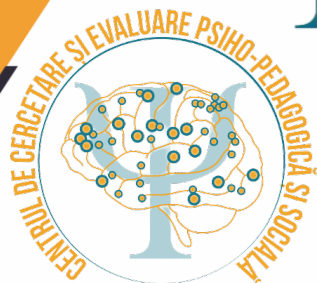




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## **Emotional intelligence among teenagers. Comparative study**

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**Abstract:** Emotional intelligence is a psychological concept with a particular importance for each of us, and studies on this topic have gained considerable momentum. However, studies that aimed at identifying differences between males and females are contradictory. This paper aims to see if there are differences between genders regarding emotional intelligence. A sample of 60 adolescents between the ages of 16 and 20 was studied. The results, like most in the literature, showed that there was no difference between genders regarding emotional intelligence. Finally, we discussed possible explanations, conclusions, and future research directions.

**Keywords:** intelligence, emotions, teenagers



## Introduction

„How did a journalistic text come to be a kind of scientific reference for millions of people and thousands of enthusiastic organizations, including multinationals, prestigious hospitals and academic centers of excellence?” wondered the famous European researcher, Fernández-Berrocal, with extensive studies in the field of emotional intelligence (Fernández-Berrocal, 2022, p.19). But what text is he talking about? It is Daniel Goleman's book, the well-known „*Emotional Intelligence*”. In the end, his conclusion boils down to the idea that our author generated numerous changes in people's thinking, he was simply the opportune man chosen by science to popularize the idea of an intelligence different from the general term used.

However, Daniel Goleman did not carry out scientific research, which is even more interesting because his ideas, even if mostly valid, are not completely original, his book representing rather a juxtaposition of studies and concepts meant to highlight the important role of emotional intelligence in everyday life, but especially in the professional one. In the specialized literature there are works from the last century that include attempts to systematize a theory about different types of intelligence, which we will deepen below.

As mentioned above that science chose D. Goleman to make known the term emotional intelligence, it also chose other psychologists, researchers or scholars to work together to form a psychology of emotional intelligence, because if you thought that until the second half of the twentieth century, no one has ever thought about the importance of emotions, of managing them, and only then, suddenly, a great psychologist came forward with this concept, called it *emotional intelligence* and he introduced it into our everyday vocabulary, well, I'll tell you, things were different. There were a lot of psychologists, sociologists and not only who contributed to the definition, elaboration, and presentation of this construct. And everything started from the classic *IQ – general intelligence*.

We have already become accustomed to the fact that in psychology the level of abstraction and complexity is extremely high. A multitude of psychologists have different opinions on the same concept, and in the case of intelligence, there is no unanimously accepted definition, even if there are a few that enjoy the approval of academics. The greatest child psychologist of the twentieth century, Jean Piaget saw intelligence as an innate skill and defined it as „*the state of equilibrium towards which all successive sensory-motor and cognitive adaptations tend, as well as all assimilation and accommodation interactions between the organism and the environment*” (J. Piaget, 2001, p.12). Théodule-Armand Ribot (apud Neveanu, 2013, p.79) insisted that intelligence is closely related to the unconscious, therefore to emotions and behavior: „*Intelligence is the unconscious activity of the spirit*”. The contemporary psychologist Robert J. Sternberg, famous American researcher on various topics of intelligence, proposes the following definition: „*Human intelligence is a quality of mind that consists of the ability to learn from experience, adapt to new situations, understand and manipulate abstract concepts, and use knowledge to advantageously control the environment.*” (Sternberg apud Fernández-Berrocal, 2022, p.31).

## 1.1 History

In the first half of the twentieth century, Edward L. Thorndike, the famous American psychologist, elaborated the *concept of Social Intelligence*, making a distinction from the general concept of intelligence (Sintion & Stevens, 2020; Roco, 2001; Fernández-Berrocal, 2022; Salovey & Mayer, 1990; Enache & Giurgiu, 2017), thus laying the foundation for a new research theme, which will grow many years later. In his view, social intelligence represents



„the ability to understand and lead men and women, boys and girls, therefore, to act wisely in human relationships" (Thorndike, 1920, *apud* Sintion & Stevens, 2020, p.24). Regarding intelligence as a general aptitude, Thorndike, concluded as a result of numerous investigation, that it is „a bio-psychological potential to process in different ways concrete forms of information with which problems can be solved" (*apud* Fernández-Berrocal, 2022, p.17).

Half a century later, in the 80s, Howard Gardner, one of the most influential contemporary intellectuals, formulated the *Theory of Multiple Intelligences*, as a critique of the classical concept of IQ - which was an innate and genetically limited skill, with no hope of further development, therefore extremely difficult to modify (Roco, 2001; Fernández-Berrocal, 2022). We will see later that it will be highlighted that *Emotional Intelligence* can be developed: „A characteristic of structural intelligence is its stability for the entire lifespan, unlike emotional intelligence, which can be formed, optimized and perfected over time" (Enache & Giurgiu, 2017, p.89).

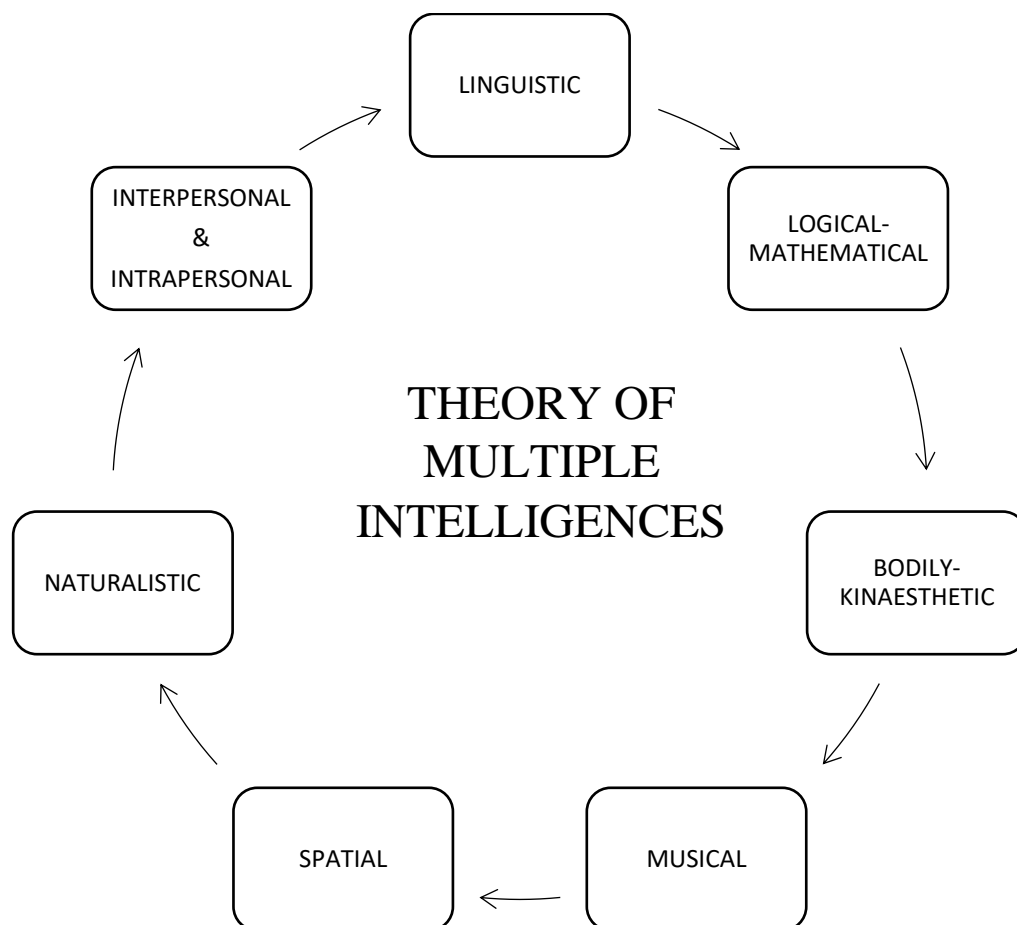


Figure 1 - Scheme of H. Gardner's Theory of Multiple Intelligences (1983), adapted from Fernández-Berrocal (2022).

According to Gardner (1983), there are at least 8 types of intelligence that everyone has, to a certain extent. These are: linguistic intelligence, logical-mathematical intelligence, body-kinesthetic intelligence, musical intelligence, spatial intelligence, natural intelligence, interpersonal and intrapersonal intelligence. The individual without clinical disorders will



develop to some extent each type of intelligence, but not all equally (Atkinson et al., 2002). In the following, we will briefly address the 8, after Gardner (1983) and Atkinson, Atkinson, Smith, Bem & Nolen-Hoeksema (2002).

**Linguistic intelligence.** It is the ability to use and understand written and oral language, to be able to express oneself effectively both in writing and in a speech, as well as a certain inclination to learn foreign languages.

**Logical-mathematical intelligence** designates that ability to use numbers, logic and mathematics to solve certain patterns of problems that arise in everyone's life.

**Body-kinesthetic intelligence.** Wondering how you manage to ride a bike, park your car, catch an object in the air or maintain your balance? This type of intelligence works on the principle of learning by doing. People who have a developed body-kinesthetic intelligence know the limits of their own body and are superior to others in terms of physical tasks, which involve broad and coordinated body movements.

**Musical intelligence.** It represents that ability to perceive sounds clearly, their pitch and rhythm, as well as the ability to compose and perform vocally. Gardner believed that this intelligence has historically been much more important than logical-mathematical intelligence, for example, because humans have practiced musical and artistic activities since the beginning of civilization (*apud* Atkinson et al., 2002). Examples of people with musical intelligence: Mozart, Beethoven, Ed Sheeran, Justin Bieber, etc.

**Spatial intelligence.** People who have such intelligence possess the ability to work with the surrounding reality. Recognizing patterns, understanding and managing large and small areas, mental projection of the previous path traveled, and good spatial orientation are abilities of spatial intelligence. Seafarers, pilots are those who have this type of highly developed intelligence.

It is possible that at first glance, **Natural intelligence** not to seem like intelligence in the true sense of the word. It involves skill in recognizing, classifying and caring for different types of plants and animals in the environment. Charles Darwin had natural intelligence.

Of all these, the last two, interpersonal and intrapersonal intelligence are precursors and come extremely close to what we call *Emotional Intelligence* today (Fernández-Berrocal, 2022).

*"Intrapersonal intelligence It is self-oriented, and those who have it know themselves quite well, can identify your feelings, goals, fears, qualities and flaws and, in the happiest circumstances, use this awareness to make important common-sense decisions"* (Gardner *apud* Fernández-Berrocal, 2022, p.18).

*"Interpersonal intelligence It serves to distinguish between people, understand their motivations, collaborate effectively with others and, if necessary, influence them"* (Gardner *apud* Fernández-Berrocal, 2022, p.18).

So, according to this theory, many psychologists understood that success in life is not entirely related to IQ, but also to Gardner's two intelligences, the interpersonal and the intrapersonal. Thus, was born emotional intelligence – EQ (Roco, 2001).

After the 90s, emotion-centered studies became extremely common in journals and researchers began to elaborate various papers on adjacent topics. *Emotional intelligence* was first introduced to the literature in 1985 by Wayne Leon Payne, an American doctoral student. He expounded the term in his doctoral thesis (Sintion & Stevens, 2020; Roco, 2001). In his view *"Emotional intelligence is a skill that involves a creative relationship with states of fear, pain and desire"* (Roco, 2001, p.139).



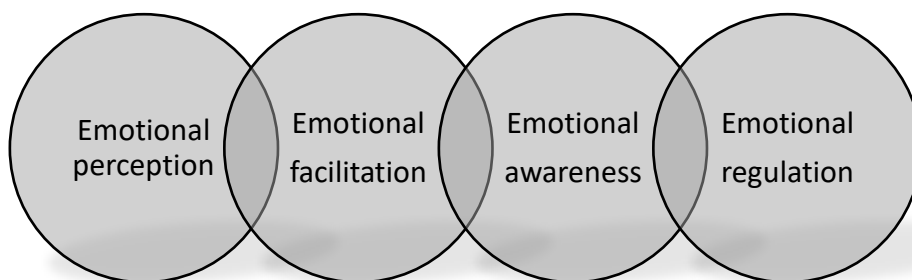
Three main directions have emerged (*models*) in the study of Emotional Intelligence: 1) the Salovey & Mayer model (1990); 2) The Reuven Bar-On model (1992); 3) The Goleman Model (1995) – *Encyclopedia of Applied Psychology* (2007 *apud* Bar-On, 2010); Roco (2001).

### 1.2 Salovey & Mayer model (1990)

In 1990, two university professors and American researchers have brought together all these skills and concepts „*advancing the hypothesis that they are part of a new set called emotional intelligence*” (Fernández-Berrocal, 2022, p.18). So, we can say that the two Americans (Peter Salovey and John Mayer) are the ones we must thank for the notion of *Emotional Intelligence*.

These two psychologists define EQ as: "*the ability to monitor one's own feelings and emotions, as well as those of others, and the ability to discriminate between them, using this information to improve one's own reasoning and actions*" (Salovey & Mayer, 1990, p.189) – this was the first definition provided by the two, and in 1997 they reverted to it and made various changes – or "*the ability to reason correctly with emotions and information related to them, as well as the ability to use emotions to improve the quality of reasoning*" (Salovey & Mayer *apud* Fernández-Berrocal, 2022, p.23).

In the following we will present in detail each of the four components of emotional intelligence, after the article by P. Salovey, J.D. Mayer and D.R. Caruso (2016), meant to bring certain changes and improvements to the model originally launched in 1990.



*Figure 2 - Salovey's Emotional Intelligence Model, Caruso & Mayer (2016)*

#### *Emotional perception*

This component involves **4 Skills**:

- a) The first is to accurately recognize one's emotions through different descriptors such as behavioral, cognitive, or physiological.
- b) The second skill involves accurately recognizing and distinguishing the emotions of others, whether by attitudes, behaviors, language, or even tone of voice.
- c) The third involves understanding and distinguishing the emotions of a context, such as a painting, a melody, etc.



- d) And the latter skill involves the ability to express emotions appropriately depending on the context.

#### *Emotional facilitation*

This component highlights the close relationship between cognition and emotion, how the latter manage to facilitate thought processes, improving information processing and problem solving. Emotional facilitation helps us empathize with others, thus managing to connect to their way of thinking.

"In contemporary psychology it is considered that any cognitive process has emotional implications, and any new emotion is linked to a cognitive content" (Enache & Giurgiu, 2017, p.87).

#### *Emotional regulation*

It is perhaps the most important and defining component of emotional intelligence (Fernández-Berrocal, 2022). In simple terms, emotional regulation means:

- 1) Successful management of both negative and positive emotions.
- 2) How we want to approach them (avoidance or openness).
- 3) Regulation of impulses, own emotional reactions in accordance with social norms.
- 4) Sensing the correctness of an emotion to context.

#### *Emotional awareness*

Suppose:

- 1) Recognizing possible cultural differences in the expression of emotions.
- 2) Affective prognosis.
- 3) Awareness of transitions from one emotion to another, generally opposite in value.
- 4) Understanding complex and mixed emotions.
- 5) Differentiating between affective mood and emotion.
- 6) Awareness of situations that can cause emotions.
- 7) Determining the antecedents, significance, and consequences of emotions
- 8) Labeling emotions and establishing relationships between them.

### **1.3 Bar-On model (1992, 1997, 2010)**

Reuven Bar-On (2010) supports his model through extensive research conducted over 25 years. His model proposes placing *Emotional Intelligence* as an integral part of positive psychology. As a clinical psychologist, he emphasizes the differentiation between the clinical field of psychology and that of positive psychology, implicitly of emotional intelligence. In the opinion of the author of this study, Reuven Bar-On's EQ model represents the most complex direction of the concept and is also the model with the most studies at its core.

The components of EQ and their grouping may seem similar to other existing models, but this one compared to Goleman's model (which we will talk about in the next chapter), has extensive research to support it. Thus, the 5 facets of *Emotional Intelligence* in Bar-On's vision (2010) are: 1. Interpersonal level; 2. Intrapersonal level; 3. Stress management/control; 4. Adaptability and 5. General Mood.

In the following we will present the table of facets, with the sub-scales of each, as well as what they measure, adapted from Bar-On (2010) and Roco (2001).



**Table 1 - Subscales of the Emotional Intelligence Inventory (EQ-I) adapted from Bar-On (2010)**

<b>INTRAPERSONAL LEVEL</b>	
<i>Respect</i>	The ability to perceive, understand and accept oneself in an appropriate way.
<i>Awareness of one's own emotions</i>	The ability to realize and understand their own emotions.
<i>Assertiveness</i>	The ability to express your emotions in a correct and constructive way.
<i>Independence</i>	The ability to be self-reliant and autonomous among emotions
<i>Self-realization</i>	The effort to achieve personal success and constantly update your own potential.
<b>INTERPERSONAL LEVEL</b>	
<i>Empathy</i>	The ability to be aware of and understand the emotions of others.
<i>Social responsibility</i>	The ability to cooperate with others and identify with the social group.
<i>Interpersonal relationships</i>	The ability to establish mutually satisfying relationships and relate appropriately to others.
<b>STRESS CONTROL</b>	
<i>Stress tolerance</i>	Managing emotions effectively and constructively.
<i>Impulse control</i>	Control emotions effectively and constructively.
<b>ADAPTABILITY</b>	
<i>Reality testing</i>	The ability to validate your feelings objectively and the ability to think detachedly.
<i>Flexibility</i>	Ability to adapt and regulate emotions.
<i>Problem solving</i>	Effective problem solving of a personal and interpersonal nature.
<b>GENERAL PROVISION</b>	
<i>Optimism</i>	The ability to see "the bright side" and be positive.
<i>Happiness</i>	Feeling content with oneself, others, and life in general.

#### **1.4. Daniel Goleman model (1995)**

Daniel Goleman holds a Ph.D. in psychology from Harvard University and a journalist for the New York Times, and in 1995 he became notorious for publishing a book on *emotional intelligence*. I propose an experiment: walk down the street and ask "Who is the inventor of *Emotional Intelligence*?"; you may be surprised to see that most individuals consider Daniel



Goleman to be the *Pioneer* of *emotional intelligence* concept. He has the merit of addressing all readers, not only researchers, psychologists or those in academia, so we can rightly say that he is the one who brought "*Emotional intelligence in people's homes*". Fernández-Berrocal believes that the success of Goleman's ideas was due to the implementation in people's minds of hope, a simple and gratifying reason for some: our performance at work or in our daily lives is not entirely related to intelligence (IQ) but rather depends on our emotional resources, on our abilities to work with them, hence by EQ (Fernández-Berrocal, 2022), a fact also highlighted by him in Goleman (2018).

Goleman's model (1995, 2001) comprises five *Ingredients*:

- i. Knowledge of one's own emotions.
- ii. The ability to control emotions.
- iii. Self-motivation ability.
- iv. Recognizing someone else's emotions.
- v. Control of relationships.

According to Roco (2001) and Fernández-Berrocal (2022), his model is based on the theories of Salovey & Mayer and Howard Gardner (a good friend of Goleman's – college friends, by the way). Subsequently, this model was revised, reformulated, and improved so that it can also be applied in the field of company management (Fernández-Berrocal, 2022) but also includes personality traits (Roco, 2001) such as: independence, self-esteem, optimism, influence on others or motivation, as well as social skills such as managing interpersonal relationships or social awareness.

Americans were extremely *affected* by this new concept, huge changes have taken place, at the level of personnel selection and human resources management (Goleman, Boyatzis & McKee, 2013).

Years later, Daniel Goleman releases another book in which he presents the latest studies in the field of emotional intelligence, which I find fascinating, so we will present below one of them (Goleman, 2018): A clinical trial led by Bar-On (also a friend of Goleman) observed patients with different brain areas affected, and researchers concluded that various components of emotional intelligence use specific parts of the brain. So:

- The right amygdala is the center of emotions and coordinates memories and emotional reactions. Patients who had lesions in this area lost the ability to understand their own emotions and were not even aware of them.
- The somatosensory cortex is another area in the right hemisphere of the brain that is essential in empathy, along with insular: so those with this injured area feel emotions at such a low intensity that it is impossible for them to understand and empathize with the emotions of others.

As a conclusion, we will quote the conclusion of Mr. Fernández-Berrocal (2022) regarding Daniel Goleman's theory of emotional intelligence: "*Goleman's model is not recognized by critics as a scientific theory due to the ambiguity and lack of precision of his statements and predictions. Perhaps the Goleman model should be interpreted as a set of descriptive data on the possibility of achieving personal and professional success by improving emotional and social potential*" (p.23)

### **1.6 How do we measure Emotional Intelligence?**

I think any psychology student who first hears about this concept instantly thinks: *But do I have emotional intelligence?* So, in the following we will present the classification of tests



that measure EQ, as well as the best known tests accepted by the academic sphere, after Fernandez-Berrocal (2022).

The three ways of assessment, or rather procedures for assessing emotional intelligence are:

- Self-assessment.
- 360-degree assessment.
- Performance tests.

#### *Self-assessment*

These types of tests are questionnaires with a limited number of items, which seek to measure different dimensions of emotional intelligence and sometimes social intelligence. This type of test is simple to administer (self-administer), but it is also easy to defraud because the results can also be influenced by how different individuals understand different questions in the test.

„Currently, 90% of published studies worldwide use these tools” (Fernandez-Berrocal, 2022, p.38).

#### *360-degree assessment*

This assessment is more complex than the previous one and takes over this one, adding something extra: the perception of others, close people, as well as colleagues or subordinates. Think that you, as the manager of a company, want to promote an employee and you want to see if he has emotional intelligence. What will be the procedure? He will be given a self-assessment test of emotional intelligence and will compare it with the perceptions of colleagues, friends, family. Thus, it will be possible to draw a clear and complete conclusion.

#### *Performance tests*

This type of test sees emotional intelligence as a skill, like general intelligence, so the person evaluated will be asked to discern emotions from various images, either of other individuals, or landscapes.

In the following, we will give examples of established tests for each of the three categories presented above.

- **Self-assessment tests:**

Emotional Quotient Inventory (EQ-i) – developed by Reuven Bar-On, on the Likert scale (1-5). It includes the dimensions presented above, in the subchapter dedicated to Bar-On.

Trait Meta Mood Scale (TMMS) – based on Salovey and Mayer's model. Individuals respond to items also on the Likert scale (1-5).

- **360-degree assessment:**

Emotional and Social Competence Inventory (ESCI) -developed by Richard Boyatzis, Daniel Goleman and Hay Group.

- **Performance tests:**

Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT and MSCEIT-YV variants) – this test comes in two variants, one for adults and one for children. The authors of this test are in its very title, so we will not repeat them.



*-Emotional intelligence test for adolescents (12-17 years) of the Botin Foundation (TIEFBA).*

Finally, the author of the present research wants to expose a Romanian self-evaluation test, consecrated, adapted on the Romanian population by Mrs. Mihaela Roco, after Bar-On's test and published in her book: *Creativity and Emotional Intelligence* (2001). This test has been used by the author both in this research and in previous research (*The relationship between emotional intelligence and depression among preadolescents*).

## **2. RESEARCH METHODOLOGY**

### **2.1 Objective**

Objective: Identify differences between girls and boys in emotional intelligence.

### **2.2 Hypothesis**

Hypothesis: It is assumed that there are differences between girls and boys in terms of emotional intelligence in a sample of adolescents (16-20 years).

### **2.3 Presentation of the group of participants**

For this research we studied a group of 60 participants, who have some unique characteristics. In terms of sex, of the 60 participants, 30 of them are male and 30 female, proportions that can be seen in the figure below, i.e. 50% boys and 50% girls. Since our goal is to identify certain differences between individuals aged 16-21 years, our group of participants has 60 participants who correspond to the mentioned range (see Table 2.1). The sampling method used was convenience sampling.

*Table 2 - Table of age frequencies*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 16	2	3,3	3,3	3,3
17	4	6,7	6,7	10,0
18	5	8,3	8,3	18,3
19	13	21,7	21,7	40,0
20	36	60,0	60,0	100,0
Total	60	100,0	100,0	

### **2.4 Experimental design and tools used**

In order to measure emotional intelligence among the subjects selected to participate in this research, we applied a specialized self-assessment questionnaire on the topic of emotional intelligence. The form is excerpted from "Creativity and Emotional Intelligence" (Roco, 2001), and was adapted by Ms Roco from Bar-On's EQ-i inventory, according to the official description of the questionnaire.

The questionnaire has been adapted electronically, with the help of Google Forms, for a much more efficient submission. It consists of 10 questions such as *how to act in the following situation*, to which the participant chooses one of the options presented (a-b-c-d). The scoring



was done according to the manual, with the help of Microsoft Excel, by adding the points of each question assigned to a certain scale. Each answer is rated with a certain score, either 0/5/20. The maximum score a subject could get is 200 points. The study took place between October 2022 and January 2023 and participants were informed of how they will be tested, what the results will be used for, but also that their identity will be absolutely anonymous and the research is used only for teaching purposes, at the Faculty of Psychology and Educational Sciences, within the Ovidius University of Constanta. The independent variable of our study is the gender of adolescents. The dependent variable of our study is represented by the results obtained from applying the questionnaire, after scoring, about the variable we are going to investigate – *emotional intelligence*.

### **2.5 Ethical norms in research**

The two ethical requirements to be respected in experiments with humans, which we have also respected and will present in the following lines (Sălceanu & Călin, 2022).

First of all, in recruiting subjects we respected everyone's wish to participate or not in the present research, so that the individual autonomy of each potential participant was not harmed. Potential participants were introduced to the basics describing the experiment and the purpose of the experiment, without in any way influencing the subject in his decision regarding participation.

Secondly, between the authors of the study and the subjects was concluded in the form of a contract signed by both parties, an informed consent that includes the description of important aspects of the research, the rights and obligations of each.

The subjects were informed that they had every right to withdraw from the experiment at any time and that they would not be harmed in any way, either physically or mentally.

The purpose of the research was clearly explained, at which point it was also highlighted that the identity of the participants is and will remain anonymous throughout the experiment, their personal data being used only by the authors of the research for the purpose of processing and presenting the results, without revealing information such as names, addresses or other private data. Participants have the right to decide what information, how and in what context it can be used, and this has been brought to your attention.

Subjects were made aware of the variables to be measured, that manipulation or deception is not a practice that will be used during testing through the applied questionnaire, and that there will be no need to allocate more than 10-15 minutes per participant to complete the form.

Because in the present study, there are also target subjects aged 16 and 17, they can be considered a vulnerable category, so parental consent was necessary, children being considered lacking autonomy and dependent on parents or legal guardians until the age of 18.

An important thing to note is that the author of the study has the role of constantly checking and tracking potential factors that may endanger research participants.

The last thing the participants were informed about would be to inform them that the present research is supervised, supported, coordinated and verified by the coordinating professor and will be used strictly as teaching material for further study in university studies. The benefits of the participants were only moral, the authors being absolutely grateful for the patience and dedication they had, thus supporting this project by providing material to study.



### 3. VERIFICATION AND INTERPRETATION OF THE WORKING HYPOTHESIS

#### 3.1 Hypothesis verification – Quantitative analysis

Hypothesis: It is assumed that there is a difference between girls and boys in emotional intelligence in a sample of adolescents.

As we have seen before, our sample consists of 30 girls (50%) and 30 boys (50%). All investigated subjects coincide with the age of adolescence, ranging from 16-20 years – see in the table below the age distribution in the sample.

*Table 3 - Table of frequencies*

Vârsta				
		Frequency	Percent	Cumulative Percent
Valid	16	2	3,3	3,3
	17	4	6,7	10,0
	18	5	8,3	18,3
	19	13	21,7	40,0
	20	36	60,0	100,0
	Total	60	100,0	100,0

Emotional intelligence environments in both boys (*Mean* = 94) and girls (*Mean* = 89.83) and since the distribution normality test revealed a non-normal distribution of scores, we applied a test for 2 independent, non-parametric samples.

*Table 4 - Means of the two samples for variable IE*

Sex	Average Raw Scores – Emotional Intelligence
Masculine	94
Feminine	89,83

For the analysis of possible differences we chose to use the Mann-Whitney U test, for a non-parametric distribution.

*Table 5-SPSS normality test*

Tests of Normality						
Sex		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk	
		Statistic	df	Sig.	Statistic	Sig.
Scor	Masculin	,176	30	,018	,945	,121
	Feminin	,192	30	,006	,953	,198

a. Lilliefors Significance Correction



Since the Mann–Whitney U test obtained a coefficient of significance ( $p=0.591$ ) greater than  $p=0.05$ , we accept the null hypothesis, our hypothesis is not confirmed.

Therefore, we cannot pronounce that there is a difference between adolescents and adolescents in terms of emot **Table 6 - U Mann-Whitney statistical test**

	Scor
Mann-Whitney U	414,000
Wilcoxon W	879,000
Z	-.538
Asymp. Sig. (2-tailed)	.591

a. Grouping Variable: Sex

### 3.2 Hypothesis verification – Qualitative analysis

Emotions involve both thoughts, attitudes, beliefs, and how we perceive and act because of them (Enache & Giurgiu, 2017). Emotional intelligence represents interpersonal differences in expressing and mastering emotions, as well as directing our actions and thoughts in the direction of carrying out actions that serve personal benefit (Roco, 2001). From this idea we understand that each person is different because the same situation involving the same emotion can be manifested differently by individuals, or the same situation can generate different emotions.

Tinca Cretu (2009, p.285) calls adolescence "*the period of storms and stress*" and Gabriela Sion (2003) talks about an overwhelming period, accompanied by unstable emotional states, often emotions having a strong extreme character, oscillating towards them. However, according to Sălceanu (2015, p. 303): "*All adolescents should begin to master the emotional skills necessary for stress management and be sensitive and effective in relating to other people*". Therefore, in adolescence emotional intelligence is fully developed. We aimed to check for differences between girls and boys (adolescents) in terms of the "*amount*" of Emotional Intelligence and our results showed that there are no differences, they are relatively similar.

The results of our study are similar to the results of research in the field and to the literature.

In terms of specialized studies, some of them shows that there are no differences between women and men/girls and boys in terms of emotional intelligence (Goleman, 2001; Mathur, Malhotra & Dube, 2005; Babu and Rath, 2007; Ahmad, Bangash, Khan, 2009; Sălceanu, 2016; Mokhlesi & Patil, 2018; Yudes, Rey & Extremera, 2021) and others show that there are differences, such as: Roco (2003), Salguero, Extremera & Fernandez-Berrocal (2012) showing that women are more emotionally intelligent than men, or Shahzad & Bagum (2012) showing that men have a higher score. The literature includes a multitude of studies, some with conflicting results, so how can we know the truth?

To answer this question, it is absolutely necessary to clarify that studies that rely on gender differences either measure emotional intelligence at the whole level (a single score) or measure the different facets of emotional intelligence, and also there may be sampling errors, etc.

When it comes to differences in EQ scores (seen as a whole) there are no differences in most studies, but if we take a closer look at studies that have measured EQ according to its



facets, we will have a surprise, or maybe we will answer the question: Are there differences between genders in terms of emotional intelligence?

We know from the study of Jausovec & Jausovec (2005) that men and women differ in brain activity while performing activities that involve working with emotions. Rotter & Rotter (1998), analyzed differences by facet and obtained that women are much more experienced at understanding other people's emotions (such as understanding emotions on a person's face or other non-verbal signals) than men. Also, according to Grossman & Wood (1993), women experience emotions much more intensely than men. Petrides & Furnham (2000) did not find differences between women and men in total score, but they did find differences in the facet *"social skills"*, according to them, *women have higher scores on this factor*.

As we saw above, women and men are different in terms of processing emotions, but how can we explain that assuming all these differences still yields the same scores when it comes to emotional intelligence? Let's say women score 40 on social skills and 10 on optimism, while men score 15 on social skills and 35 on optimism, in both groups the final score is also 50. So this is one possible explanation why there are no differences between girls and boys (adolescents) in emotional intelligence, at least in the context of our sample. Thus, in the future, we will pay attention to the evaluation of male and female people, both at the level of emotional intelligence as a total score and at the level of facets.

Sampling of convenience involves the participation in research of people close to the author of the research, so by accepting the phrase *"Birds of a feather flock together"* we can say that our sample is likely to be made up of very similar people.

### **Conclusions**

The present study was based on research by Jausovec & Jausovec (2005) showing a difference between men and women in brain activity while working with emotions, so we hypothesized that there were differences in emotional intelligence scores as well.

To get the raw scores, we applied Roco's (2001) Adult Romanian Emotional Intelligence Questionnaire, adapted from Bar-On's EQ-i.

The study took place between October 2022 and January 2023 and the participants were informed about how they will be tested, what the results will be for, but also that their identity will be absolutely anonymous and the research is used only for teaching purposes, at the Faculty of Psychology and Educational Sciences, within the Ovidius University of Constanta. Thus, it was conducted in accordance with the ethical provisions of experiments with human subjects.

After obtaining the raw data and analyzing them in the statistical program (SPSS and RStudio) the hypothesis was analyzed, where we found out that there are no differences between the sexes in terms of emotional intelligence.

Regarding the limits of this research, we can say that sampling was done according to a simple technique, that of convenience, so we cannot generalize to the entire population, although the results obtained are validated by the specialized literature. Regarding emotional intelligence, as a limit, we have measured this concept at a general level, without analyzing it in its component parts (recognition of emotions, empathy, control of emotions, etc.). Also, an important limitation of our study were the methods of measuring our variables, which did not fit into a laborious model of analysis but were rather handy and easy to apply to our subjects. Last but not least, the biggest limit of our research is the researchers' small experience in terms of research and measured variables, so maybe the interpretations of the hypotheses have not been perfectly realized.



Initially, the present study also measured social anxiety, along with the emotional intelligence already mentioned above, the main reason being the desire to achieve a possible correlation. In the end, the social anxiety variable was eliminated but still remains a research direction for the future. Also, because we have treated emotional intelligence at a general level, we will consider in the future, as a potential research direction, the study of differences between certain age categories or different social categories regarding certain components of emotional intelligence.

In closing, we will reiterate that the present study cannot be generalized to the entire population, but only to the level of our sample. However, the results of literature studies are similar to ours.

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