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“Parents’ views Questionnaire for the education of emotions in Autism Spectrum Disorder” in a Greek context and the role of ICTs

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Abstract. International research highlights the benefits of parental involvement in education [1] of children with ASD in parent behavioral training programs for children, and particular interest is the involvement of parents in socio-emotional learning programs, an area in which people with ASD, using serious serious digital games [2] and aiming for their emotional empowerment. This paper presents the results and their interpretation, as they emerged from the completion of a questionnaire regarding the views of parents' participation in an educational intervention program to strengthen the emotional intelligence of people with ASD.

Keywords. Parent Involvement, Socio-Emotional Learning, ASD

1. Introduction

The active participation of parents in the diagnostic and therapeutic process of children with ASD is considered by experts to be an important factor in the long-term education of people with ASD [3]. According to relevant literature reports, on the benefits of parental education, researchers [1] highlight the positive effects of parental behavior training programs for children with developmental disabilities, although the findings related to child communication and their socio-emotional skills as well as parent-child interactions were unclear [4].

Autism Spectrum Disorder is a lifelong developmental disorder that "prevents" people from properly understanding what they see, hear, and generally feel, resulting in serious problems in their social relationships, communication, and behavior [5] and present:

1. Difficulties in communication and language
2. The limited, stereotypical, repetitive repertoire of activities and interests
3. Behavioral interests and preoccupations prevail in the behavior
4. Quality difficulties in social understanding, and emotional reciprocity
5. Heterogeneous development of cognitive functions
6. Inconsistent processing of sensory intakes.

The findings of indicative research [6] show that the parents of people with autism want security, appropriate treatment, treatment with respect and dignity, understanding of their

feelings, support, reassurance, education, and counseling to cope with the difficulties affecting their children. who has been diagnosed with autism (education, functioning in adulthood, survival independence, etc.) as well as the effects of being diagnosed and treated for the disorder by the family community (close and wide) and the effects on siblings? [7] According to them, the need of parents for quality communication, understanding of emotions, Regular contact with suitable professionals, training, support, and counseling is great and their satisfaction helps in the cohesion of the family. The active participation of parents in the diagnostic and therapeutic process of children with developmental disorders is considered by experts to be an important factor in the long-term education of people with autism.

ICT is an important tool in the daily lives of both people with ASD and their parents. Recently, many studies have examined the use of ICT in the treatment-education of children in the autism spectrum [4] as technology is a way to easily create different situations of normal life and provide many possibilities for the educator resulting in the use of virtual environments to allows the practice with social situations that simulate real-life, improves the educational procedures via Mobiles [37-46], various ICTs applications [47-81], AI & STEM [82-95], and games [96-101]. Additionally, the combination of ICTs with theories and models of metacognition, mindfulness, meditation, and emotional intelligence cultivation [102-118] as well as with environmental factors and nutrition [34-36], accelerates and improves more over educational practices and results.

More specifically, the use of ICT in the treatment-education of children in the autism spectrum [8] is a field of research as children with ASD enjoy playing digitally as they "engage" in virtual environments that are predictable and reassuring and are classified into three main categories [4]: a) The iPods and iPads applications

b) The use of robots for children with ASD [9], [10], [11], [12]

c) The use of serious games: "Digital Educational Games (DEGs) are computer games that serve educational purposes [13] and offer new opportunities for communication/collaboration.

The education of people with ASD *in* socio-emotional learning [5], [2] through serious games, with the active participation of their parents as educators, is a question that the present work with the interpretation of the results of the questionnaire OF EMOTIONS IN AUTHENTIC SPECTRUM DISORDER » tries to give answers.

2. Autism Spectrum Disorder (ASD) - Emotional Intelligence

2.1.1 The Autism Spectrum Disorder (ASD)

ASD is a serious widespread disorder of a person's development, which accompanies the person throughout his or her life, affecting his or her perception, thinking, and behavior, and is characterized, among other things, by significant deficiencies a) in social communication and b) social interaction of the person with those around him [16], [17], [18].

It should be emphasized that children with ASD show great heterogeneity in terms of sociability disorder. Other children show a lack of motivation for interaction, which in some cases leads to the avoidance of interaction, ie they avoid touch and eye contact, while others actively seek interaction, but either has no empathy or interact in a repetitive and monotonous way. People with ASD also have a deficiency in their emotional organization resulting in difficulty communicating with those around them, with consequences for socialization difficulties and their families. [5]

2.1.2. ASD & Emotional Intelligence

Many people with ASD who have deficits in social interaction have suffered FER damage. After all, [1] defined autism as an "emotional contact disorder", emphasizing the social and emotional deficits of autism disorder and considering them as a "congenital" inability of children to interact emotionally with those around them.

Besides, the Diagnostic Criteria of individuals [16], [17], [18] point out that individuals with ASD show deficiencies in the recognition and processing of emotions: "deficits in the use of non-verbal behaviors, such as facial expression ... and "lack of social or emotional reciprocity." These difficulties in using and responding to emotions correspond to two components: a) the processing of emotions [19], [20], [21] and b) the production of an emotional state and its regulation [22].

People with ASD have a basic emotional disorder without this meaning that these people do not have a lack of emotion or difficulty in reading the feelings of others and thinking on their own, but have an emotional connection disorder in perception and thinking, difficulty in understanding, in the management of emotions and the rendering of personal meaning, they can express their emotions, however, their emotional expressions are different from the emotional expressions of children of normal development [23].

In recent years there has been interest in the way people with ASD understand and express their feelings, as it is accepted that people with ASD have significant difficulties in recognizing, understanding, and expressing emotions [23]. It has been observed that they tend to avoid human faces, and find it difficult to understand why facial features "move", and change, as a result, the inability to read emotions in the human face weakens their ability to communicate with those around them [24]. Researchers [5] point out that people with ASD can be trained in recognizing, expressing, and understanding emotions with useful educational tools such as serious games [2], actively involving their parents in their socio-emotional education.

3. AUTISM & PARENTS

3.1.1 THE ROLE OF PARENTS IN AUTISM

In recent years, diffuse developmental disorders have aroused the interest of both parents and health and education professionals and are areas of great research, clinical and social interest [25]. The research interest is focused on the parents, the family of the people with ASD, the effectiveness of the early therapeutic intervention, and the education of the parents for the education of the people with ASD. The family is a key factor in the physical and mental development of an individual as the relationship between child and family is two-way: parents influence the child and vice versa. [26]. Parents are considered "experts" on their child, they know it better than anyone, and they can provide any valuable information about their educational and therapeutic approach.

The prevailing views years ago about the emergence of autism as a parent's responsibility, about their behavior and the upbringing of their child, have now been rejected as the occurrence of autism is considered a result of organic causes and the contribution of parents in dealing with difficulties of the crucial disorder [27].

Parents are now considered the first therapists and co-therapists, [3], they provide the necessary information about the daily life of the child, his development and course, they actively participate in the treatment, support the therapeutic - educational process with a leading role in claiming their child's rights, education and support of other parents in the "difficult" struggle of the difficulties and negative emotions caused by the existence of the person with autism.

But there are also positive factors that develop those influence parents to use their potential such as cohesion between family members, cohesion between members, quality

cooperation with specialized health and education professionals, and experts in their field so that ensure the development and quality of life of their child. [28], [29]: « *Effective treatment of the needs of people with developmental disorders depends on the full involvement of parents... The relationship between them and health and education professionals is crucial to the child's development. Parents, to support the efforts of professionals, need information and clear guidance, while it is impossible for professionals to meet the needs without the valuable knowledge of parents about their child...* "[3]

3.1.2. THE ROLE OF PARENTS IN THE EDUCATIONAL PROGRAM

THE Active participation of parents in the treatment program as co-therapists is considered necessary, continuous with decisive in the effectiveness of treatment because their participation in the educational-therapeutic process of their child is considered as important as that of special educators for the best possible results.

The systematic education of parents contributes to the recovery of their lost self-confidence, to the reduction of stress to meet the multiple and difficult requirements of their parental role. [30] as there are: a) multiple chronic needs of children with ASD b) difficulties: sleep disorders, eating disorders, outbursts of anger, etc., c) difficulty of the transition to new environments, d) behavioral problems, e) the difficulty in generalizing and retaining what has been acquired (knowledge, skills, etc.).

The cooperation of parents and teachers for the design and implementation of the educational/therapeutic program is an important factor for success or vice versa as the experience and knowledge of the parents about the child in line with the educational experience of teachers develops new educational approaches [31], [32] because the effective education of the ASD person continues in his / her home, therefore the educational programs that are implemented must include all the stages parents of children with autism.

3.1.3 THE EDUCATION OF PARENTS

The education of the parents enables them to participate in the therapeutic program for their child to enhance his learning progress and improve his behavior. The means of education of parents of children with autism and the techniques used contribute to the better education of parents, having as the primary and dominant goal of their education, the development of a relationship of trust and appreciation between the educator-therapist and the parents. Also, the program is built on the individual goals of each child which are prioritized based on his needs and abilities. [3].

4. METHOD

4.1.1. "PARENTS' VIEWS QUESTIONNAIRE FOR THE EDUCATION OF EMOTIONS IN AUTISM SPECTRUM DISORDER"

This questionnaire was designed to record the views of parents of people with Autism Spectrum Disorder, regarding the emotional intelligence of people with ASD and contributes to the shaping and design of the training program to train these people in recognizing, expressing, and understanding emotions, as well as in their empowerment.

The questionnaire to record-explore the views of parents about emotion training used consists of closed-ended questions and two open-ended questions. The questionnaire was designed by the researcher and the design of the closed-ended questions was based on a five-point Likert Scale the answer options of the scale are as follows: 1 = Absolutely disagree, 2 = disagree, 3 = not sure, 4 = I agree, 5 = I strongly agree. It was completed by the eight parents

of students with ASD attending the 1st Special Primary School of Maroussi, Public School Unit of Special Education and Training (SMEAE),

4.1.2. PARENTS 'PROFILE

The sample was selected by parents of the school who participate in group counseling in the management and strengthening of their emotions and from them were selected eight parents whose children-students of the school belong to the DAF.

The participating parents are: Olga, Sofia, Xenia, Flitour, Maria, Lamprini, Kalli.

Olga, 38 years old, is a mother of 2 children with ASD and moderate Mental Retardation, a) Andreas, 13 years old, with DN = 42, and b) Makis: 10 years old and DN = 41. The family is of average financial stratification. The educational level of the family is mediocre (parents of high school graduates). They have accepted the disability of their children both themselves and the wider family environment. The children attend the afternoon at the Creative Employment Center of the Municipality where they live a program of creative activities (painting, gymnastics, music, theatrical play) and a therapeutic program with therapists: occupational therapy, speech therapy, and psychologist. The mother and grandmother are mainly engaged in educating students at home.

Sofia, 40, is the mother of 3 boys. Hercules, the 1st^{child} of the family, is 12 years and 6 months old with ASD and moderate Mental Retardation, and DN = 40. His siblings, two twin boys, are of normal development and attend the 1st Grade of a Private General Education School. Hercules' parents are highly educated and have a very good financial surface. Hercules is the favorite child of the family and has been accepted by both his parents and siblings as well as the wider family environment. Both private therapists and his parents are involved in his education.

Xenia, 36 years old, is the mother of Panagiotis, a child of 11 years and 10 months with ASD and moderate Mental Retardation, and DN = 50, and is the first child of a family of five with a low socio-economic level. The parents have a low level of education and have been diagnosed with mental retardation themselves. Panagiotis' two brothers, a girl, and a boy live together but for some months their sister lives with her father and Panagiotis's parents' best man. Panagiotis's brothers, although his sister has a formal development, and his brother is slightly mental. The grandmother has taken care of the family. Panagiotis's education is provided exclusively by the social services of the municipality where he resides.

Flutour, 42, is the mother of Leonardo, a 10-year-old and 3-month-old with ASD and moderate Mental Retardation, and DN = 50 is a child of economic immigrants from Albania. His sister is a student at the National Technical University of Athens. The educational level of the parents is mediocre, and their financial level is very good. Leonardo is the favorite child of the family, they have accepted his disability, and they treat him with excessive love. He has traveled to America for therapeutic diagnosis 2 times. His education is provided privately by therapists and mainly by his parents, his mother, and his sister.

Maria, 45 years old, mother of George, student 12 years and 1 month with ASD and moderate Mental Retardation, and DN = 48 is the 2nd^{child} of a family of four with a good financial surface and higher educational level. His brother is a high school student of formal development. George has been accepted by his family and the wider environment. His education is provided privately by therapists and mainly by the parents.

Lamprini, 42 years old, Nikos' mother, a student of 10 years and 3 months with ASD and moderate Mental Retardation, and DN = 38 is the first child of a family of four with a higher educational level and a very good financial surface. Nikos's sister is a child of normal development and attends the level of pre-infant in a private Kindergarten. Nikos's education has

been undertaken by private therapists since the age of the first diagnosis and the mother attends a Creative Employment Program (KDAP) in the Municipality where she resides. The wider family environment of the father and the father himself find it difficult to accept his uniqueness of Nikolas.

Kalli, 42 years old, mother of Maria, student of 12 years and 2 months with ASD and moderate Mental Retardation, and DN = 40. Maria is an only child. She lives with her mother and her father (her mother's second husband). Maria's biological father has rejected her and has no contact with her at all. He lives permanently in Thessaloniki and does not seek contact with her. The family loves her dearly and has accepted her. The parents are of great financial standing and have a higher education. Maria's training has been undertaken by specialist therapists from the very first moment of diagnosis.

Table 1. Demographic characteristics of parents

<i>Name Student</i>	<i>Name Parent</i>	<i>Age</i>	<i>Educational level</i>	<i>Profession</i>	<i>Number of Children</i>	<i>Gender of Child</i>	<i>Number of Children with Disabilities</i>
<i>Andrew</i>	<i>Olga</i>	<i>38</i>	<i>Medium</i>	<i>Household</i>	<i>2</i>	<i>A</i>	<i>2</i>
<i>Hercules</i>	<i>Sophia</i>	<i>40</i>	<i>Higher</i>	<i>State employee</i>	<i>3</i>	<i>A</i>	<i>1</i>
<i>Panayiotis</i>	<i>Xenia</i>	<i>36</i>	<i>Lower</i>	<i>Unemployed</i>	<i>3</i>	<i>AKA</i>	<i>2</i>
<i>Leonardo</i>	<i>Flutur</i>	<i>42</i>	<i>Medium</i>	<i>Private employee</i>	<i>2</i>	<i>K-A</i>	<i>1</i>
<i>Makis</i>	<i>Olga</i>	<i>38</i>	<i>Medium</i>	<i>Household</i>	<i>2</i>	<i>A</i>	<i>2</i>
<i>George</i>	<i>Mary</i>	<i>45</i>	<i>Higher</i>	<i>Household</i>	<i>2</i>	<i>A</i>	<i>1</i>
<i>Nikos</i>	<i>Lamprini</i>	<i>42</i>	<i>Higher</i>	<i>Private employee</i>	<i>2</i>	<i>A-K</i>	<i>1</i>
<i>Mary</i>	<i>Kalli</i>	<i>42</i>	<i>Higher</i>	<i>Public Service Officer</i>	<i>1</i>	<i>A</i>	<i>1</i>

5. QUESTIONNAIRE

Completion of a questionnaire exploring the views of parents about the education of emotions, (reference should be made to section C of the questionnaire "How to express students' feelings" as part of the questionnaire: "Observation key for the development of developmental disorders" (, D.,Stern V., & Balaban N., 1995). (edited by D. Evangelou, edited by S. Bosniadou) in the field of expression of emotions. [33]

"PARENTS 'VIEWS QUESTIONNAIRE FOR THE EDUCATION OF EMOTIONS IN AUTISM SPECTRUM DISORDER"

This questionnaire records your views, as parents of people with Autism Spectrum Disorder, regarding the emotional intelligence of people with ASD and contributes to the shaping and design of the training program to train these people in recognizing, expressing, and understanding emotions, as well as in its improvement and effectiveness.

PARENTS 'VIEWS QUESTIONNAIRE FOR THE EDUCATION OF EMOTIONS IN AUTISM SPECTRUM DISORDER "

A) PERSONAL INFORMATION: (Mark your choice with "✓")

Sex: Man Woman

Training Level:
(note)

Employee: Unemployed: Retired:

Age: 35-40 years 40-45 years 45-50 years

Participation in a similar educational program: YES NO

If yes, (note).....

B) VIEWS ON THE EMOTIONAL INTELLIGENCE OF PEOPLE WITH ASD

Mark with '✓' your choice

B VIEWS ON THE EMOTIONAL INTELLIGENCE OF PEOPLE WITH ASD						
	PERSONAL INFORMATION	I ABSOLUTELY DISAGREE	DISAGREE	I HAVE NO OPINION	AGREE	STRONGLY AGREE
B 1	Do you think that people with ASD have a deficit in emotions?					
B 2	Do you find that they peculiarly express emotions?					
B 3	Do they recognize emotions in facial expressions?					
B 4	Do they understand the feelings of others? (consciously)					
B 5	Do you think that people with ASD can be trained in recognizing, expressing, and					

	understanding emotions?					
B 6	Should the training be done systematically?					
B 7	Does your child know the four basic emotions? (joy, sorrow, fear, anger)					

C).WAYS OF EXPRESSION OF EMOTIONS

"How to express students' feelings" as part of the questionnaire: "Key to observation for the development of developmental disorders" (Cohen, D., Stern V., & Balaban N., 1995). (edited by D. Evangelou, edited by S. Bosniadou)

C	WAYS OF EXPRESSION OF EMOTIONS	YES	NO	SOMETIMES	I DO NOT KNOW
C1	<i>Does the child tend to control his anger?</i>				
C2	<i>Does he fail to express his anger, either physically or verbally, even when the stimulus would normally provoke anger?</i>				
C3	<i>Is the child too scared?</i>				
C4	<i>Does the child have obsessive phobias (eg fears of dogs or strangers)?</i>				
C5	<i>Does the child tend to be passive, cowardly, or anxious?</i>				
C6	<i>Is he crying a lot?</i>				
C7	<i>Does she cry easily and in the slightest?</i>				
C8	<i>Does the child often express his fears in dramatic play?</i>				
C9	<i>Does the child have frequent or extreme mood swings?</i>				
C10	<i>Does the child have sudden and, obviously, unprovoked outbursts of crying, anger, or laughter, which he is unable to control?</i>				
C11	<i>Does the child tend to shout often?</i>				

C12	Does the child tend to react inappropriately to situations or stimuli?				
C13	Does the child have frequent outbursts of anger?				
C14	Does the child express anticipation of disasters?				
C15	Does he appear insecure about himself and his abilities?				
C16	Does he appear overconfident about himself and his abilities?				
C17	Is he upset at the time of arrival?				
C18	Does he give up his efforts quickly when he is not doing well in an activity?				
C19	Does he avoid expressing his feelings?				

D) VIEWS ON THE PARTICIPATION OF PARENTS IN AN EDUCATIONAL PROGRAM

Mark with '✓' your choice

D OPINIONS ON THE PARTICIPATION OF PARENTS IN AN EDUCATIONAL PROGRAM						
	PERSONAL INFORMATION	I ABSOLUTELY DISAGREE	DISAGREE	I HAVE NO OPINION	AGREE	STRONGLY AGREE
D 1	Does the education of people with ASD affect only individuals or their families?					
D 2	Is it considered that parents should be involved in the education of their children?					
D 3	Do you think that there should be cooperation between a					

	teacher and a parent to create an emotional education program?					
D 4	Would you participate in such a program?					
D 5	Does the student attend external treatment (outside of school)?					
D 6	Do you participate in his training?					

E) You are invited to participate in the doctoral dissertation research: "Emotional and social empowerment of children on the autism spectrum and their parents: A participatory action research at school". Will you participate?

Answer with: Yes or No

.....

F) What do you expect from your participation in the program?

.....

THANK YOU

6. Evaluation – Results

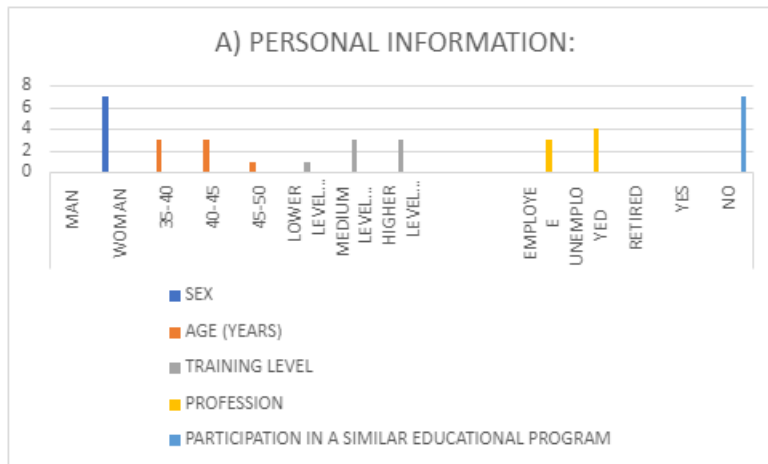
6.1.1. RESULTS

Analyzing the results of the answers of the participating parents to the questionnaire entitled **PARENTS 'VIEWS QUESTIONNAIRE FOR THE EDUCATION OF EMOTIONS IN AUTISM SPECTRUM DISORDER»**

In more detail:

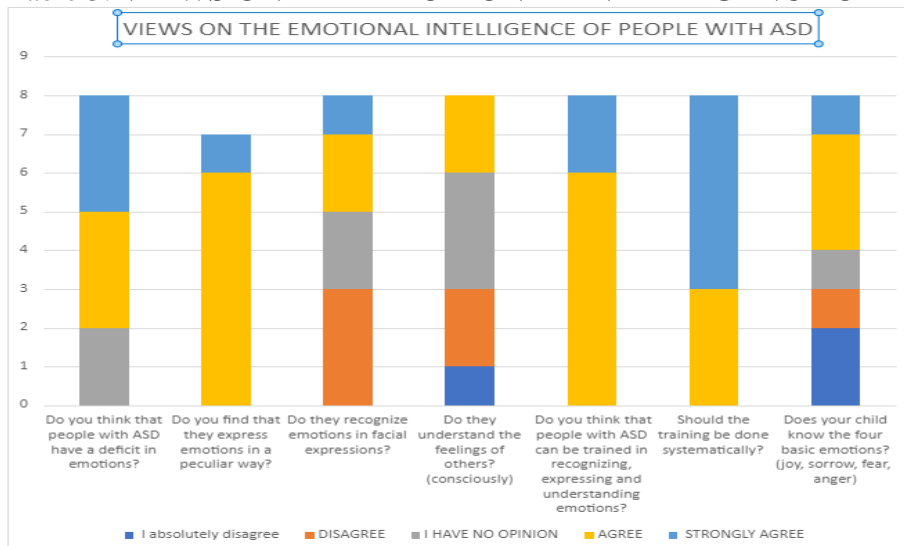
a) The research involved 7 women, aged 36-45, most of whom are not working and none of them had taken part in a similar training program.

Table 2: Personal Information



B) The 2nd part of the questionnaire entitled: **VIEWS ON THE EMOTIONAL INTELLIGENCE OF PEOPLE WITH ASD** concerns the emotional intelligence of people with ASD parents who think that people with ASD have difficulty understanding emotions and should be trained for it.

Table 3: **VIEWS ON THE EMOTIONAL INTELLIGENCE OF PEOPLE WITH ASD**

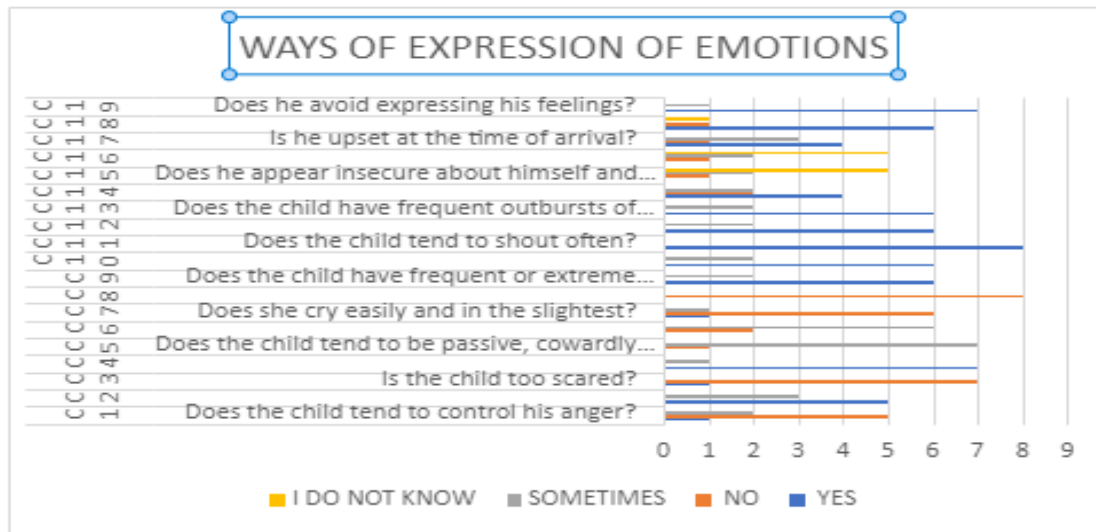


C) The 3rd part entitled: **WAYS OF EXPRESSION OF EMOTIONS**

"How to express students' feelings" as part of the questionnaire: "Key to observation for the development of developmental disorders" (Cohen, D., Stern V., & Balaban N., 1995). (edited by D. Evangelou, edited by S. Bosniadou).

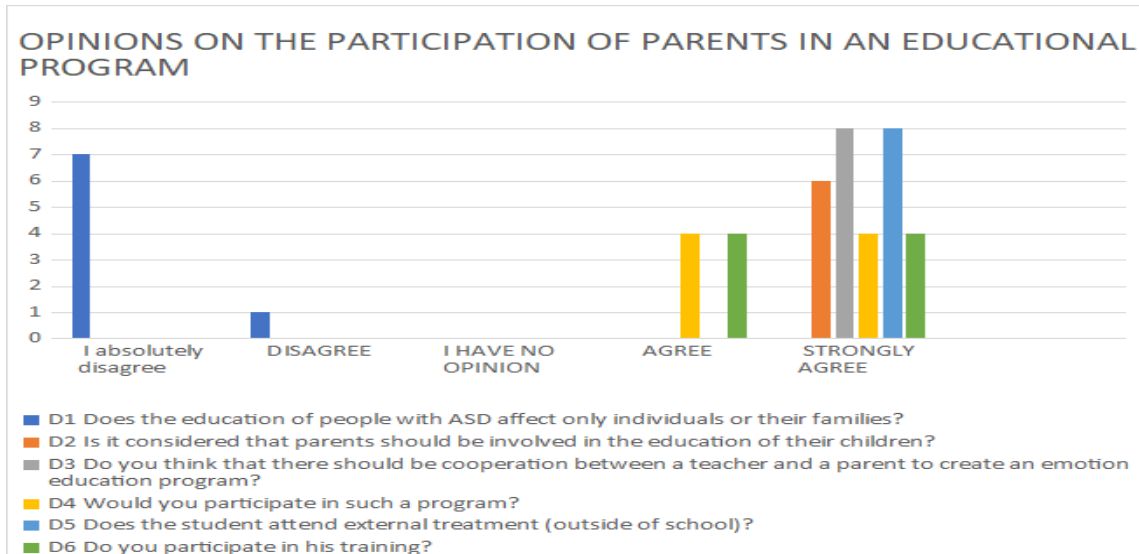
In this 3rd part, parents answer questions about how their children express their feelings. Studying and interpreting their answers shows that children find it difficult to express their feelings.

Table 4: **WAYS OF EXPRESSION OF EMOTIONS**



D: In the 4th part of the questionnaire, parents are asked to answer questions about the usefulness and importance of socio-emotional learning programs for parents and most of them answered that they are useful and will help both the family and the child.

Table 5: OPINIONS ON THE PARTICIPATION OF PARENTS IN AN EDUCATIONAL PROGRAM



E: Parents are asked to express their views regarding their participation in a socio-emotional learning educational program.

All the parents answered in the affirmative, that they would participate.

F) In question F: What do you expect from your participation in the program?

The parents answered:

- a) to learn, to train in new ways, programs
- b) to appropriate digital material, ICT enables us to help our children communicate
- c) to help my child gain sociability and express his feelings.
- d) A mother said: **to teach my child how to hug me and say: " I love you, mammy!! »**

7. Conclusions - Perspectives Conclusions- Perspectives

Studying the results of the evaluation of the questionnaire, it is obvious that parents want and considers important their education in educational programs for their children with ASD in the development of socio-emotional skills, a field that presents deficiencies as the acquisition of such skills will help in recognizing, and understanding emotion, to acquire empathy and consequently to socialize.

Suggestions: The creation and elaboration of more educational programs for parents in educational programs as well as their participation in them as well as the development of appropriate accessible digital material for people with ASD specialties.

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