

Teachers' views on anxiety symptoms in students with ASD

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Abstract

People with autism spectrum disorders exhibit comorbidity with some form of anxiety, persecution, phobia, to a different extent (Magiati et al., 2011; Saulnier, Volkmar, Bouras, et al., 2007).

The survey was conducted using SAS-TR questionnaire in a sample of 291 special education teachers, 118 general education teachers. It resulted emphatically strong, with 95.6% of the total placed in the clinical spectrum of the disorder. Same picture for the total of the individual sets with disorder with corresponding rates of the clinical spectrum ranging from 92.2% to 96.7% of the total. Focusing on the levels of school stress that students with ASD face, teachers' reports show that half of the children with ASD experience this disorder intensively. The same occurs for both of the two components of school anxiety, generalized and social, with 46.7% and 43.7% of the total of the children placed in the clinical and their extremely high disturbance spectrum.

There is a clear differentiation in the levels of anxiety disorder in all its manifestations among children with ASD and those of typical development. In over 99 out of 100 cases, children with ASD have higher levels of anxiety disorder in the overall scale or in any of the components that shape it, compared to children in the general population. The same conclusions are drawn from the focus on school stress among students.

Excessive anxiety experienced by children with ASD is highly and positively correlated with both generalized anxiety and separation anxiety as well as with their social phobia and school stress. High feelings of anxiety in some of the above expressions are accompanied also by high levels of anxiety to the rest of the cases. The relationship between the other general anxiety disorders has high positive associations, with the only modulation of the moderately balanced relationship of the social phobia of children with ASD and their generalized anxiety.

The gender of a child with a diagnosis of the syndrome in the autism spectrum does not affect the formation of levels of school stress or its individual components.

The age of children with autism is not associated with any of the manifestations of school stress that these students face, and hence the overall school disturbance disorder. In other words, age is not a factor in improving or worsening the disorder.

The child's intelligence quotient in the autism spectrum is positively but very weakly related to school stress and its individual components. High IQ values favor weak social, generalized and overall school anxiety in over 99 out of 100 cases.

The verbal capacity of children with ASD has a significant effect on the formation of their social anxiety, with children having a single-word speech to create higher levels of social anxiety than those who have no or developed speech. Finally, the effect of verbal capacity on the formation of levels of total anxiety is inversed. Children who have a single or developed speech experience a more intense school stress.

1. Introduction

ASD affect many areas of the child's life and pose a serious challenge to the people who experience them, but also to the faces of their environment. According to the DSM-5 (American Psychiatric Association, 2013), the subgroups of this umbrella class are characterized by three main traits: (1) Disorders in social interaction, (2) Disorders in verbal and non-verbal communication, (3) Repetitive and stereotyped behavioral patterns.

But there are other features that are common to these children and affect their daily living. with anxiety being the most common of these (White, Oswald, Ollendick, & Scahill, 2009). Anxiety, as an accompanying problem of ASD, makes these children more vulnerable to stressful situations, highlighting the need for greater assessment of symptoms in the school settings.

According to the educational and social policy of the European Union countries, children with disabilities and special needs, including children with ASD, should be trained in the less restrictive environment, preferably within the mainstream classes of the general school.

Every social contact can create anxiety in the child with ASD as it needs to make an effort to start, maintain and complete an activity or discussion. The school is a social minefield and pupils with ASD can at any time make the wrong move (Attwood, 2005). Physiological changes in the day-to-day activities of the school may cause him/her a lot of inconvenience, while certain sensory experiences may be unbearable.

It is therefore necessary to have a comprehensive, detailed and accurate assessment and evaluation of the emotional disorders of the child, as well as the impact they have on their ability to learn and work in the school environment.

However, international literature and experience show that this is not a simple and easy task. There are many factors that make it difficult to assess anxiety in children in the autism spectrum. First of all, many autism symptoms overlap with those of anxiety, and the diagnostic oversight can easily occur if differential diagnosis between disorders is not achieved (Papadatos, 2010, Ghaziuddin, 2005; Gillot et al. , 2001; Klin et al., 2000; Muris et al., 1998; Russell and Sofronoff, 2005; Bellini, 2004).

Internal and external disorders may not be diagnosed if attributable to autism and are explained by the symptoms of ASD. This increases the risk of not providing adequate support to these children, greater difficulty in their social interaction and their inability to adapt to the school environment.

Anxiety is one of the common accompanying symptoms in people with ASD (Ghaziuddin, 2005; Baron, 2008; White & Roberson-Nay, 2009; White et al., 2013; Vasa et al., 2016). Research shows that at least 30-70% of people in the ASD show some anxiety disorder such as social phobia, separation anxiety, excessive anxiety, obsessive compulsive disorder and excessive fear (e.g. spiders or loud noises) (Saulnier, Volkmar, Bouras, et al., 2007; Tantam, 2000; Masi, Favilla, Millepiedi, Mucci, 2000). Parents, teachers and medical doctors as well as teenagers and adults with ASD maintain that stress is a serious problem for these people. Stress can fluctuate, from light and completely understandable to continuous, serious and absurd. Research results suggest that high levels of anxiety are related to success in school, work, and social situations. In addition, people with ASD may have difficulty controlling anxiety reactions from the moment these are triggered.

It has been suggested that deficiencies in ASD may to some extent contribute to increased stress due to perception and communication difficulties, limited flexibility and sensory difficulties (Kerns et al., 2017; Wood et al., 2009). An increase in stereotypical and provocative behaviors may be a consequence of the individual's attempts to reduce the stimulation of high levels of anxiety (Hallett et al., 2013; Ozsivadjian et al., 2014).

In addition, while several studies suggest a lack of relationship between anxiety and the severity of ASD (Sukhodolskey et al., 2008; Sukhodolskey et al., 2013), others suggest fewer anxiety symptoms, particularly fewer negative obsessions, generalized anxiety and separation concerns with more severe ASD (Gadow et al., 2005; Muris et al., 1998).

Sukhodolskey et al., (2008) found only generalized, segregation and panic concerns associated with high IQ in people with ASD, while special and social phobias dominated in low or high IQ categories. Also, correlations between speech and anxiety abilities in the ASD refer to some studies (Davies et al., 2011; Sukhodolskey et al., 2008).

In the literature review, Kerns & Kendall (2012) suggested that the various findings reflecting the presence and poor differentiation of anxiety symptoms in ASD may be (a) consistent or inconsistent with the ASD criteria and (b) otherwise related to characteristics of the child, such as the symptoms of ASD, IQ and verbal skills. Symptoms such as daily anxiety, general anxiety detachment may be clinically clear, more distinct from the symptoms of ASD and may be more consistently related to IQ and speech abilities.

Several studies suggest that ASD symptoms may more often occur in young people with normal cognitive and linguistic function along with risk factors for anxiety such as negative auto / spontaneous thoughts and sensory hypersensitivity, which has been associated with anxiety in young people with and without ASD (Farrugia, Hudson, 2006; Green, Ben-Sasson, 2010; Pfeiffer et al., 2005; Sukhodolsky et al., 2008).

It has also been suggested by research that some people with ASD experience anxiety that does not fit into the DSM-defined categories, but more like a deteriorated and clinically disturbed anxiety about certain features of the ASD. Such non-typical anxiety symptoms are likely to be associated with both the ASD and the severity of anxiety, and may reflect a biologically-based trend toward anxiety and fear. Additional stress-related behaviors such as social avoidance, anxiety about routine changes, impulsivity and simple phobia may not require language and cognitive abilities associated with other anxiety disorders.

In most published studies, anxiety in ASD could not address gender differences as few girls were involved. Among the few studies investigating the issue, no gender differences have been found consistently (Kirkovski et al., 2013). In addition, few studies investigate the possible relationship between gender and various forms of anxiety symptoms.

Some studies report more symptoms of anxiety in older than in younger children with ASD (Kuusikko et al., 2008; Lecavalier et al, 2013; Mayes et al., 2011; 2012; Vasa et al., 2014; 2015), others have not noticed an effect of age. But it is possible that the relationship with age depends on the types of anxiety that have been studied. For example in meta-analysis VanSteensel et al. (2011) report that overall for anxiety and general anxiety (GAD) rates were higher among older children with ASD, while separation anxiety and OCD were more common among younger children.

They also suggest that adolescents with autism may be particularly prone to anxiety disorders, while rates among young children in the spectrum may not differ from those of peer children in typical development. Some studies (Gillot et al., 2001; Kim et al., 2000; Muris et al., 2011) suggest that high-functionality individuals in the spectrum feel higher percentages of anxiety disorders (Gillott, Furniss, Walter, 2001; Kim, Szatmari, Bryson et al., 2000). For adults with autism, there are reliable clinical data that suggest that stress-related difficulties continue in adulthood (deBruin, Ferdinand, Meester et al., 2007). Researchers consider stress as a possible consequence, but also as a possible cause of behaviors of children with ASD. Wing (1981) found anxiety clinically diagnosable, as well as depression, in many people, especially in advanced puberty and early adulthood.

Numerous studies suggest that comorbidity with anxiety disorders is common, that about 40% occur in people with ASD and are associated with poor individual and family functionality (van Steensel et al., 2011; Kim et al., 2000; White et al., 2009).

Kanner (1943) reported that some features of ASD, particularly persistence in the resemblance and the repertoire of steady behaviors, routines and obsessions, were stress-driven (p. 245). Even small changes in the environment can trigger confusion and tension (Grodén et al., 1994), while fear of a possible change may be a source of extra stress. Kanner initially included 45 people with anxiety and excessive phobia in his initial report on autism (Kanner, 1943). Anxiety disorders are comorbid in children and adolescents with ASD from 40% to 84% for any anxiety disorder, 8% to 63% for specific phobias, 5% to 23% for general anxiety, 13% to 29% for social anxiety and 8% to 27% for anxiety disorder from separation (de Bruin, Ferdinand, Meester, de Nijs, Verheij, 2007; Leyfer, Folstein, Bacalman et al., 2006; Muris, van Brakel, Arntz, Schouten, 2011).

Schopler & Mesibov (1994) have also suggested that resistance to changes in autism is due to difficulties in understanding what is happening in the environment, a permanent feeling of insecurity and lack of certainty. Other features of autism have been considered by some researchers as consequences or mechanisms to manage the stress that is a consequence of the initial difficulty in understanding the environment. Stereotypical behaviors such as sound, body or hand shake (Howlin, 1998) and more complex behaviors such as repetitive questions (Thomas et al., 1998) often increase

when children have anxiety and show that behaviors act as strategies - accommodation for children with ASD.

Despert (1965) translated the usual obsessive behaviors as defenses against the excessive anxiety felt by children with autism. Obsessions appear to play a role in the maintenance of fear and anxiety (Howlin, 1997) and the prevention or interruption of these behaviors can cause significant anxiety (Howlin, 1997; 1998).

Groden et al. (2001; 2002) argue that because of the nature of the difficulty, people with autism do not have the ability to manage stress or the ability to cognitively assess situations, these individuals may find anxiety challenging. They can exaggerate stress in situations and objects safely or show a lack of risk in the face of real dangers (Muris et al., 2011). Cognitive deficits (Weisbrot, Gadow, DeVincent et al., 2005) such as poor ability to understand the actions of others ("Theory of the Mind" Baron-Cohen et al., 1985) in social situations, and difficulty in incorporating information ("weak central cohesion" according to Happe, 1994). (Frith, 1989; Spiker et al., 2012).

Although significant positive correlation between cognitive ability / adaptive function and increased symptoms of anxiety have been reported in studies (Davis et al., 2008; Hallet et al., 2013; Lecavalier, 2006; Mayes et al., 2011; Niditch et al., 2012) others have found that there is no stable relationship (Simonoff et al., 2008). Kerns & Kendall (2012) suggested that cognitive abilities may be related to specific types of anxiety symptoms in ASD, but the research by Sukhodolsky et al. (2008) & Hallett et al. (2013b) are the only ones that have examined the relationship between cognitive / adaptive function and different types of anxiety symptoms. Sukhodolsky et al. (2008) and Hallett et al. (2013b) are the only groups that have examined the relationship between cognitive / adaptive function and different types of anxiety symptoms. Sukhodolsky et al. (2008) found that youngsters with IQ > 70 were more likely to experience clinically elevated symptoms, general anxiety severity and symptom somatization than their fetuses with IQ < 70. They were also likely to experience increased phobias, panic, and social anxiety symptoms. Hallett et al. (2013b) report a positive correlation of IQ with parents' rates for social anxiety only but not related to general segregation, panic and OCD symptoms.

Anxiety disorders are among the most prevalent (Ghaziuddin, 2005; Leyfer et al., 2006) and can be debilitating for young people with ASD when they appear in a

family environment such as home, school, community. In addition, the severity of anxiety is associated with increased aggression, reduced participation in social activities, and poor social relationships for young people with ASD (Selles et al., 2015; Reaven, Blakeley Smith, Beattie, Sullivan, Moody, Stern, Hepburn & Smith , 2015). Anxiety levels in children with Asperger syndrome have been found to be the same as children with a diagnosis of social phobia higher than that of typical children (Russell, Sofronoff, 2005).

In addition to subjective stress, anxiety contributes to obstructing adaptation (Hallett, Lecavalier, Wood, et al., 2013) and is one of the first mental factors that refer to ASD (Skokauskas, Gallagher, 2012). For this reason, developing and testing effective treatments for anxiety in ASD is important and should be given priority for public health.

Stress symptoms reflect anticipated responses to day-to-day ASD-related challenges or the presence of deficient emotional disorders that deserve targeted intervention.

Community surveys show that 45% to 83% of children with ASD receive drug treatment (Osewald, Sonenklar, 2007). Selected serotonin reuptake inhibitors have shown efficacy in children of typical development with anxiety disorders (Buitelaar, van der Gaag, nab der Hoeven, 1998; Namerrow, Thomas, Bostic, Prince, Monteux, 2003; Martin, Koenig, Anderson, Scahill, 2003).

Stress can also manifest itself differently in every child with autism. If the onset of anxiety differs from that commonly seen in the general population, the symptoms of anxiety may go unnoticed. Also, the characteristics of ASD, such as communication disorders, may adversely affect the stress assessment and assessment process. Many children, for example, with autism have a great deal of difficulty understanding or interpreting their feelings (Attwood, 2005; Yen, 2002; 2011; Polychronopoulou, 2012). All this is anxiety for the pupil with autism. The more anxious the child the more the symptoms of the particular characteristics of his behavior, such as body rocking, obsessions, the rigidity of thinking, etc., are increased. Therefore, so it is very important to find ways to correctly assess the anxiety of the students in the spectrum of autism in order to properly design and to provide timely appropriate psycho-pedagogical intervention that will facilitate their school and social inclusion.

Recent results show that citalopram is not effective for repeated / stereotypical behavior in young people with ASD (King, Hollander, Sikich et al., 2009). After administration of non-typical antipsychotics such as risperidone (McCracken, McGough, Shah et al., 2002; Shea, Turgay, Carroll, et al., 2004) and aripiprazole (Marcus, Owen, Kamen et al. , 2009; Owen, Sikich, Marcus et al., 2009; Stigler, Diener, Kohn et al., 2009) the reduction of irritability in children with ASD has been reported. But they also have side effects such as metabolic abnormalities (McDougle, Stigler, Erickson, Posey, 2008). They emphasize the value of non-pharmacological interventions in ASD (Sukhodolsky, Bloch, Panza, Reichow, 2013). Children with autism diagnosis are more likely to feel more anxious than children of typical development. (Weisbrot, Gadow, DeVincent et al., 2005).

Research suggests that Cognitive Behavioral Therapy (CBT) can offer a variety of forms of support to children with ASD for their anxiety as shown by clinical application data (Clarke, Hill, Charman, 2016).

A study by Spence (1998) looked at a school CBT program using an experimental design incorporating the Spence Children's Anxiety Scale (Spence, 1998) and the Coping Scale for Children and Youth (Brodzinsky et al., 1992). Interview data has been incorporated to help understand the change process more. Children in experimental conditions had lower levels of anxiety that were maintained during their follow-up, and changes in response behaviors such as strategies for less avoidance behaviors but more for problem-solving strategies (Clarke, Hill, Charman, 2016).

2. Methods

The overall purpose of this research is to clarify the existence of anxiety disorder in children in the autism spectrum, to distinguish it in the individual components that eventually shape it, as well as to determine the order of magnitude of the perceived disorder. In addition, the main objective is to detect differentiation of levels of anxiety disorder among children with autism and those of the general population. In particular, this research work has to answer the following research questions:

- a) Do students with ASD present symptoms of anxiety?

b) Do students with ASD show more symptoms of anxiety disorder than other typical development children?

c) How is it manifested and in which areas the stress of children with ASD in school?

d) How are the components of the anxiety disorder of children with ASD related to each other?

e) How is anxiety disorder and its component parts associated with ASD related to their demographic and epidemiological characteristics?

f) Are teachers' views on the occurrence of anxiety symptoms of children with autism within the school environment consistent?

The originality of this research is the fact that for the first time in Greece the issue of stress assessment in children is considered. Law 3699/2008 (Greek Official Gazette, 2008) empowers people with autism to be educated in general education environments and as less restrictive as possible. This research first gives the opportunity to special education educators, general education teachers, the opportunity to express their views on anxiety and education of children.

The practical value of research lies in its contribution to assessing the symptoms of anxiety of people with ASD in the educational environment.

2.1. Research sample

Tables 1 to 9 of Annex B detail the sample data. They present the demographic and other characteristics of teachers of mainstream and special education as well as children in the autism spectrum, but also of typical development

2.1.1 Teachers of Special Education for Students with ASD

Two hundred ninety one students with autism were involved in this research. 225 of the participants, 77.3% of the sample are women, while the remaining 22.7%, (n=66) of teachers are men. 44,7% of the sample, 130 teachers are under 30, (n=109 teachers) representing 37,4% of the sample are between 31 and 40 years, 30 teachers that make up 10,3% of the total are 41 to 50 years while the remaining 7.6% of the sample, (n=22 teachers) is over 50 years. 38.1%, (n=111 teachers) participating in this

research have less than 6 years experience in teaching, 113 teachers who make up 38.8% of the sample have 6 to 10 years of experience, 30 teachers, 10.3% of the total 11 to 15 years, 8 of them 2.8% of the total have experience of 16 to 20 years, while the remaining 10% of the sample, (n=29 teachers) have more than 20 years of experience in education.

The 31 teachers who took part in the evaluation of their pupils in the autism spectrum and constitute 10.7% of the total, are graduates of the Pedagogical Academy, 30 teachers who make up 10.3% of the sample are graduates of the Pedagogical Academy plus extra 2 years equivalent to higher degree, 38.8% of the total, (n=113 teachers) graduated from the Department of Primary Education and the Department of Special Education, while another 60 teachers, which reaches 17.3% of the sample, hold another degree. The fact that all of the above percentages do not add up to 100% of the sample but a higher percentage is due to the fact that some of the participants are graduates of two or more departments. Continuing, 56% of the participants, (n=163 teachers) holding a postgraduate degree, 15 teachers who make up 5.2% of the total attended further studies in the classroom, 4 teachers, 1.4% of the sample have a doctorate while the remaining 37.4% of the sample of 109 teachers has not been further educated. 86 of the teachers who make up the sample, 29.5% of the total, work in a special school, 105 teachers representing 36.1% of the sample work as a parallel support in a mainstream school, 78 teachers who shape the 26.8% of the total sample work in an integration section, 5.5% of the total, i.e. 16 teachers work in a general education department, while 6 teachers, 2.1% of the sample in Centres of Creational Occupation for Individuals with special needs.

With regard to the years of service of teachers who took part in the survey with children in the autism spectrum, it appears that the average length of service is 3.29 years, with a standard deviation of 2.75 years and a minimum - maximum value of 0 and 15 years experience. 56.4% of the sample, 164 the number of teachers say they do not have autism, while the remaining 127, 43.6% of the total, state that they have completed autism studies.

Finally, 73.5% of all pupils in the autism spectrum, 214 of whom are boys, while the remaining 26.5% of children with ASD (n=77) are girls. Of these, 273 students, 93.8% of the total, attend primary schools, 4.1% (n=12) of all pupils in secondary schools, and 2.1% (n=6) of the total in Centres of Creational Occupation for

Individuals with special needs. The average age of children with ASD is 10 years, with a standard deviation of 3.1 years and a minimum of 4 and 25 years respectively. The intelligence quotient averages 91.33 points with a standard deviation of 21.17 points, a minimum and a maximum of 50 and 150 points respectively. Finally, 40 of the children in the autism spectrum, 13.7% of the total sample has no speech, 44% of the sample (n=128) have monosyllabic speech while the remaining 42.3% of the total, 123 the number of students have developed verbal skills.

2.1.2 General Education Teachers of Typical Development Students

In the framework of this project, there were 118 school teachers of pupils who are part of the general population. 101 of them, 85.6% of the sample are women, while the remaining 14.4%, (n=17) men. 6.8% of the sample, 8 teachers are under the age of 30, 40 teachers representing 33.9% of the sample are between 31 and 40 years, 32 teachers that make up 27.1% of the total are from 41 to 50 years, while the remaining 32.2% of the sample, (n=38 teachers) is over 50 years. 7.6%, 9 the number of teachers participating in this research have less than 6 years of experience in teaching, 33 teachers of 28% of the sample have a service of 6 to 10 years, 19 teachers, 16,1% of the total 11 to 15 years, 23 of them 19.5% of the total have experience of 16 to 20 years, while the remaining 28.8% of the sample, 34 the number of teachers have more than 20 years of experience in education.

The 23 teachers who participated in the evaluation of 19.7% of the total number of students are graduates of the Pedagogical Academy, 34 teachers who make up 29.1% of the sample are graduates of the Pedagogical Academy and extra 2 years equivalent to higher degree, while 47% of the teachers (n=55) who graduated both from the Primary School and from another higher education institution. Similarly, the fact that all of the above percentages do not add up to 100% of the sample but a higher percentage is due to the fact that some of the participants are graduates of two or more departments. 38.1% of the participants, (n=45 teachers) holding a postgraduate degree, one teacher who accounts for 0.8% of the total attended further studies at a school, one teacher, also 0.8% of the sample holds a doctorate while the remaining 60.2% (n= 71 teachers) did not have further studies. 100% of teachers, (n=118 of them), work in mainstream education. Finally, 117 teachers have not completed

studies on autism, and only one that accounts for 0.8% of the total, has studies on autism.

2.2 Data collection tools

In order to investigate the components that shape the overall childhood anxiety disorder as well as to investigate the relationships that govern it a data collection tool was used that was completed by participating teachers and it shapes the scale of the overall school anxiety of the appraised pupils.

2.2.1 *School Anxiety Scale - Teacher Report*

The measure of school anxiety encountered by both standard-grade students and children in the autism spectrum was measured by the widely-used SAS-TR tool (Lyneham et al., 2008). It is an important tool to measure the degree of school stress based on the reports of the teachers of the students under assessment.

SAS-TR consists of 16 questions in which respondents are asked to give their answers through a 4-step Likert scale from 0 to 3. In each questionnaire statement, respondents can state the measure of agreement or disagreement selecting one of the following answers: "Never", "Sometimes", "Often" and "Always". "Never" answers with 0, and "Always" with 3. The other responses are modified accordingly. SAS-TR has a high internal validity index.

The sixteen questions of the data collection tool are grouped together and form the two sub-scales of school stress, as suggested by Lyneham et al. (2008). More specifically, the subclasses formed and the questions that comprise them are as follows:

1. *(Generalised Anxiety)*

It consists of 9 questions of the data collection tool, 3, 5, 7, 8, 9, 10, 12, 15 and 16. The horizontal sum of the score of the individual questions forms the final rating of the sub-scale with a range of 0 to 27 units. A score of between 0 and 10 points indicates normal levels of generalized anxiety for the child under consideration; values in the range of 11 to 12 units form its marginal spectrum; values between 13 and 15 units are the clinical spectrum, while students whose score exceeds 15 units can be considered to be at extremely high levels of generalized anxiety.

2. *(Social Anxiety)*

The number of questions is 1, 2, 4, 6, 11, 13 and 14. The rating of the sub-scale is calculated by summing the answers of the participants in the above questions and ranging between 0 and 21 points. According to the SAS-TR reference scale, normal levels of social anxiety are considered to be between 0 and 8, with values ranging from 9 to 10 units shaping the marginal spectrum of the sub-scale, with scores ranging from 11 to 13 being the clinical spectrum. students whose grades exceed 13 points are considered to be in extremely high levels of social anxiety.

The rating for measuring total school anxiety is derived from the horizontal sum of the 2 subchannels and can be taken from 0 to 48 points. For both the overall school anxiety scale and its individual sub-scale, higher scores indicate higher levels of school stress for the students under assessment. Based on the SAS-TR educational tool, a total score in the range of 0 to 18 points shapes the normal range of school anxiety, ranging from 19 to 21 points the marginal spectrum of the disorder, a score between 22 and 27 points is the clinical spectrum prices higher than 27 units are extremely high levels of school stress. The credibility and internal validity in total for the tool used was calculated using the Cronbach's alpha factor and found to be 0.96. It is also reported that the overall School Anxiety Scale and its components are used as independent variables.

The SAS-TR is accompanied by a series of demographic characteristics for teachers who have been willing to participate in this research, such as sex, age, years of service in education, education, further education, the years of their service with children in the autism spectrum and their possible studies in autism. Forms received by teachers invited to evaluate children with ASD include 5 additional entries with the epidemiological data of the student under assessment. The epidemiological data of children in the autism spectrum is their gender, age, classroom, intelligent quotient and their verbal capability. The questionnaires that were shared with teachers for the evaluation of children of the general population do not include the aforementioned characteristics of the student.

2.3 Data collection process

The questionnaire was issued and collected by the writer in the years 2016 and 2017 between September and May. Finding teachers and parents with a child in the autism spectrum was based on the special education structures in which children with ASD are attending, while finding children of typical development in general education schools in various areas of the Greece. Their approach was achieved by distributing the research questionnaire in printed or electronic form and an accompanying letter detailing the purpose and objectives of the present project. Their participation in the sample of the survey was voluntary.

All those who were approached to participate in the present investigation were informed that they should fill in the questionnaire as a whole without the completion of the questionnaire for more than 30 minutes. The researcher's mobile phone was made available to the participants, prompting them to contact her for instructions and clarifications on the correct completion of the questionnaire. Also, the participants were informed on the importance of completing the questionnaire with true data, without their answers being misleading, so that the research objectives could be highlighted.

Particular emphasis was placed on confidentiality and anonymity of information, namely the fact that the child's teachers' own data will remain anonymous and that the information will be used solely for the purposes and purpose of this research procedure.

The collection of completed questionnaires were carried out by re-sending them from teachers who consented to the use of their answers to the researcher and which were delineated within 30 days of the date of their original delivery. Poorly completed questionnaires or questionnaires which were received at the end of the given deadline were excluded from the sample of the investigation.

2.4 Statistical methodology

The consistency check is carried out through Cronbach's alpha factor (Cronbach's), which determines the reliability of data collection tools and their individual parts. Quote rates greater than 0.6 are considered satisfactory and ensure their consistency and internal validity, acting as elements of a single team.

Also, for the description of the quantitative variables involved in the statistical analysis, mean values (Mean), standard deviation (SD), minimum and maximum values (Min - Max) as well as the third and fourth order (Skill and Bending) of their distributions. In the case of quality data, their description is made by recording their absolute (n) and percentage relative frequencies (% f).

The control of the linear correlation between quantitative variables is performed by the Pearson r. The correlation coefficient r takes values between -1 and 1 while the greater the absolute value, the greater the correlation between the variables. Although there are no commonly accepted limit values, absolute values of less than 0.3 indicate weak correlations, values between 0.3 and 0.5, while values greater than 0.5 indicate high and strong correlations. Positive values of the coefficient indicate positive correlation while negative values, negative correlation. The statistical significance of the correlations is checked at significance levels $\alpha = 1\%$ and $\alpha = 5\%$.

For the comparison of quantitative variables and the extraction of the main findings of the survey, Independent Samples t-test for independent samples and its non-parametric generalization for variables with more than two levels are used, the non-parametric criterion Kruskal Wallis test. Controlling the hypothesis of dispersion equilibrium at factor levels is performed through the Levene's test while ensuring the basic conditions for the regularity and independence of method errors was tested by the Kolmogorov-Smirnov test and the Runs test respectively.

The above hypothesis tests were carried out at materiality level.

The IBM SPSS Statistics 20 statistical analysis software package was used for data processing and statistical analysis,

3. Quantitative Analysis of Research

3.1 Reliability of data collection tools

In this first part of the quantitative analysis, the results of the Reliability Analysis are presented, carried out for the data collection tools as a whole and their individual parts for both the whole sample and the populations of children with autism and typical development separately. Thus, the Cronbach's alpha internal coherence coefficient for the School Anxiety Scale by SAS-TR and its two components, is recorded.

Large relative index values indicate high levels of consistency, thus ensuring the coherence and internal validity of the questionnaires. As is customary in sociological studies, values greater than 0.600 may be considered as satisfying the consistency of individual parts and their behavior as elements of a single group.

From Table 3.1.1 below, it is understood that Cronbach's alpha values for the reliability analysis for the other data collection tool used, yields the same results. The Cronbach's alpha credibility coefficient values, both for the school stress scale as a whole and for its sub scales, in the selected sample as a whole but also in its two subgroups, are above the 0.800 value, thus giving a high internal validity. The results of the above analysis are those presented in Table 3.1.2.

Table 3.1.2

Reliability of the School Anxiety Scale (SAS) and subchannels.

School Anxiety Sub-scales	Cronbach's alpha (ASD)	Cronbach's alpha (Typical Development)	Cronbach's alpha (Total)
(Social Anxiety)	0,840	0,857	0,869
(Generalised Anxiety)	0,877	0,897	0,893
Total School Anxiety	0,909	0,917	0,924

3.2 The distribution of sample responses

Of particular interest are the answers given by the survey participants to the data collection tool questions they had at their disposal. Thus, in Tables 10 and 11 of Annex B, in the last pages of this note, teachers' answers to the SAS-TR can be found, both for children in the autism spectrum and those of the general population.

3.3 The Anxiety Disorders Scale & Sub-Scales in the Sample

Continuing the quantitative analysis of the data collected from the survey sample, the descriptive measures for all scales and sub-scales of the anxiety disorder for children in the autism spectrum, derived from the data collection tools used, are presented. These values of the descriptive measures of the scales and sub-scales of each data collection tool have been formulated based on the responses of the teachers of children with ASD who participated in the survey. It is recalled that the way of extracting and calculating them, as well as the conceptual content of each sub-scale, has been described in detail in Section 2.3 previously.

3.3.1 Measured scales & sub scales as continuous variables for children with ASD

The mean (M), standard deviation (SD), minimum and maximum values, skewiness and curvature of the overall School Anxiety Scale are presented in Table 3.3.1, starting with the teachers of children in the autism spectrum SAS-TR) for children with ASD, as well as for its two sub-scales, Social Anxiety and Generalized Anxiety.

Table 3.3.1

Descriptive Measures of School Anxiety (SAS-TR) and its sub-scales for children with ASD.

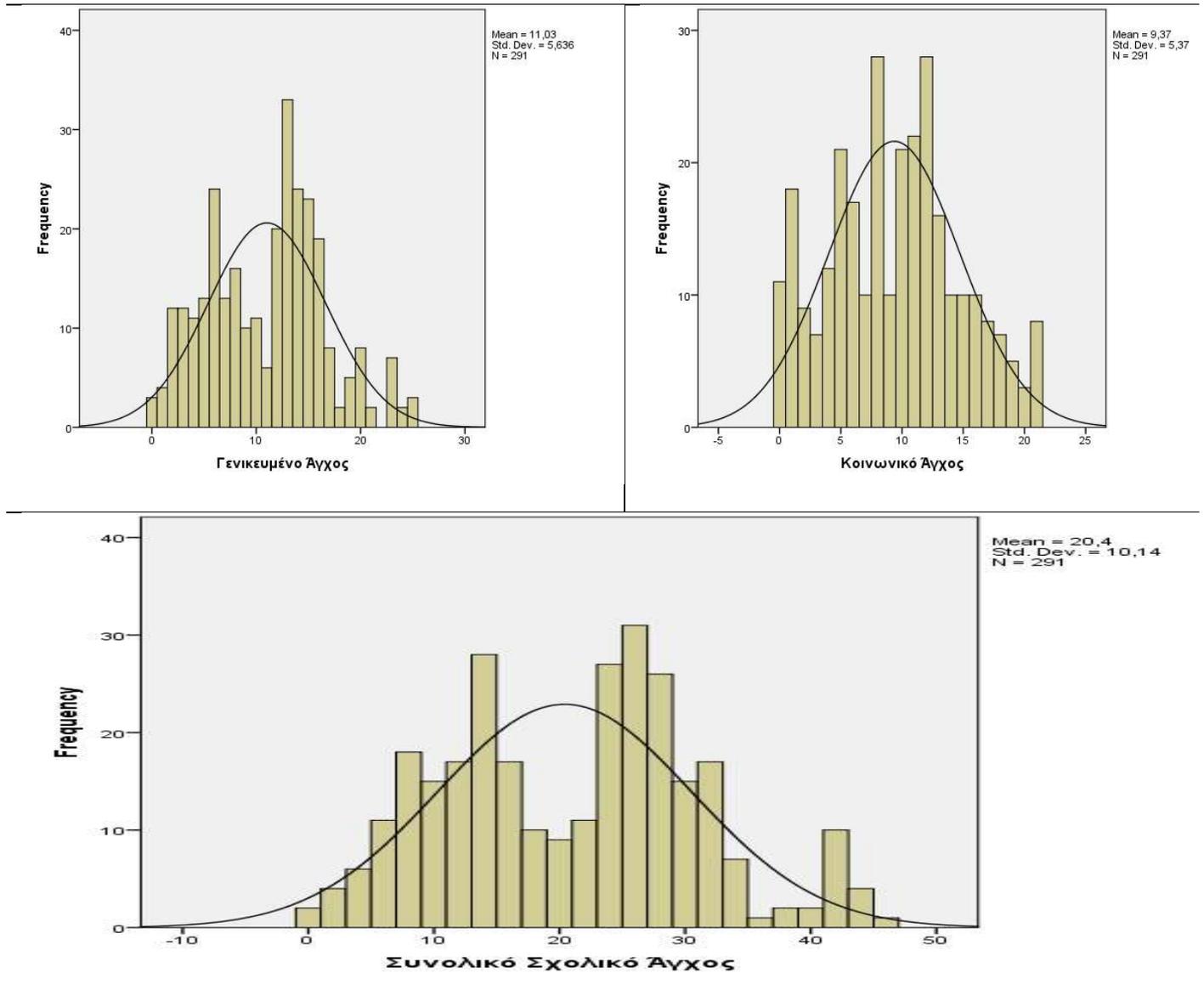
School Anxiety and sub-scales	M	SD	Minimum / Maximum Price	Obliquity	Curvature
School Anxiety SAS-TR (total) (Scale: 0 – 48)	20,40	10,14	0 – 45	0,158	-0,587
(Social Anxiety) (Scale: 0 – 21)	9,37	5,37	0 – 21	0,140	-0,647
(Generalised Anxiety) (Scale: 0 – 27)	11,03	5,64	0 - 25	0,150	-0,520

As can be seen, the mean SAS-TR grade for children with ASD is averaged, on a scale of 0 to 48, quite high, with a standard deviation of SD units. The minimum and maximum values of the scale are 0 and 45 units respectively, while the third and fourth values were found to be 0.158 and -0.587 respectively. For the Social Anxiety subscale, average sample score is observed in units and SD standard deviation is also very high in a range of 0 to 21. The minimum and maximum values of the sub-scale are 0 and 21 units respectively, while the third and fourth order receives a value of 0.158 and -0.587 respectively. In a calibration of 0 to 25 units, the Generalized Anxiety scale generates a high average score in units and a standard deviation of SD units. The minimum and maximum values of the sub-scale are 0 and 25 units

respectively, while the third and fourth order moments receive values of 0.150 and -0.520 respectively. Figure 6.3.1 below shows the above distributions of the School Anxiety Scale and its sub-scales.

Diagram 3.3.1

The School Anxiety Scale (SAS-TR) distribution and its sub-scales for children with ASD.



(λεζάντες εικόνων: Generalised Anxiety / Social Anxiety / Total School Anxiety)

3.3.2 Measured scales & sub scales as continuous variables for typical development children

Taking into account the answers of the teachers who evaluated the anxiety disorders of children of the typical population, they are also exported for those corresponding scales and sub-scales of the used tool. Table 3.3.3 therefore shows the mean (M), standard deviation (SD), minimum and maximum values, skew and curvature of the overall SAS-TR for children of typical development, as well as two subcategories, Social Anxiety, and Generalized Anxiety.

Table 3.3.3

Descriptive Measures of School Anxiety (SAS-TR) and its sub-scales for typical development children.

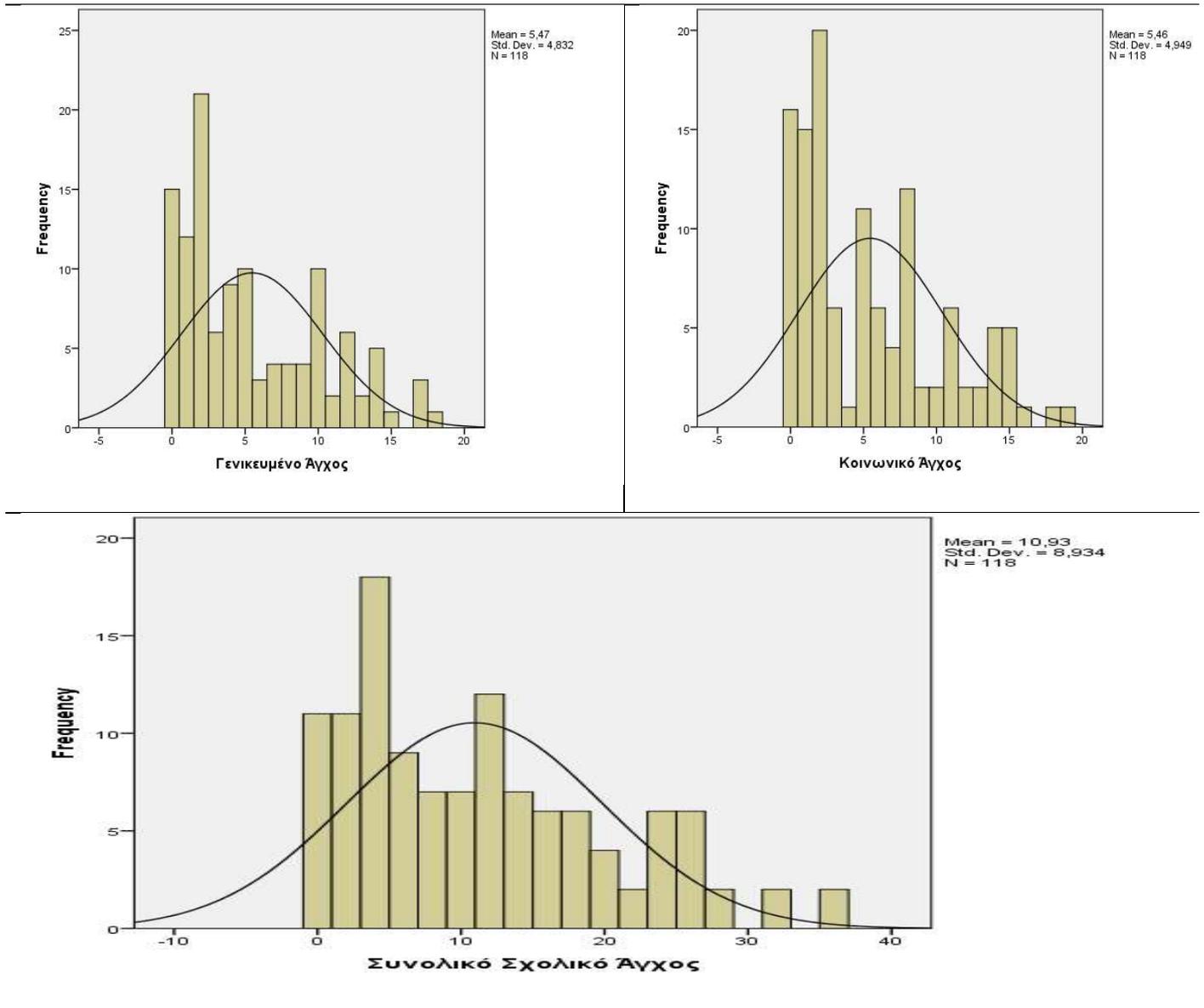
School Anxiety & Sub-Scales	M	SD	Minimum / Maximum Price	Obliquity	Curvature
School Anxiety SAS-TR (Total) (Scale: 0 – 48)	10,93	8,93	0 – 36	0,759	-0,210
(Social Anxiety) (Scale: 0 – 21)	5,46	4,95	0 – 19	0,801	-0,386
(Generalised Anxiety) (Scale: 0 – 27)	5,47	4,83	0 – 18	0,772	-0,471

As can be seen, the average grade for SAS-TR for standard-grade children is formed in units on a scale of 0 to 48, with the standard deviation being SD units. The minimum and maximum values of the scale are 0 and 36 units respectively, while the third and fourth order torqueses were found to be 0.759 and -0.210 respectively. For the Social Anxiety subscale, mean sample scores in units and standard deviation SD units in a scale of 0 to 21 are observed. The minimum and maximum values of the sub-scale are 0 and 19 units respectively, while the third and fourth order torqueses take values of 0.801 and -0.386 respectively. In calibration of 0 to 27 units, the Generalized Anxiety scale generates average score in units and standard deviation SD units. The minimum and maximum values of the sub-scale are 0 and 18 units

respectively, while the third and fourth order moments receive values of 0.772 and -0.471 respectively. Figure 3.3.3 below shows the histograms of the above distributions.

Diagram 3.3.3

The School Anxiety Scale (SAS-TR) distribution and its sub-scales for typical development children.



(λεζάντες εικόνων: Generalised Anxiety/ Social Anxiety/ Total School Anxiety)

Table 3.3.5
The School Anxiety (SAS-TR) frequency distribution and sub-levels for children with ASD.

School Anxiety and sub-levels	Spectrum			
	Normal	To the limits	Clinical	Extremely High Disorder
	n (%)	n (%)	n (%)	n (%)
School Anxiety SAS-TR (total)	128 (44,0)	18 (6,2)	78 (26,8)	67 (23,0)
(Social Anxiety)	133 (45,7)	31 (10,7)	66 (22,7)	61 (21,0)
(Generalised Anxiety)	129 (44,3)	26 (8,9)	80 (27,5)	56 (19,2)

3.3.3 Sharing children with ASD at levels of grading of measured scales and sub-scales

As already mentioned in the previous section, based on the weighting of the data collection tools selected for this research, the appraisal of appraised pupils for the measured anxiety disaggregation scales results in graduation levels. With regard to the School Anxiety Tool (SAS-TR), these levels were created taking into account the grade that each child gathered on the basis of their teacher's reports, and is the "normal range", "marginal spectrum", "clinical spectrum" and "spectrum of extremely high disturbance ". Students who score low scores are classified as "normal" in the occurrence of the measured symptoms, and those who have very high scores are ranked within the "extremely high disturbance spectrum" and are, as is perceived, cases of severe symptoms of the measured syndrome . The interpretation of the intermediate levels of the measured scales is performed in a corresponding manner.

Table 3.3.5 shows the distribution of children in the autism spectrum at the rating levels of the SAS-TR Total Anxiety Scale and its two components. As observed for the total measured scale, 128 pupils with ASD, 44% of the sample, are in the normal spectrum of the disorder, 18 children constitute 6.2% of the sample in the marginal spectrum, while the remaining 49.8% of the total sample of children with ASD, half of whom are students, are classified in the clinical and extremely high disturbance spectrum. Similar is the picture for both school stresses subclasses. Specifically, for the social anxiety sub-scale, 61 children with autism accounting for 21% of the total are ranked in the extremely high disorder spectrum, 66 students 22.7% of the sample in the clinical study, 31 students with ASD at the marginal, while the rest 45.7% of the sample did not show disturbing symptoms of the disorder. Regarding the Generic Anxiety Subscale, 44.3% of the children also have no symptoms of the disorder, 26 students, 8.9% of the sample are in the marginal range of the sub-scale, while the clinical and extremely high disturbance spectrum 27.5% and 19.2% of children with autism in the sample, respectively.

3.3.4 Distribution of typical development children to levels of graded scales and sub-scales

The exact same analysis for the control group of the current survey, which is the children of the general population, follows. Thus, in Table 3.3.8, the distribution of typical development children, the rating scale of the overall SAS-TR Anxiety Scale and its individual indices are presented. As observed for the total measured scale, 94 students with ASD, 79.7% of the sample, are in the normal spectrum of the disorder, 6 children constitute 5.1% of the sample in the marginal spectrum, while the remaining 15.3% of a total sample of typical development children, are classified in the clinical and extremely high disturbance spectrum. Similar is the picture for both school stresses subclasses. In particular, for the social anxiety subscale it appears that most of the children of typical development, 91 the number that make up 77.1% of the total, are in the normal range, 10 students are 8.5% of the sample in the clinic, 4 pupils of the general population in the marginal, while the remaining 11% of the sample presents very disturbing symptoms of the disorder. Regarding the Generalized Anxiety Subscale, 83.1% of the children are also not symptom of the disorder, 8 are

6.8% of the sample in the marginal spectrum of the sub-scale, while in the clinical and extremely high disturbance spectrum only 6.8% and 3.4% of the control group children respectively.

Table 3.3.8
The School Anxiety (SAS-TR) frequency distribution and sub-levels for typical development children.

School Anxiety & Subscales	Spectrum			
	Normal	To the limits	Clinical	Extremely High Disorder
	n (%)	n (%)	n (%)	n (%)
School Anxiety SAS-TR (total)	94 (79,7)	6 (5,1)	12 (10,2)	6 (5,1)
(Social Anxiety)	91 (77,1)	4 (3,4)	10 (8,5)	13 (11,0)
(Generalised Anxiety)	98 (83,1)	8 (6,8)	8 (6,8)	4 (3,4)

3.4 Variable effects

This section of statistical analysis investigates the relationship between the measured scales and subscales related to the characteristics of children in the autism spectrum. In addition, the experimental and control group differentiation is investigated in relation to the above anxiety discrete scales and scales. Depending on the type of the variable in question, similar statistical methods and case tests are used to clarify whether or not a relationship exists, how they interact with each other, and how demographic characteristics affect the configuration the values of the scale and sub-scale. The exported results of the above methods are those that will answer the research questions of the work, fulfill the aims and objectives of the research and will constitute the main conclusions of the research.

3.4.1 Differentiating the sample groups with respect to the measured scales and sub-scales

Starting with one of the main objectives of this research, we are attempting to detect variations in levels of the overall anxiety scale and its two components, among children with ASD and those of the general population. The differences in the mean values of the scales and sub-chambers between the two groups of the sample are examined by testing Independent Sample t-test hypotheses at materiality level, the results of which are presented in Table 3.4.1.

According to the results of the test, statistically significant difference is the difference between the average score for the overall School Anxiety Scale (SAS-TR) and children in the autism spectrum to show higher average score points $M = 20,40$ than typical development students $M = 10,93$ ($t(244,264) = -9,328, p = 0,000$). Two sub-scales of school anxiety disorder, similar statistically significant variations have emerged: In particular, students with ASD show a higher average Social Anxiety score compared to pupils in the general population (with the corresponding levels to be formed into and respectively. Regarding the subscale of Generalized Anxiety (Generalized Anxiety), the average score of the subscale for children on the spectrum

is higher than that of typical development students $M = 5,47$ ($t(407) = -9,393, p = 0,000$).

Table 3.4.1

Comparison of average values of the SAS-TR scale and sub-scales for the two groups of children.

Scales and Sub-scales	Children	Average	SD	df	t	p-value
School Anxiety SAS-TR (total)	ASD	20,40	10,140	244,264	-9,328	0,000*
	T.A.	10,93	8,934			
Social Anxiety (Social Anxiety)	$\Delta\Phi A$	9,37	5,370	407	-6,827	0,000*
	T.A.	5,46	4,949			
(Generalised Anxiety)	ASD	11,03	5,636	407	-9,393	0,000*
	T.A.	5,47	4,832			

Note: *= $p < .05$

Following the same analysis of parental responses to the research that formed the Anxiety Disorder Index as a whole and its individual sub-scales, it is noted that at the level of significance, children in the autism spectrum show higher levels of anxiety than those in the group control. The average score for Total Anxiety Disorder (SCARED-PV) for children with ASD is $M = 60,95$ units, while for typical development children $M = 12,71$, ($t(806) = -47,242, p = 0,000$). For the Excessive Concern (PN) sub-scale, the average score for the two groups is $M = 19,11$ for children with ASD and $M = 2,26$ for the general population with the value of the statistical function being $t(806) = -47,658 \mu\epsilon p = 0,000$. Concerning the Generalized Anxiety (GD) component, the experimental group has a higher average score $M = 13,60$ units compared to standard development children for which the corresponding rating is $M = 3,29$, ($t(280,477) = -41,541, p = 0,000$). Similarly, for Stress Anxiety (SP) with the results of hypothesis testing being $t(239,632) = -32,769 \kappa \alpha i p = 0,000$, children with ASD have a higher average score $M = 12,26$ units compared to typical development children for which the corresponding rating is $M = 3,37$. For the sub-scale Social Phobia (SC), the average score for the two

groups is $M = 10.26$ for children with ASD and $M = 3.02$ for the general population with the value of the statistical function being $t(231.013) = -29,869$ $\mu\epsilon$ $p = 0,000$. Finally, the same differentiation ($t(806) = -39.800, p = 0,000$), is also observed for the School Anxiety (SH) component with the scoring means of the sub-scale being shaped into $M = 5,72$ for children in the autism spectrum and in $M = 0,76$ for typical development children. The above results of Student hypothesis tests are those shown in Table 3.4.2.

3.4.3 Correlations between SAS-TR School Anxiety, Sub-scales, Age, and the Intelligence Quotient of children with ASD.

Of particular interest is the way in which the SAS-TRs of children in the autism spectrum and their sub-scales interact both with each other and with the age and quotient of these children's intelligence. Table 3.4.3 lists the Pearson correlation coefficients r which captures these linear correlations.

Table 3.4.4

Correlation coefficients (Pearson r) between the SAS-TR scale, its sub-scales, age, and I.Q. for children with ASD (N = 291).

		SAS-TR Total	Generalised Anxiety	Social Anxiety	Age	I.Q.
SAS-TR total	<i>Pearson's r</i>	1	a	a	-0,021	0,289**
	<i>p-value</i>				0,724	0,006
Generalised Anxiety	<i>Pearson's r</i>		1	0,697**	-0,049	0,267**
	<i>p-value</i>			0,000	0,402	0,000
Social Anxiety	<i>Pearson's r</i>			1	0,012	0,249**
	<i>p-value</i>				0,833	0,019
Age	<i>Pearson's r</i>				1	-0,184
	<i>p-value</i>					0,085
Δ.N.	<i>Pearson's r</i>					1
	<i>p-value</i>					

Note: * = $p < .05$, ** = $p < .01$

Note: a = Οι διογκωμένες συσχετίσεις λόγω επικάλυψης των στοιχείων δεν αναφέρονται.

As can be seen in Table 3.4.3, the two, Generalized Anxiety and Social Anxiety (CS) indicators, show a statistically significant level of significance, $\alpha = 0,01$ a high positive correlation between them ($r = 0,697, p = 0,000$), which indicates that high levels of generalized anxiety in children with ASD, are also accompanied by high levels of social anxiety. It is noted that the Pearson's linear correlation

coefficients between the total SAS-TR scale and its two sub-scales are omitted due to the overlap of their elements in their calculation. Both the overall School Anxiety Scale (SAS-TR) and its two components, those of generalized and social anxiety of children with autism, are not statistically significant in terms of materiality and the age of the pupils.

In relation to the intelligent quotient for children with ASD, the overall SAS-TR indicator is statistically significant in the level of importance $\alpha = 0,01$, weak positive correlation ($r = 0,289, p = 0,000$) which indicates that a high level of intelligence for children with ASD is poorly accompanied by high levels of school stress. The exact same picture is depicted for the individual scales of school stress. The high intelligence quotient of children with autism correlates weakly and positively with its 2 sub scales at the level of importance $\alpha = 0,01$. In particular, the Pearson correlation coefficient r between I.Q. and the components GA and SA were found $r = 0,267$ and $r = 0,249$ respectively.

3.4.4 School Anxiety Scale and Verbal Skills for Children with ASD.

The statistical processing of sample data has highlighted, statistically significant differences in values of the overall SAS-TR school anxiety level and only one of its components, that of social anxiety, in relation to the verbal competence of children with autism. Table 3.4.4 of the following page shows the results of the non-parametric test of Kruskal Wallis test for each of the scales under consideration.

With regard to the overall SAS-TR School Anxiety Scale, the audit has shown at an importance level $\alpha = 0,05$ statistically significant differentiation ($p - \text{value} = 0,006$) on the ability of speech of children with autism, with those children who have no speech to have a lower average score $M = 39,38$ in relation to pupils who have a monosyllabic or developed speech, $M = 43,65$ units and $M = 45,83$ units respectively. At the same level of importance, the same level of significance a statistically important differentiation. ($p - \text{value} = 0,000$) is observed for the Social Anxiety (SA) subscale in terms of pupils' verbal capability. Children with ASD that

have a single-word ratio have a higher average score $M = 10,72$ units in the sub-scale than the children who have no speech ($M = 8,30$) and the children with developed speech ($M = 8,32$). For the second Generalized Anxiety (GA) sub-scale, an importance level $\alpha = 0,05$, there is no statistically significant difference with the average score not changing with respect to the verbal capacity of children in the autism spectrum.

Table 3.4.5

Comparison of average values of SAS-TR scale and subscales for children with ASD in their speech capacity.

Scales	Speech Ability	Average	SD	p-value
School Anxiety SAS-TR (total)	No speech	39,38	5,128	0,006*
	Monosyllabic	43,65	3,472	
	Developed	45,83	3,189	
(Social Anxiety)	No speech	8,30	6,988	0,000*
	Monosyllabic	10,72	4,859	
	Developed	8,32	4,997	
(Generalised Anxiety)	No speech	19,18	14,751	0,154
	Monosyllabic	22,28	8,817	
	Developed	18,84	9,343	

Note: * = $p < .05$

3.4.5 Scales of School Anxiety for children with ASD and Gender.

Checking hypotheses (Student) (Independent Samples t-test) at importance level , did not show any statistically significant gender differentiation of pupils with autism for any of the measured school anxiety scales, total or partial. The results of the test, for each of the three scales separately with the corresponding values of the statistical function and the observed levels of significance (p-values), are presented in Table 3.4.5 below.

Table 3.4.6

Comparison of average values of SAS-TR scale and subscales for children with ASD regarding the Gender.

Scales and Subscales	Gender	Average	SD	df	t	p-value
School Anxiety SAS-TR (total)	Boys	20,45	9,918	289	0,153	0,879
	Girls	20,25	10,801			
(Social Anxiety)	Boys	9,32	5,385	289	-0,257	0,797
	Girls	9,51	5,362			
(Generalised Anxiety)	Boys	11,13	5,421	289	0,521	0,603
	Girls	10,74	6,223			

Note: *= p< .05

4. Discussion

The main purpose of the present study was to detect, identify and record the levels of anxiety disorder that children face in the autism spectrum, focusing on the dimension of school stress that they are confronted with. In addition, through the assessment of children of standard development, which was the research control group, the possible differentiation of the levels of anxiety disorder experienced by children with ASD in relation to children of the general population was investigated, while possible relationships of dependence of anxiety disorder the demographic and epidemiological characteristics of the children themselves diagnosed in the autism spectrum. For the fullest examination of the dimensions of school anxiety and the way it is shaped, based on the children's reports and the data collection tool used, it was divided into two individual dimensions, each of which contributes to its final configuration (SAS-TR) . The different components of school stress are::

- (Generalised Anxiety)
- (Social Anxiety)

The variables among which these effects were sought are the epidemiological and demographic characteristics of children in the autism spectrum that participated in the research. More specifically:

- Gender
- Age
- Intelligence Quotient
- Verbal Ability

From the quantitative analysis of the above variables, the following conclusions follow:

The recording of the anxiety disorder as a whole for children in the autism spectrum was shaped by the reports of their parents. It became emphatically intense with 95.6% of the total being placed on the clinical spectrum of the disorder. Same image for the total disorder syndromes with corresponding clinical spectrum ranges

ranging from 92.2% to 96.7% of the total. Focusing on the levels of school stress faced by students with ASD, teachers' reports show that half of the children with ASD experience this disorder. The same picture of the two components of school anxiety, generalized and social, with 46.7% and 43.7% of all children being placed in their clinical and extremely high disturbance spectrum (Gillot et al., 2001; Klin et al., 2000; Muris et al., 1998; Russel and Sofronoff, 2005; Bellini, 2004; Kuriakose, Lahiri, 2016).

There is consistency in the views of Teachers of children with ASD in relation to the existence and magnitude of the anxiety disorder in these children, with teachers' ratings being mild in intensity of the disorder.

There is a clear differentiation in the levels of anxiety disorder in all its manifestations among children with autism and those of typical development. In more than 99 out of 100 cases, children with ASD have higher levels of anxiety disorder in the overall scale or in any of the components that shape it in relation to children in the general population. The same conclusions are drawn from the focus on school stress among students (Griffiths, Farrell, Waters, White, 2017).

4.2 Research limitations

The geographic distribution of the sample can be considered as a basic limitation of the present investigation. Despite the fact that its size is large enough and representative per region, it is concerned only with specific prefectures of the Greek territory. Consequently, generalizations of the conclusions drawn should be made subject to caution.

Research is synchronous and related, so there can be no question of causal relationships between the factors under study. Additionally, in this exercise no other possible levels of anxiety disorder were evaluated and coerces such as depression, loneliness and interpersonal relationships of children in the Autism Spectrum.

All the above limitations must be taken into account when considering and interpreting the findings of this research.

4.3 Suggestions for further Research

All the above mentioned restrictions could be the basis for further research in order to study in more detail the aspects of children with anxiety disorder in the autism spectrum and to draw more secure conclusions.

In particular, in subsequent surveys, it would be useful to draw the sample from all the broader geographical areas of the Greek territory in order to adequately represent the demographic and socio-economic characteristics of the population. More research is proposed on this subject. Efforts could also be made to inform teachers with a child in the autism spectrum to deal with their children's anxiety disorder, with seminars, conferences, informative talks, printed materials.

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APPENDIX A

Dear colleagues, we kindly ask you to fill in the questionnaire below in order to gather data on the anxiety problems experienced today by many children with ASD in and out of school.

We live in an age that creates stress and stress on all of us. Stress refers to any situation that affects our organization and requires adaptation reactions. Problems start when the stress reaction is triggered regularly, so our body is in a state of readiness and is tortured, often for insignificant reasons. Experience has shown that not only adult anxiety situations are experienced, but also many children with and without special needs.

Dear Colleagues, we hope that the findings of our study will inform and sensitize the educational world, parents and the Greek State on issues related to the understanding and coping of children's anxiety disorder in the autism spectrum. Intervention programs will be designed to help the child properly cope with the anxious situations that prevent his / her school and extra-curricular adaptation and disturb the day-to-day life of his / her own and of his / her family.

Thank you very much for your participation.

**Christine Syriopoulou
Assistant Professor at the Department of Education
and Social Policy of the University of Macedonia.**

SCHOOL ANXIETY SCALE - Teacher reference

Please note by putting X or circle the word that fits your answer or answer in a few words..

1. Gender: Man Woman
2. Age: <30 31-40 41-50 >50
3. Years of service: <5 6-10 11-15 16-20 >20
4. Education (You can name more than one)
Pedagogical Academy _____
Pedagogical Academy and extra 2 years equivalent to higher degree _____
Department of Primary Education _____
Department of Special Needs Education _____
Another degree _____
5. Further studies
Teaching _____
Master Degree _____
Doctorate _____

6. School unit you work in:
 Special School _____
 Parallel support at the primary school _____
 Inclusion section _____
7. Years of service with children with autism: _____
8. Studies in Autism: Yes _____ No _____

Epidemiological elements of a student

1. Gender: Boy _____ Girl _____
2. Age _____
3. Class he/she attends _____
4. I.Q. _____
5. No speech _____ Monosyllabic speech _____ Developed speech _____

Put X in one of the columns you will choose according to your answer

	The child	Never	Someti mes	Often	Always
1	The child is scared to ask questions inside the class.	0	1	2	3
2	Speaks only when a question is addressed to him/her .				
3	Worries about what others think about him/her.				
4	Does not take initiative to ask questions or make remarks inside the class.				
5	Is afraid to make mistakes.				
6	Resents being the focus of attention.				
7	Hesitates to start a job or ask for clarification about it.				
8	Worries about a number of things.				
9	Worries he/she won't make it to school				
10	Worries that something bad is going to happen.				
11	Looks very shy.				
12	He/She complains about headaches, stomach or that he/she feels sick.				
13	He/She feels fear when he/she has to speak in front of the whole class.				
14	He/She hesitates to speak when he/she is in a group.				
15	When is in trouble, he/she feels trembling.				
16	Manifests irritation when approached by other children or adults.				

APPENDIX B

Table 1

Demographics and other characteristics of special needs education for children with ASD.

	n	%
<i>Gender</i>		
Men	66	22,7
Women	225	77,3
<i>Age</i>		
Under 30 years old	130	44,7
31 to 40 years	109	37,4
41 to 50 years	30	10,3
Over 50 years	22	7,6
<i>Experience in Education</i>		
Under 6 years	111	38,1
6 to 10 years	113	38,8
11 to 15 years	30	10,3
16 to 20 years	8	2,8
Over 20 years	29	10,0
<i>Education</i>		
Pedagogical Academy	31	10,7
Pedagogical Academy and 2 extra years	30	10,3
Department of Primary Education	113	38,8
Department of Special Education	113	32,6
Other Degree	60	17,3
<i>Further Studies</i>		
First Degree	15	5,2
Master	163	56,0
Doctoral	4	1,4
None	109	37,4
<i>School unit of employment</i>		

Special School	86	29,5
Parallel support in general school	105	36,1
Inclusion section	78	26,8
Department of General Education	16	5,5
Centers of Creational Occupation for People SNs	6	2,1
<i>Education in Autism</i>		
Yes	127	43,6
No	164	56,4

Table 2**Characteristic values of years of service experience in autism of children with special needs education.**

	Average Price	Typical Apoclis	Minimum/Maximum Price	Obliquity	Curvature
Years of service in autism	3,29	2,75	0 – 15	0,856	0,693

Table 3**Demographic & epidemiological characteristics of children with ASD.**

	n	%
Gender		
Boy	214	73,5
Girl	77	26,5
Attending Class		
Kindergarden and elementary school	273	93,8
Gymnasium and High school	12	4,1
Centers of Creational Occupation for People SNs	6	2,1
Verbal Ability		
No speech	40	13,7
Monosyllabic speech	128	44,0
Advanced speech	123	42,3

Table 4**Characteristic values of age and intelligence quotient of children with ASD.**

	Average Price	Typical Apoclis	Minimum/Maximum Price	Obliquity	Curvature
The age of children with Autism	10,01	3,09	4 – 25	1,642	5,117
The degree of intelligence of children with Autism	91,33	21,17	50 – 150	0,060	-0,097

Table 5**Demographic and other characteristics of general education teachers of formal developmental children.**

	n	%
<i>Gender</i>		
Men	17	14,4
Women	101	85,6
<i>Age</i>		
Under 30 years	8	6,8
31 to 40 years	40	33,9
41 to 50 years	32	27,1
Over 50 years	38	32,2
<i>Experience in Education</i>		
Under 6 years	9	7,6
6 to 10 years	33	28,0
11 to 15years	19	16,1
16 to 20 years	23	19,5
Over 20 years	34	28,8
<i>Education</i>		
Pedagogical Academy	23	19,5
Pedagogical Academy and 2 extra years	34	28,8
Department of Primary Education	55	46,6
Department of Special Education	0	0,0
Other Degree	5	4,6
<i>Further studies</i>		
First Degree	1	0,8
Master	45	38,1
Doctoral	1	0,8
None	71	60,2
<i>School unit of employment</i>		
Special school	0	0,0
Parallel support in special school	0	0,0
Department of Inclusion	0	0,0
Department of General Education	118	100,0
Centers of Creational Occupation for People SNs	0	0,0
<i>Studies in Autism</i>		
Yes	1	0,8
No	117	91,8