016).

In fact, from the analysis of the tables of points/scores awarded and received in each class, it is clear that the female students consider their same-gender classmates to be very close friends. The same goes for the boys, who consider their same-gender peers to be their friends. On the other hand, both genders give lower scores to the opposite genders, revealing that the students are empathetic when it comes to games and interests, which are considerably different, even at these ages, for gender and year of schooling (Merchán; González-Hermossell, 2012; Portela; Alvariñas & Pino, 2021).

5. Conclusions and Implications

The study determined from the results obtained in the SFT and ESQ that certain student behaviors emitted in the group/class constitute an indicator of effective and valued social skills in this socialization context. In other words, there are components of behavior that can be identified and measured. The SFT, at the level of the students' social relationships of friendship, measured in the class sociogram/diagram matrices (positive and negative nominations), the relationships of attraction or refusal, preference for interaction and de facto interactive relationships between the students, in a school context (López-Cassà & García-Navarro, 2020; Silva, 2022).The greater the relationship and interaction between students within classes, the more this social relationship is reflected in increased cohesion and changes in the sociometric structure of each class, with good averages (better in the 3rd year classes than in the 4th year). The students' choices maintained a centripetal shape within each class, demonstrating that this sociometric technique is a useful tool for analyzing group/class interactions. 'Rejection' and 'acceptance' among peers by the sociometric technique does not

provide sufficient data on their behavior, requiring greater depth of observation and socio-educational monitoring. Students who are 'rejected' or poorly accepted by their peers in the 'sociometric index' have relationship problems and need a specific social skill and EI training program (Portela; Alvariñas; Pino, 2021; Puertas et al. 2020; Rivers et al., 2020; Rubio, 2023).

In relation to the ESQ concept, since intelligence is a cognitive ability, it should be measured through the subject's performance in tasks in which they demonstrate this ability (performance measures). The results obtained in the research confirmed what the literature indicates that certain student behaviors in the group/class are an indicator of effective and valued social skills in this socialization context (Silva, 2022; Valenzuela-Santoyo & Portillo, 2018).

Suggestions for Future Research

In short, the study aimed to investigate friendship relationships and emotional skills in 1st year 1 st CBE students from four classes, which was achieved, but the aim of the study was to apply an 'EI Development Program' to these students, with two 'Experimental' classes (one from the 3rd and one from the 4th year) for this intervention (Twenty sessions). This was achieved, but the aim of the study was to apply an EI Development Program to these students, with two 'Experimental' classes (one from the 3rd and one from the 4th grades) to carry out the intervention (Twenty sessions), so that we could compare the results with the other two control classes and thus know whether or not we were increasing friendship/interpersonal relationships and socio-emotional skills. However, the Covid-19 pandemic prevented us from calculating and interpreting the effects of the EI Program on these students and classes (Martins, 2021).

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