

# Investigation of the Correlation of Family Resilience of Parents with a Child with Autism Spectrum Disorders, Parenting Stress and Social Support

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## Abstract

Stress is an extremely serious symptom in the care of an autistic child and it deteriorates mainly in women and depending on the seriousness of the autism symptoms. As a result, physical and mental health problems are caused in the children's carers, having as a consequence the attack on family resilience. Social support, standard or non-standard, seems that it can be related to the parents' reduced stress levels as well as to an increase in resilience, even though not all researches agree on this conclusion. The correlation of these parameters in this study comes from a wider quantitative research, the sample of which were the parents of 312 autistic children in Greece, all of them couples, namely 624 men and women, divided in equal numbers. The scales' correlations in this research showed a strong correlation of the family communication and problem solving with the utilization of resources that concern the social and financial field, and also with important management strategies of autism, such as maintaining a positive outlook and the ability to make meaning of adversities.

**Keywords:** resilience, autism, autistic child, parenting stress, standard and non-standard form of support, social support

## 1. Introduction

### 1.1 *The Stress of Raising an Autistic Child*

In the difficult situation of raising an autistic child, parents feel overwhelmed with stress, and despite the fact that this has been found that in higher levels it attacks mothers, mainly those ones with irritable children, children of an older age and children who cause self-injuries (Kotsopoulos, 2014), often both parents wish for more help from their mates. Meaning, they both feel stressed, a kind of stress that in fact affects their children and affects significantly their cognitive, behavioral and social development (Bashir, Khursid, & Qadri, 2014). Not all surveys conclude that the sex is affected in the same way by the child's upbringing, but it is a fact that stress influences mainly the mothers, as Smith, Greenberg and Mailick (2014) note, since they face an especially stressful factor, more specifically the offensive behaviors of the children with autism. In fact, the increased stress causes unpleasant effects on maternal health and wellbeing that threaten the women's emotional and mental health. Their physical health is also affected, with pain in the joints, fatigue, headaches and gastrointestinal disorders, as well as strong under-activated cortisol levels. It is possible that stress is chronic, something that relates to the syndrome of burden of health carers and to post-traumatic stress disorder. Kotsopoulos (2014) concludes that indeed the higher levels of stress the mothers experience are obviously due to their increased involvement with the care of the child, whereas when the father suffers from depression, the mother's stress levels increase. Furthermore, the presence of an autistic child in the family causes also disappointment to the parents as to the hope of having a normal child.

The usual characteristics that cause parenting stress include the dispersed mental skills or individual abilities of the children and specific behavioral problems, such as self-arousal. The sense of losing the personal control on the part of the parents, the absence of marital support, as well as matters of further non-standard/unofficial and professional support (Bashir, Khursid, & Qadri, 2014) can also be added. An explanation about the special burden the mothers receive is suggested by Kwok, Leung and Wong (2014), who observe that the mothers of

children with disabilities, who act as main health carers, face not only the everyday life stress, but also that one coming from stressful factors that are unique in their children's condition. They are obliged to face special characteristics such as offensive behavior, reduced mental functioning, lack of skills of self-help, reduced social skills. And they are in the unpleasant position to face stigmatization too, which derives from the different cultural interpretation of the disability, resulting in the increase of parenting stress. The findings, however, of Van Bourgondien, Dawkins and Marcus (2014) reinforce the usual conclusions about autism, such as that the parental capacity for someone whose child suffers from autism has been linked to higher levels of depression, concern and exhaustion in comparison with the parents of children without disabilities. It is possible, though, and this is of a special importance for the results of this study, that the parents receive reduced social support and have less positive views on their children's condition. The difficulty of adaptability and the seriousness of the symptoms of children and teenagers with autism, have, indeed, been identified as main factors of maternal and family stress, which remains in high levels when the child manifests his behavioral problems. Additionally, as Bashir, Khursid, and Qadri (2014) underline the financial requirements of therapy cannot be excluded from the stress factors, simultaneously with the enormous demands for time that the management of the autistic syndrome necessitates. The marriages of the parents with autistic children entail difficulties, dysfunctionality and a great risk to end in a divorce. Of course the parents have to face also the adaptation of their healthy children to the situation, especially in cases of reduced intimacy between them and the children with autism.

The importance of the child's personal characteristics remains a special one, as Smith et al. (2014) refer to researchers which show that the parents of children with autism present higher stress levels, which relates to their children's characteristics rather, and not to the more general dimensions of parenting stress.

There were also some researchers who tried to relate the effect of autism on the family as a factor causing parenting stress to the geographical and cultural differentiation of the parents. Samadi and McConkey (2014) observe that most researches come from English-speaking countries where indeed much greater attention has been given to the emotions that mothers experience, with lesser mention to the fathers, and they come to the general conclusion that the Iranian parents experience similar experiences with those ones that have been related to the parents from other countries, indicating that the autistic disorder spectrum overrides the cultural differentiations that can, in other respects, be present in the way in which the parents take care of their autistic children. Xue, Ooh, and Magiati (2014) showed a similar interest in the psychological effects that the presence of a child with autism causes to families outside the western-world and concluded that common confrontation and optimism in the family came first in the effective confrontation strategies. Next came the understanding of a certain condition and the development of self-esteem and psychological stability.

The research by Batool and Khurshid (2015) was also important to the correlation of different variables, they found intense correlations between the seriousness of autistic dysfunction and parenting stress, between the parenting sense of self-efficiency and stress, as well as between the sense of family connectedness and stress. They all seemed as important prognostic factors for the occurrence of stress in the parents, with the seriousness of autistic disorder being proven as the most crucial risk factor, even though the ability and the trust in this ability of the parents for the upbringing of the child with autism, seemed that it can function against stress effectively.

### *1.2 The Social Support of the Parents with Autistic Children*

The symptomatology of the psychological burden from autism leads to the necessity of the parents' mental support so that the factors that cause it be alleviated, reducing their resilience. Many surveys explore the ways of decreasing the psychological burdening of the parents, whereas there are several ones referring to factors of mental enhancement and resilience. Concerning the topic of this study, it can be said that the strengthening of resilience is possible to be achieved via standard/official or/and non-standard/unofficial support of the parents, about which certain comments and clarifications are necessary to be mentioned first, with the help of the bibliography.

It must be clarified that both forms of support, both the standard/official and the non-standard/unofficial are considered forms of social support, which can make the parents capable of facing the complex problems and the psychological consequences of raising a child with autism. The content of the social support is multi-dimensional and includes the physical and guiding help, the communication of views, the exchange of resources and information, as well as the emotional and psychological support. It can also be linked to official services which are provided from experts' organizations, or the non-standard support from friends and the family (Yarock Rutstein, 2014).

The unofficial/non-standard support comes from friends and relatives. It is noted especially that among the forms of standard and non-standard support, which include the husband, the friends, the early intervention in favor of the child and the medical support, the most usual one is the support by the husband, as stated by a large amount of women, a finding that is not surprising, since 90% of the participants in the survey out of which it comes from, are married or cohabit with a mate. Furthermore, in spite of the isolation that characterizes the upbringing of an autistic child, most women stated that also friends are also available for support (Brown, 2014).

The non-standard support has been proven effective to the reduction of the stress levels related to the upbringing of an autistic child. In fact, the mothers who receive this support manifest reduced physical problems, as well as depression symptoms. The larger percentages of non-standard support have been correlated in researches with lower depression levels and also parenting stress for both parents (Yarock Rutstein, 2014).

The official or standard support is the one the parents receive from therapists who treat their child. It has been indicated as a crucial period during which the parents need official support, that of the first autism symptoms, when the child is at the age of 18-24 months old, when the diagnostic process begins. The next stage of criticality is that of the adaptation to the proper care of the autistic child. The understanding of the child's needs and the acquisition of practical skills concern this stage, and the official support will have to give parents the possibility to process the cognitive and emotional possibilities and choices provided in the level of therapeutic interventions (Gena & Balamotis, 2013).

However, the provision of official support without the active participation of the parents is not understood, hence, the competent organizations seek after their direct involvement in the conquest of an overall framework of the proper care of the autistic child. As a matter of fact many researchers believe that the support by the services will in no way worsen the parents' stress levels, whereas the proper approach may bring about their reduction. The official support concerns actively the consultation with the parents and the direct care of the autistic child (Yarock Rutstein, 2014). It is emphasized that in contrast to previous theoretical levels of the experts, now the relationship between experts and parents is characterized as interactive. Not only must the information the parents provide be taken into consideration, but also their expectations and hopes for the child with autism (Gena & Balamotis, 2013).

The official as well as the unofficial support is linked to reduced parenting stress levels, whereas it can consist also the regulator against its increase. The potential reduction of the stress, however, is a venture that requires specialized knowledge on the part of the health experts, who indeed must be informed of the ways in which their services can be offered towards this direction. And as it is concluded that the direct services of the experts can cause this reduction, the search for lesser official sources of support will have to be encouraged. Namely, it is recommended that the organizations of official support know which forms of non-standard support exist in the community of the parents concerned (Yarock Rutstein, 2014).

A very useful conclusion is that the correlation of the perceived social support by official bodies and the symptomatology of autism is negative. However, not all researchers agree on this point. For instance, the research of Felizardo, Ribeiro, and Amante (2016) has not shown the same negative relation of support/stress/autism symptomatology. Comparing the stress of the parents of children with developmental disorders, they found that all parent groups, both the carers of children with autism and those who raise children with other disorders, experience similar stress levels, even though they present important differences in individual values. The aforementioned researchers found this finding very interesting, namely, that whereas in previous scientific literature it is observed that the parents of children with autism seem to correlate with specific sources that cause stress which concern the variety of the symptoms and behavioral problems of the autistic children, simultaneously they are those presenting the highest values of the perceived social support, that is to say, availability of the support and satisfaction from it. This is due to the fact that they are officially supported by some institute for the care of autistic children, where the specialized attention provides many advantages.

In other words, in spite of the agreement of the surveys on many matters about standard and non-standard support, there are points that reveal non-compatible conclusions up to contradictory opinions.

## **2. Method**

### *2.1 Purpose*

This article is part of a wider research that aimed in exploring the way in which the family resilience of parents with a child with autism spectrum disorders interacts with the social context among which the family is placed, as well as with the stress the parents experience during the upbringing of a child with autism spectrum disorders. It is important to investigate how the resilience is affected when the social support that the family receives is low

and the true stress high, with variables, apart from the level of social support that the parents receive and the stress they suffer from, certain demographic characteristics of the parents and of the child, too, such as age, sex and the diagnosis of the syndrome the child suffers from. In this article, the investigation of the relation between the family resilience of the parents with a child with autism spectrum disorders, the parenting stress they face and the social support they and their family members receive, was attempted. More specifically, the objective has been to answer some key questions such as the following: *How are the components of family resilience interrelated and how are the individual dimensions of parenting stress of parents with a child with autism spectrum disorders correlated to resilience? Are high levels of social support significantly correlated with high levels of family resilience as a whole? Which individual sectors of it is there a stronger correlation with? Are high levels of social support significantly correlated with low levels of parenting stress? Which components of parenting stress is there stronger correlation with?*

## 2.2 Participants

Table 1. Demographic and other characteristics of the participants in the survey

	n	%
<b>Sex</b>		
Men	312	50,0
Women	312	50,0
<b>Nationality</b>		
Greek	609	97,6
Other	15	2,4
<b>Religion</b>		
Christians	586	93,9
Muslims	38	6,1
<b>Prefecture of</b>		
Kavala	52	8,3
Rodopi	80	12,8
Xanthi	72	11,5
Cyclades	74	11,9
Serres	96	15,4
Drama	120	19,2
Evros	130	20,8
<b>Education</b>		
Primary Education	171	27,4
Secondary School Graduates	80	12,8
Lyceum Graduates	168	26,9
HEI/TEI Graduates	205	32,9
Studies in Psychology or in Special Education	0	0,0
<b>Annual Family Income</b>		
Below 15.000 €	266	42,6
15.000 € - 20.000 €	272	43,6
Over 20.000 €	86	13,8
<b>Family Status</b>		
Single	0	0,0
Married	624	100,0
Widower/Widow	0	0,0
Divorced	0	0,0
<b>Family Relation to the Child</b>		

Biological Father	312	50,0
Biological Mother	312	50,0
Step-father	0	0,0
Step-mother	0	0,0

As shown in Table 1, 624 parents of 312 children with autism spectrum disorders participated in the survey. The sample is uniformly distributed as to the parents' sex with 50.0% men and the same percentage of women. 97,6% of the sample, namely 609 parents, are Greeks, whereas 2,4%, namely 15 participants, are of a different nationality. 586 of the participants are Christians, 93,9% of the sample, whereas the remaining 6,1%, that is to say, 38 parents, are Muslims. As far as their place of residence in the Greek territory is concerned, 52 parents (8,3% of the total number) reside in the prefecture of Kavala, 80 parents (12% of the total number) reside in the prefecture of Rodopi, 72 participants (11,5% of the sample) in the Xanthi prefecture, 74 parents (11,9% of the sample) in the prefecture of Cyclades, 96 parents (15,4% of the total number) in the prefecture of Serres, 120 parents (19,2% of the total) in the prefecture of Drama and 130 parents (20,8% of the sample) in the prefecture of Evros.

The total number of the respondents (100,0% of the sample) are married and they are the biological parents of the child with autism spectrum disorders, 312 (50,0% of the sample) are the biological mothers and 312 (50,0% of the sample) the biological fathers.

The highest level of education for 27,4% of the participants (171 parents) is that of the primary education, 12,8% of the participants (80 parents) have received a low secondary education (*gymnasium*), 26,99% (168 parents) have received a high secondary education (*lyceum*), whereas the rest of the participants, that is to say, 32,9% of the sample (205 parents) have received a post-secondary education, as they are graduates of Higher Educational Institutes (HEI) and Technological Educational Institutes (TEI).

Concerning the annual family income, 42,6% of the sample (266 parents) declared an amount below 15.000€, 43,6% of the total number (272 parents) between 15.000€ and 20.000€ and the remaining 13,8% (86 parents), an income over 20.000€.

The children's characteristics are summarized in Table 1 in this text.

Table 2. Sex of the children with autism spectrum disorders and Asperger syndrome

	n	%
<b>Sex</b>		
Boy	253	81,1
Girl	59	18,9
<b>Diagnosis</b>		
Autism	282	90,4
Asperger	30	9,6
I don't know	0	0

Table 3. Characteristic age values of the children with autism spectrum disorders

	Mean Value*	Standard Deviation	Skewness	Kurtosis
The Age of Children with Autism Spectrum Disorders	12,45	5,33	1,184	1,937

With regard to the child's sex, 81,1% of the respondents, namely 506 in number, are boys' parents and the remaining 118 parents (18,9% of the sample) are girls' parents. The average age of the 312 children whose parents participated in the research is  $M = 12,45$  years with standard deviation  $SD = 5,3$  years. 90,4% of these children, that is to say, 282 in terms of numbers, have been diagnosed with autism, whereas the remaining 30 children, 9,6% of the total number, have been diagnosed with Asperger syndrome. The children's characteristics are summarized in Tables 2 and 3 in the present text.

### 2.3 Note

The demographic characteristics of the families with dysfunctional children are factors relating directly to the parents' stress levels (Houser & Seligman, 1991; Keller & Honig, 2004). For this reason the questionnaire that was distributed to the participants contained specific fields the completion of which would provide the necessary demographic information on each family, namely on the sex, nationality, religion, education level, annual family income, current family status, family relation to the autistic child, the child's age and sex, as well as his accurate diagnosis.

### 2.4 Data Collection

The supplying and collection of the questionnaires were realized by the writer from July 2015 to February 2016. The search for parents with children with autistic spectrum disorders was conducted based on the catalogues of the Center for Differential Diagnosis, Diagnosis and Support (K.E.D.D.Y.) in the prefectures of the Greek territory, where an archive is kept on the children that receive a diagnosis. The parents were approached via mail sent to their residence address, to which the research questionnaire was attached, as well as an accompanying form that informed them in detail of the purpose and the aims of the research process. Special emphasis was put on the importance of confidentiality and anonymity of the information, namely that the data of the child and of the parents themselves would remain anonymous, whereas the information will be used exclusively for the needs and the purpose of the present research.

Though the accompanying form the parents were informed that they had to complete the entire questionnaire and the duration of its completion should not exceed 60 minutes. The participants were urged to contact the researcher on his mobile phone for the provision of instructions and clarifications about the correct completion of the questionnaire. Moreover, the importance of the completion by every parent separately was specifically pointed out to the participants, without there being an exchange of views among the couples, so that the achievement of the research's aims be possible.

The collection of the completed questionnaires was realized with their return to the researcher, by mail, from the families that had consented to an analysis of their answers. The return of the questionnaires to the researcher was defined to take place within 30 days after the date of their dispatching to these families.

### 2.5 Data Analysis

For the investigation of the relations that govern the Social Support, Family Resilience and Parental Stress of parents with children with autism spectrum disorders, the following three data collection tools were used.

**Social Support Index:** The degree of the social support of parents who have a child with autism spectrum disorders was measured with the widely spread SSI tool (McCubbin, Patterson, & Glynn, 1982) which assesses the family social support as a factor in family resilience (Fischer, Corcoran, & Fischer, 2007). It contained 16 questions the answers to which were given in the 5-point Likert scale (0 up to 4). In every questionnaire statement, the respondents can state the measure of their agreement or disagreement by choosing one of the following answers: "I strongly disagree", "I agree", "I am not sure", "I agree" and "I fully agree", which are ranked on a scale of 0 to 4. In certain answers the scale was reversed so that a common conceptual content could be achieved. As to the answers' interpretation for the definition of the Social Support degree, the scores of the individual questions are summed, the highest scores indicating a highest Social Support degree. The span of the SSI scale was from 0 to 6 units. The SSI has a high internal validity index with a  $\alpha = 0,82$ . The Social Support scale was used as an independent variable.

**Family Resilience Assessment Scale:** The FRAS scale of Tucker Sixbey (2005) was used to measure Family Resilience, based on the theoretical standard of Walsh (2006) on family resilience. It contained 66 closed-type questions which, as in the SSI case, they were answered in the Likert scale, but in a 4-point one, with values varying from 1 to 4, corresponding to the choices: "I strongly disagree", "I disagree", "I agree" and "I fully agree". The scale was reversed in four of these questions, and again for the acquisition of a common conceptual content. There was also an open-ended question. From these questions 54 were assessed, which were grouped together and formed 6 subscales of family resilience, as Tucker Sixbey (2005) suggests. More specifically, the subscales are as follows: **1) Family Communication and Problem Solving:** here, 27 questions of the data collection tool correspond to it. The result of the subscale is given with Cronbach's alpha coefficient 0,96, whereas the horizontal sum of the individual questions forms the subscale's final rating with a span from 27 to 108 units. **2) Utilizing Social and Economic Resources:** It is formed by 8 questions. Its rating is calculated by summing the participants' answers and it varies from 8 to 32 units. The subscale's reliability has a Cronbach's alpha index of 0,85. **3) Maintaining Positive Outlook:** The questions composing the subscale are 6. The internal

validity was calculated with the 0,86 Cronbach's alpha coefficient and in the same way the subscale's rating is calculated which varies from 6 to 24 units. **4) Family Connectedness:** It is composed of 6 questions, among which the four ones in which the scale was reversed for conceptual reasons are also included. The sum of the score of all the questions that compose it, shapes the subscale's rating which it can also vary from 6 as minimal value to 24 as maximum value. Its reliability, measured with the Cronbach's alpha coefficient, was found to be of 0,70. **5) Family Spirituality:** The subscale is composed of 4 questions. From the sum of the answers' score its rating varies from 4 to 16 units and the measurement of its internal validity gave a Cronbach's alpha coefficient of 0,88. **6) Ability to Make Meaning of Adversity:** It is formed by 3 questions, its rating is calculated by summing the answers of the respondent parents and it varies from 8 to 32 units. The subscale's reliability has a Cronbach's alpha index of 0,74.

Taking into consideration the exception of 12 questions, it must be noted that the rating for the measurement of the total family resilience results from the horizontal sum of the 6 subscales and may vary from 66 to 264 units. Both for the total family resilience assessment scale and its entire individual subscales, higher scores indicate higher levels of family resilience. The reliability and internal validity in total for the tool used were calculated with the Cronbach's alpha coefficient and was found to be of 0,96. It is noted that the open-ended question was omitted.

**Parenting Stress Index—Short Form:** The parenting stress degree was measured by using the PSI-SF index (Abidin, 1995), which calculates the stress of the parents with children with autism spectrum disorders, which comes exclusively from their role as parents, without taking into consideration any external stressful factors, apart from the parent-child relation, as well as the child himself. The measurement tool consisted of 36 closed-type questions that were answered based on the 5-point Likert scale (1 to 5 = "I strongly disagree", "I disagree", "I am not sure", "I agree" and "I fully agree"). They were grouped together in three groups equal in number, that shaped the three index subscales as follows: **1) Parental Distress:** It is made of questions 1-12 of the PSI-SF tool. The subscale rating is calculated by summing the answers and it varies from 12 to 60 units, reflecting the stress that is due to factors that concern the parents and which relate to the child's upbringing. The subscale's reliability has a Cronbach's alpha index of 0,85. **2) Parent-Child Dysfunctional Interaction:** Questions 13 to 24 compose the second subscale of the Parenting Stress Index which represents the disappointment the parents feel regarding their interactions with their child. The sum of the score of all the questions that compose it, shapes its rating which may also vary from the minimum value of 12 units to the maximum value of 60 units. The subscale's reliability measured with the Cronbach's alpha coefficient was found to be of 0,68. **3) Difficulty of Child:** It is formed by the twelve last questions in the questionnaire, 25 to 36. Its rating is calculated by summing the parents' answers, it varies from 12 to 60 units and assesses their perception about the self-regulation of their child's behavior. The subscale's reliability has a Cronbach's alpha index of 0,78.

The rating for the measurement of the total Parenting Stress results from the horizontal sum of the 3 subscales and varies from 66 to 264 units. Both for the scale and its subscales, high scores indicate high stress levels, whereas a low rating indicates low stress levels. According to the PSI-SF self-report index, the values between the 15<sup>th</sup> and 80<sup>th</sup> percentage point of distribution are considered to be normal stress levels, whereas for the individuals whose rating varies from values above the 90<sup>th</sup> percentage point of distribution, it is regarded that they are in the clinical range of high stress levels. The reliability and internal validity in total for the tool used was calculated with the Cronbach's alpha coefficient and was found to be of 0,84.

The **consistency check** was performed via the alpha "coefficient" of Cronbach (Cronbach's  $\alpha$ ), with the use of which the reliability of the data collection tools and their individual parts is defined. Coefficient values higher than 0,6 are considered satisfactory and they ensure their cohesion and internal validity, functioning as elements of a unified group. For the **description of the quantitative variables** that participated in the statistical analysis, the mean values (Mean), the standard deviations (Standard Deviation = SD), the minimal and maximum values (Min-Max) as well as the third and fourth order moments (Skewness and Kurtosis) of their distributions were used. In the case of the qualitative data, their description was made via the recording of their relevant absolute (n) and percent (%f) frequencies. The **linear correlation check** between the quantitative variables was conducted via the Pearson r correlation coefficient. The r correlation coefficient varies between -1 and 1, whereas the higher it is in absolute value, the higher the correlation between the variables becomes. Even though there are no commonly accepted limits, index values, to an absolute value, lower than 0,3 indicate weak correlations, values between 0,3 and 0,5 indicate medium correlations, whereas values higher than 0,5 mark high and strong correlations. Positive values of the coefficient suggest a positive correlation, whereas negative values, a negative correlation. The statistical significance of the correlations is checked at significance levels  $\alpha = 1\%$  and  $\alpha = 5\%$ .

For the *comparison of the quantitative variables* and the drawing of the survey's main conclusions, the Independent Samples t-test and the Paired Samples t-test were used depending on the nature and kind of the variables under examination. Moreover, its generalization for variables with more than two levels, the one-way Analysis of Variance (ANOVA), was used. The further study on the differences in the factors' levels is carried out with the Tukey method for multiple comparisons. The check of the hypothesis on equality of the variances on the factors' levels is performed via the Levene's test, whereas the safeguarding of the basic conditions concerning regularity and independence of the method's errors was checked via the Kolmogorov-Smirnov test and the Runs test, respectively. The aforementioned hypothesis checks are performed at a significance level  $\alpha = 5\%$ . For the *processing and statistical analysis* of the data the IBM SPSS Statistics 20 data statistic analysis software package was used.

### 3. Results

#### 3.1 Correlations among the Subscales of Family Resilience

Table 4. Correlation coefficients (Pearson r) between the subscales of FRAS (N = 624)

FRAS Subscales		FCPS	USER	MPO	FC	FS	AMMA
FCPS	<i>Pearson's r</i>	1	0,800**	0,743**	0,072	0,315**	0,682**
	<i>p-value</i>		0,000	0,000	0,072	0,000	0,000
USER	<i>Pearson's r</i>		1	0,630**	0,049	0,329**	0,573**
	<i>p-value</i>			0,000	0,225	0,000	0,000
MPO	<i>Pearson's r</i>			1	-0,027	0,195**	0,115**
	<i>p-value</i>				0,503	0,000	0,000
FC	<i>Pearson's r</i>				1	0,020	0,115**
	<i>p-value</i>					0,623	0,004
FS	<i>Pearson's r</i>					1	0,199**
	<i>p-value</i>						0,000
AMMA	<i>Pearson's r</i>						1
	<i>p-value</i>						

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

#### Memo

FCPS: *Family Communication and Problem Solving*

USER: *Utilizing Social and Economic Resources*

MPO: *Maintaining Positive Outlook*

FC: *Family Connectedness*

FS: *Family Spirituality*

AMMA: *Ability to Make Meaning of Adversity*

When investigating the effects among the studied variables, the search for the linear relations among the components of Family Resilience through the correlation coefficient of Pearson r was conducted. As shown in Table 1, statistically significant correlations are found for most subscales. The subscale of Family Communication & Problem Solving (FCPS) shows statistically significant positive correlation with the subscale of Utilizing Social and Economic Resources (USER) ( $r = 0,800, p = 0,000$ ), the subscale related to the issues of Maintaining Positive Outlook (MPO) ( $r = 0,743, p = 0,000$ ) and the subscale of The Ability to Make Meaning of Adversity (AMMA) ( $r = 0,682, p = 0,000$ ), a fact which indicates that the higher the values of the subscale are, the higher the levels of the remaining ones are. Additionally, it shows statistically significant weak positive correlation with Family Spirituality (FS) ( $r = 0,315, p = 0,000$ ) while it is not shown to interact statistically significantly, at significance level  $\alpha = 0,05$ , with the subscale of Family Connectedness (FC) ( $r = 0,072, p = 0,072$ ).

Regarding the subscale of Family Resilience USER, statistically significant high positive correlations are found regarding subscales MPO and AMMA with  $r = 0,630, p = 0,000$  and  $r = 0,575, p = 0,000$  respectively. Moreover, a weak positive correlation is formed with FS component ( $r = 0,315, p = 0,000$ ) while there is no statistically significant interaction with FC subscale ( $r = 0,049, p = 0,225$ ). Very weak positive correlations, statistically significant at the studied significance levels, are found among MPO subscale and FS and AMMA, with coefficient values  $r = 0,195, p = 0,000$  and  $r = 0,115, p = 0,000$  respectively. The same component shows a non-statistically significant correlation with FC ( $r = -0,027, p = 0,503$ ) which, in turn, does not seem to correlate statistically significantly with FS subscale ( $r = 0,020, p = 0,623$ ), while it interacts weakly and positively with AMMA component ( $r = 0,115, p = 0,004$ ). Finally, the subscales of Family Resilience AMMA and FS show a very weak positive statistically significant correlation with a coefficient value  $r = 0,199$  and observed significance level  $p = 0,000$ .

### 3.2 Correlations among the Subscales of Parenting Stress

Table 5. Correlation coefficients (Pearson r) among the subscales PSI-SF (N = 624)

PSI-SF Subscales		PD	P-CDI	DC
PD	<i>Pearson's r</i>	1	0,564**	0,605**
	<i>p-value</i>		0,000	0,000
P-CDI	<i>Pearson's r</i>		1	0,856**
	<i>p-value</i>			0,000
DC	<i>Pearson's r</i>			1
	<i>p-value</i>			

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

#### Memo

PD: *Parental Distress*

P-CDI: *Parent-Child Dysfunctional Interaction*

DC: *Difficulty of Child*

Making the same analysis for the components of the Parenting Stress index, some moderate and some high statistically significant linear correlations are found among them, a fact which indicates that high levels of a subscale are accompanied by high levels of stress, as well, in the remaining subscales. More specifically, the subscale related to Parent-Child Dysfunctional Interaction (P-CDI) is highly and positively correlated with the component that concerns the Difficulty of Child (DC) with a value of correlation coefficient of Pearson  $r = 0,856$  and  $p = 0,000$ . The measured subscale of Parental Distress (PD) shows average positive, statistically significant, at significance level  $\alpha = 0,01$ , linear correlation with components PCDI ( $r = 0,564, p = 0,000$ ) and DC ( $r = 0,115, p = 0,004$ ).

#### 4. Correlations among Family Resilience, Parenting Stress, Social Support and Their Subscales

The way in which the scale of Family Resilience of parents with a child with autism spectrum disorders and its subscales, as well as the Social Support index interact with the total Parenting Stress index and its components, are of a particular interest. In Table 3 the correlation coefficients Pearson r are recorded which illustrate the said linear correlations.

Table 6. Correlation coefficients (Pearson r) among the FRAS, SSI, PSI-SF scales and their subscales (N = 624)

Scales & Subscales		PSI-SF totally	PD	P-CDI	DC	SSI
SSI	<i>Pearson's r</i>	-0,261**	-0,295**	-0,166**	-0,230**	1
	<i>p-value</i>	0,000	0,000	0,000	0,000	
FRAS totally	<i>Pearson's r</i>	-0,301**	-0,230**	-0,280**	-0,287**	0,449**
	<i>p-value</i>	0,000	0,225	0,000	0,000	0,000
FCPS	<i>Pearson's r</i>	-0,285**	-0,212**	-0,267**	-0,278**	0,433**
	<i>p-value</i>	0,000	0,000	0,000	0,000	0,000
USER	<i>Pearson's r</i>	-0,279**	-0,218**	-0,256**	-0,265**	0,398**
	<i>p-value</i>	0,000	0,000	0,000	0,000	0,000
MPO	<i>Pearson's r</i>	-0,218**	-0,150**	-0,213**	-0,216**	0,315**
	<i>p-value</i>	0,000	0,000	0,000	0,000	0,000
FC	<i>Pearson's r</i>	-0,143**	-0,105	-0,118**	-0,154**	0,124**
	<i>p-value</i>	0,000	0,008	0,003	0,000	0,000
FS	<i>Pearson's r</i>	-0,104**	-0,081*	-0,116**	-0,082*	0,171**
	<i>p-value</i>	0,000	0,044	0,004	0,041	0,000
AMMA	<i>Pearson's r</i>	-0,210**	-0,210**	-0,169**	-0,179**	0,370**
	<i>p-value</i>	0,000	0,000	0,000	0,000	0,000

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

### Memo

- SSI: *Social Support Index*  
 FRAS: *Family Resilience Assessment Scale*  
 FCPS: *Family Communication and Problem Solving*  
 USER: *Utilizing Social and Economic Resources*  
 MPO: *Maintaining Positive Outlook*  
 FC: *Family Connectedness*  
 FS: *Family Spirituality*  
 AMMA: *Ability to Make Meaning of Adversity*

The two scales of Social Support (SSI) and Family Resilience (FRAS) in their total, show statistically significant weak negative correlation with the total Parenting Stress Index (PSI-SF) ( $r = -0,301, p = 0,000$  and  $r = -0,261, p = 0,000$  respectively) a fact which indicates that low levels of parenting stress are weakly accompanied by high levels of family resilience and social support. Exactly the same image is also presented for the individual scales of parenting stress. Low levels of social support are weakly and negatively correlated with its three subscales at a significance level  $\alpha = 0,01$ . More specifically, the correlation coefficient Pearson r among SSI and the components PD, P-CDI and DC was found to be  $r = -0,295$ ,  $r = -0,280$  and  $r = -0,287$  respectively. The negative weak correlations of the family resilience as a whole with the three subscales of parenting stress were also found statistically significant at the same significance level. High levels of each component of parenting stress are related to low levels of total family resilience, the correlation coefficients

forming the values  $r = -0,230$  with  $p = 0,000$ ,  $r = -0,301$  with  $p = 0,000$  and  $r = -0,301$  with  $p = 0,000$  for PD, P-CDI and DC respectively.

Regarding the interaction of the indexes of Social Support and Family Resilience as a whole, moderate positive linear correlation is found ( $r = 0,449, p = 0,000$ ), high levels of one indicating high levels of the other. Similar conclusions are drawn for the relation of SSI index with the individual subscales of family resilience. Higher, statistically significant, positive correlation was found the one with FCPS subscale ( $r = 0,433, p = 0,000$ ) which is characterized as moderate, while the weaker positive linear correlation is formed with FC component ( $r = 0,124, p = 0,000$ ).

The Parenting Stress index PSI-SF as a whole is statistically significantly, negatively and weakly correlated with all the subscales of Family Resilience. Its correlation coefficient with FCPS subscale amounts to  $r = -0,285$  with  $p = 0,000$ , with USER to  $r = -0,279$  with  $p = 0,000$ , with MPO component to  $r = -0,216$  with  $p = 0,000$ , with FC to  $r = -0,143$  with  $p = 0,000$ , with FS to  $r = -0,104$  with  $p = 0,000$  and finally with AMMA subscale to  $r = -0,210$  with  $p = 0,000$ . The correlations among the subscales of Family Resilience and the individual components of Parenting Stress were found weak to very weak. All these linear correlations emerge statistically significant at significance level  $\alpha = 0,01$  apart from the interaction of FS and PD for which  $r = -0,081$  with  $p = 0,044$ .

## 5. Discussion

Family communication & problem solving is strongly correlated with utilizing social and economic resources, maintaining positive outlook as well as with the ability to make meaning of adversity. High performances in some of the above aspects of family resilience are related to high performances in the remaining ones. Family connectedness is weakly correlated only with the ability to make meaning of adversity. The other interactions among the individual dimensions of family resilience are considered weak to moderate.

The social support has emerged in the theoretical part as a significant factor of enhancement of the parents' resilience, but it does not seem to equivalently correlate with every aspect of this resilience. The total resilience is moderately positively correlated with social support, namely all the elements of resilience do not benefit from it, although a positive impact emerges, even weak or moderate, in all its individual aspects. It has a very positive effect on communication and problem solving. At this point the support of the extended family can be discussed, that the positive interaction with it causes some reduction on the stress in the sense of its regulation. On the contrary, a bad, at a supportive level, extended family is possible to cause severe communication problems and weaknesses in problem solving, because it may even cause mental damage due to ignoring, alienation, judgment and criticisms (Fairthorne et al., 2014).

The social support, which comes from the parents as well as the friends and the wider social environment, brings about very positive results in addressing the issue of autism, even if the total number of the elements of resilience is not connected to the same strong extent to it. The conclusion on its assistance in the family communication and the solving of problems that concern it, problems which stem from the quite serious issue of autism was, therefore, expected.

Parental distress is strongly correlated with parent-child dysfunctional interaction, the high levels of the one being strongly connected to the high levels of the other. High levels of parental distress and parent-child dysfunctional interaction are moderately connected to great difficulty of child.

The parents' emotional and mental burden is directly related to the child's adaptability and behavior. The reason is that indeed the difficulty in adapting and the severity of the symptoms of the autistic child are mentioned as being the main factors causing maternal and family stress, which remains in high levels when the child expresses its behavioral problems. Many autistic children are irritable, aggressive, cause self-injuries and generally manifest an offensive behavior, resulting in inflating the problems for the mothers. At the same time, high levels of maternal caring and positive comments are related to reductions of the autistic symptoms in adolescents and adults.

The parent-child dysfunctional interaction, which is caused by the children's problematic behavior, although it brings about negative effects in the family system, such as parents' increased stress and fatigue, does not necessarily reduce the functionality of the family (Jellet et al., 2014). The significance of the classification of Zhou and Yi (2014) may be supported and specifically the distinction of group  $\Delta$  of parents, who are usually the ones that give up trying to educate and take care of their children, when they lose their hopes for the improvement of the situation and their motives for participation in any management of the autistic child are reduced. Thus, they remain embarrassed and leave the situation to its fate, while they treat their child negatively

and thus the roles of the trainer and the tutor are weakened. Here the disappointment should be mentioned, though not for a feeling of inefficiency in the parents, who think they face a situation which cannot be improved. However, research is also published according to the findings of which the parents are affected in various ways, stress being at the forefront of their problems, as it causes many problems to the family. The parents feel that addressing the issue actually monopolizes their thought and all their whole time is devoted to it (Bashir, Khursid, & Qadri, 2014). Maybe the fact that in our research it was found that high levels of parental distress and parent-child dysfunctional interaction are moderately connected with great difficulties of the child, is due to the fact that autism is a more general problem that significantly concerns parents, who do not necessarily face very acute behavioral problems of their child in order to feel sorrow and experience dysfunctionality especially due to the severity of the symptoms. The fact alone of the raising of an autistic child is enough for the sense of sorrow, and certainly the dysfunctional interaction makes it more intense.

The total family resilience of parents with a child with autism spectrum disorders is moderately correlated with the social support which the parents have. The greater their support, the moderately greater their total resilience. Regarding its individual aspects, family communication & problem solving and the utilizing of social and economic resources are also moderately correlated towards the same direction. The remaining components show a weak to moderate interaction with the social support which the parents have.

These findings confirm the usual views of the research on the significance of social support in maintaining and enhancing the parents' resilience, although not to the extent that the theoretical part indicates. Namely, the positive effect of the support from the environment emerges less powerful than it would be expected, although our findings confirm it. In the theoretical part, it was shown that the various researchers consider social support substantial, not only regarding its positive side but also regarding the elimination of the negative one. Kwok, Leung and Wong (2014) refer to the unpleasant situation of stigmatization of the disability due to different cultural interpretation, resulting in the increase of parenting stress. Fairthorne et al. (2014) referred to the mental disorders of mothers, which, among other reasons, are due to the quite offensive behaviors of autistic children in comparison with the normal ones, however, as researchers note, the low levels of sociability and support of the family and the total stigmatization that is detrimental to their children, co-affect. And, certainly, much research supports how great the significance of the parents' social support is, for the latter to reconcile with their feelings and with the situation that causes them, as well as to relieve themselves from the pressure they feel (Doron & Sharabany, 2013). It is also pointed out that the development of alliances is vital and society should provide the person and the family with the support that will fulfill their needs, leading to the parents' good quality of life. Moreover, the great significance of the parents' social support by peers, who encourage the parents of children with disabilities, has been supported (Shilling et al., 2014), in order to ensure for them the emotional, practical, informative and friendly push, both by the extended family and by friends, companions, colleagues, more typical forms of support groups and community bodies. The greater the availability of social assistance is, the more improved the results of good health appear to be and the more the negative results of the stressful facts of life are moderated (Hammarberg et al., 2014).

Therefore, according to theory, an even greater positive effect of social support on the development and maintenance of the parents' resilience would be expected, which, as it has already been mentioned, is confirmed, although "moderately". The confirmation of the value of social support as well as of the assistance by the health professionals for the enhancement of the parents' resilience is significant.

The social support of parents with a child with autism spectrum disorders is related weakly and inversely proportionally to the stress they experience. Little social support of the parents is weakly related with high levels of total stress as well as parental distress, parent-child dysfunctional interaction and difficulty of child.

It can also be said that the findings of this research are consistent with the ones of the scientific literature that highlights the bigger social support of the parents to an important factor of reducing parenting stress. Here again the correlation is weak, although it would be expected to be quite stronger. It may be considered that the reason for this weak, yet confirmed relation, is that utilizing social support is not self-evident, even if it is available, while several other factors, such as the child's offensive behavior and its dysfunctional relationship with its parents mitigates the potential sources of reduction of the parenting stress. The discussion of McGinty (2013) is typical, who sets conditions regarding the success of supportive groups, as this depends on their approach to the parents and the extent they work to, in order to fulfill their needs and to derive the all that is best regarding the management of their children's needs. But also the discussion of Ewles, Clifford and Minnes (2014), who note that in order for the parents to do better, they should be trained in obtaining an understanding of the relevant social, economic and political environments, as well as in familiarizing themselves with the philosophies of service provision, legislation and financial issues. Certainly, other factors have emerged, too, which can reduce

the impact of social support, such as the one of language, according to Stuttard et al. (2014), something that would potentially have an impact in the case of Muslims. Therefore, social support seems that it does not cause any self-evident results, but is used under conditions, so that, as expected by Freuler and Baranek (2016), the wish of the autistic children's carers for mutual understanding of the experience, for dominance of a sense of acceptance, as well as for the opportunity of counselling towards other carers of autistic children, be actually integrated in the sources of mental enhancement.

It should also be added that social support emerges significant, as well as the assistance of health experts for the enhancement of the resilience of the parents and certainly for combating parenting stress. However, it will be repeated that the effects of these factors were expected to be stronger.

The parents' family resilience and all its aspects, interact weakly to moderately and reversely with parenting stress with which the parents with a child with autism spectrum disorders are burdened. High levels of total parenting stress, parental distress, parent-child dysfunctional interaction and child difficulty are accompanied, in more than 95 out of 100 of the cases, weakly to moderately, by low family resilience, as a whole, and low levels of its individual dimensions.

All that was mentioned in the discussion of the two previous conclusions on the parents' resilience and parenting stress also apply here. Namely, higher resilience would be expected to be a stronger factor of combating parenting stress. However, the arithmetic element of the large number of cases in which low family resilience is connected with the presence of high percentage of parenting stress, as well as with the parents' dysfunctional interaction with the autistic child and the severity of its difficulties, is confirmed to a great extent.

## **6. Methodological Limitations**

The geographical distribution of the sample can be regarded as one basic limitation of the research. Despite the fact that as to its size, it is big enough and representative per district, it concerns only seven prefectures in the Greek territory. Consequently, generalizations of the conclusions that are drawn will have to be made with caution, even though it seems that they can be considered as particularly representative. An equally important limitation is that fact that the sample taken is exclusively from parents of a specific family structure. The families chosen are all two-parent families and the parents who participate in the survey have a specific family relation to the child. So, it cannot be assumed that the effects of the family structure and family relation have been adequately explored. Besides, the assessment that was made is based on the self-reports of the parents with a child with autism spectrum disorders, without other reports and information from other important persons of the parents' environment being detected, such as the rest of the families' members and health experts who possibly aid the parents. It must also be added that the survey is synchronic and interrelated, therefore it is not possible to discuss casual links between the factors under study. In addition, in this attempt no other possible parameters and co-morbidities linked to the levels of family resilience were assessed, such as depression, loneliness, the parents' interpersonal relations and social skills. All the aforementioned limitations must be taken into consideration during the study and interpretation of the present research findings.

## **7. Conclusions**

The correlations of scales in this research showed a strong correlation of family communication and problem solving with utilizing resources regarding the social and economic sector, as well as with significant strategies of autism management, such as maintaining positive outlook and the ability to make meaning of adversities. A strong relation between family connectedness and the ability to make meaning of adversities was not found, while the other interactions among the dimensions of family resilience appeared to be weak to moderate. The total resilience is related moderately positively with social support, namely not all elements of resilience benefit from it, however, the support of the extended family causes some reduction of stress, namely it provides the possibilities for its regulation. Otherwise, namely when the extended family does not help or make negative criticisms, it may well cause psychological damage. The parents, the friends, as well as the wider environment have positive results in addressing the issue of autism, although it is not related to a proportionally strong degree to all the elements of resilience. Parental distress increases due to parent-child dysfunctional interaction, however high levels of parental distress and parent-child dysfunctional interaction are related moderately to the degree of difficulty of the child with autism spectrum disorders. Moreover, the parents' emotional and mental burden is directly related to the child's adaptability and behavior, while the parent-child dysfunctional interaction due to the children's problematic behavior, does not necessarily reduce the functionality of the family. The total family resilience of the parents increases moderately thanks to social support, while family communication and problem solving show moderate correlation. The social support of parents with a child with autism spectrum disorders is weakly and inversely proportionally related to the stress they experience, as low levels of it increase

the total stress and parental distress. Finally, parents' family resilience and all its aspects, interact weakly to moderately and reversely with the parenting stress which burdens the parents with a child with autism spectrum disorders.

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