



## INVESTIGATING THE RELATIONSHIP AMONG MENTAL RESILIENCE, CULTURE SELF-ESTEEM AND SELF-EFFICACY FOR PEER INTERACTION OF STUDENTS WITH AND WITHOUT MILD SPECIAL EDUCATIONAL NEEDS

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### **Abstract:**

This study investigated the relationship between mental resilience, culture free self-esteem and self-efficacy for peer interactions in students with and without mild special educational needs. Results have shown that students with mild special educational needs had scored significantly lower mean values for mental resilience, culture free self-esteem and self-efficacy for peer interactions than their control counterparts did. For the group of students with mild special educational needs the internal factors of mental resilience and their self-efficacy for peer interactions interpreted the external factors of their mental resilience at 52% whereas for the control group it was the mental resilience as an overall score and their general self-esteem that interpreted the self-efficacy for peer interactions at 24%.

**Keywords:** self-efficacy, self-esteem, mild special educational needs, mental resilience

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## 1. Introduction

Many studies have addressed the concepts of resilience, self-esteem and self-efficacy in the student population, but few have emphasized on investigating the above concepts in children with mild special educational needs. Mental resilience is a conceptual construction that appears with different definitions in the literature. Mental resilience is defined as the process of children's adaptation when exposed to adverse conditions (Ungar, 2015). According to Luthar & Cicchetti (2000), mental resilience is a dynamic process in which individuals exhibit positive adjustment despite their traumatic experiences. On the same wavelength is Masten, Best & Garmezy (1990) definition that defines the phenomenon as the ability, the process, and the result of successful adaptation in the context of significant threats to development. Elias, Parker, & Rosenblatt (2006) consider mental resilience as a shielding process in adverse conditions, while Wagnild & Young (1993) define it as a person's ability to cope with change or misfortune.

Recent research has focused on the study of the construction of mental resilience as a dynamic developmental process (Nearchou, Stogiannidou, Kiosseoglou, 2013), thus going beyond the classic research on resilience that is based on theories of personality traits which [theories] claim that mental resilience is a permanent characteristic of the human being. In particular, it has been found that mental resilience is a phenomenon that develops over a person's lifetime. In the research of Werner and Smith (2001), people who were exposed to childhood adversity later succeeded in continuing their education, in making right choices, and generally in changing the course of their lives.

In a large body of literature, mental resilience has been studied on the basis of the interaction of protective and risk factors. Risk refers to the ways in which adversity can affect children's well-being. Ungar (2015) argues that mental resilience is determined by one's own ability and the ability of the social environment (home, school, community) to facilitate one's ability to cope with difficulties effectively. The risk mentioned above refers to the ways in which adversity can affect children's well-being. Risk factors are divided into two categories: a. personal: age, traumatic experiences, and stress (Luthar & Cicchetti, 2000) and b. environmental: poor socio-economic status of the family, relationships with peers and school.

Despite the differences in definitions for mental resilience, it seems to be a general agreement on the protective factors that characterize a mentally resilient child. Protective factors can be categorized in: 1. internal: they are mainly referred to one's own characteristics such as social skills, self-efficacy, self-esteem, and self-awareness; 2. protective factors in the family such as care and support, as well as high expectations and 3. protective factors at school and in the community such as care and support and encouragement of child involvement (Nearchou, Stogiannidou & Kiosseoglou, 2014).

Three general models of mental resilience have been proposed, which outline the relationships between important status and personal variables:

1. Compensatory model. In this model, personal attributes and stressors are combined to predict coping skills and thus the effect of stress can be offset by a person's personal characteristics (Garmezy, Masten & Tellegen, 1984).
2. Challenge model, in which stress is thought to enhance competence, provided that its level is not excessive (Garmezy et al., 1984).
3. Immunity versus vulnerability model/ protective factor model. In this model, personal attributes may aggravate or normalize the effect of the stress factor (Garmezy et al., 1984).

When some positive personal traits are present, adjustment is easier than if these traits are absent. So, these personal qualities cause some kind of "immunity" to stress. Conversely, when some vulnerability traits are present in the individual, the impact of stress on person's abilities is more intense.

The concepts of self-esteem and self-efficacy show a very high degree of relevance to mental resilience (Papakonstantinou, 2018). Focusing on the internal protective factors of mental resilience, the concepts of self-esteem and self-efficacy are presented below.

Self-esteem refers to how one estimates his/her own value. As it can be seen from the etymology of the word (self + esteem), it is a subjective judgment that may not reflect one's talents and abilities (Leary & Baumeister, 2000). It may also be related to other people's perceptions rather than objective criteria. Positive self-esteem is considered to be a protective factor for mental health, whereas low self-esteem implies non-acceptance of self and it is associated with anxiety and depression (Samela-Aro, Nurmi, 1996). Research confirms the volatility of self-esteem, which can increase and decrease over the lifetime of a person (De Ruiter, Van Geert, Kunnen, 2017).

Self-efficacy generally refers to opinions or predictions about how well one can perform actions needed to cope with future situations (Bandura, 1982). It is believed that self-efficacy can explain and predict one's thinking, feeling, and action (Bong, 2003). This conceptual construction has been derived from Bandura's Social Cognitive Theory (1977), in which behavior, cognitive function, and the environment interact dynamically with one another. Self-efficacy is a reliable predictor of mental health according to Bandura (1977, 1982). In addition, our judgments about our self-efficacy, whether accurate or incorrect, influence us in choosing activities. Social self-efficacy, which is more directly related to the present work, is the view that we hold about the ability to achieve the desired interaction with peers (Galanaki & Kalantzi-Azizi, 1999). According to Wheeler and Ladd (1982), self-efficacy in peer interactions is how a child assesses his/her ability to persuade peers to influence their behavior and emotions in socially acceptable ways and ultimately to achieve social acceptance. In a study by Galanaki E. (1999), child participants linked their peers' feelings of loneliness to their social skills. Children said that their lonely classmates are idle during breaks and do not try to make friends (Galanaki & Kalantzi-Azizi, 1999).

Mental resilience has a high degree of relevance mainly to self-efficacy and self-esteem to both students with learning difficulties and students with normal development (Papakonstantinopoulou, 2018). However, the sample of students with learning difficulties shows a stronger association between mental resilience, self-esteem, and self-efficacy.

Self-efficacy and self-esteem are concepts that are often confused. It is, therefore, necessary to make a distinction between them. Self-efficacy is one's perception of one's ability to cope with a situation, while self-esteem is one's appreciation of one's own worth (Gist & Mitchell, 1992). For example, a nuclear physicist may have very low self-efficacy in music but has decided that this does not diminish his/her overall value as an individual. People with positive self-esteem feel good about themselves, while people with low self-esteem underestimate themselves even if they consider themselves effective (Chen, Gully, & Eden, 2004).

In some studies, self-esteem and self-efficacy have little relevance. However, Papakonstantinopoulou (2018) found a close relationship between the above concepts as individual protective factors of mental resilience. In addition, in her research, self-efficacy appeared to have a strong mediating role in the relationship between self-esteem and mental resilience.

Mild special educational needs (M.S.E.N.) include special learning difficulties, mild mental retardation, emotional or behavioral disorders (Lerner & Johns, 2012), attention deficit disorder with or without hyperactivity and mild autistic disorder (high functionality). The term also includes people with visual and hearing problems, movement impairments, health problems and communication disorders. Most researchers, however, concur with the (above mentioned four categories, namely, those of: special learning difficulties, mild mental retardation, behavioral problems, and attention-deficit/hyperactivity disorder (Agaliotis I., Platsidou M., Kartasidou M., 2011). The use of the term presupposes that people with mild educational needs can attend normal class at least some hours of the day.

The ultimate purpose of the present study was to investigate the relationship among mental resilience, self-esteem, and self-efficacy for peer interaction of students with and without mild special educational needs attending grade 5 and grade 6 of Greek Elementary Schools through empirical quantitative research.

The aims were as follows:

- a) To seek for differences between mental resilience, self-esteem, and self-efficacy among students with and without mild special educational needs.
- b) To seek for differences between (male and female) students of fifth and sixth grade of Elementary school with and without mild special educational needs in their levels of mental resilience, self-esteem and self-efficacy.
- c) To seek for a predictive power- among the three variables - mental resilience, self-esteem, and self-efficacy and their subscales.

It was expected that some relationship would emerge between mental resilience, self-esteem, and self-efficacy based on the results from studies carried out by Chung, Lam et al, (2018) and Papakonstantinopoulou, (2018). Specifically mental resilience was found to be highly related to self-efficacy and to self-esteem in relation both to students with and without learning disabilities (Papakonstantinopoulou, 2018). Furthermore, it was expected that there would be differences in the levels of mental resilience, self-esteem and self-efficacy depending on the students' grade.

## 2. Participants

The ethical principles of the Declaration of Helsinki were followed and an informed consent obtained from all the participants using the appropriate forms suggested by the World Medical Association. The sample of the study consisted of 61 (55% male and 45% female) students with mild special educational needs, diagnosed by the Center for Differential Diagnosis, Assessment - Evaluation and Support of children with Learning Disabilities (KE.D.D.Y.) -*a center under the authorization and control of Greek Ministry of Education –sector of Special Education-*, and 108 (46% male and 54% female) age matched controls with an average performance in reading, spelling and math's (according to their teachers' evaluation records) attending grade 5 and grade 6 of Greek Elementary Schools.

## 3. Materials

Three questionnaires were used:

A. The Resilience Questionnaire or Resilience Youth Development Module (Constantine, Benard and Diaz, 1999), that measures children's mental resilience levels, adapted by Nearchou, Stogiannidou, and Kiosseoglou in (2014). In total it contains 34 items, 13 of which examine internal factors, and the remaining 21 examine external / environmental factors related to children's mental resilience. Internal factors refer to an individual's personal characteristics and include the subscales a. empathy, b. goals and ambitions, and c. self-awareness and self-confidence; the external ones, on the other, include the subscales: a. community support; b. peer support; c. school support and d. family support. The participants answered on a four-grade Likert scale (It does not apply at all, it applies a little bit, it rather applies, it definitely applies). The Resilience Questionnaire has good psychometric characteristics, as it has a reliability index of .94 for the internal factors scale and .92 for the external factors scale.

B. The Culture-Free Self-Esteem Inventory for Children (CFSEI-3, J. Battle), translated and adapted by Kleftara G. and Didaskalou E. in (2009). It consists of 30 items that constitute the following 5 sub-scales: a. general self-esteem; b. social self-esteem, c. academic/school self-esteem, d. self-esteem in relation to parents, and e. lie-defense scale. The respondents answered on a dichotomous scale (Yes / No). The scale shows good psychometric characteristics, as individual sub-scales had a Cronbach's alpha reliability score of .66 to

.76. The researchers who adapted the tool, they applied the check-recheck method to test its reliability.

C. The Children's Self-Efficacy for Peer Interaction Scale (Wheeler & Ladd, 1982), adapted to Greek by Galanaki E. (1999). It contains 20 items to which children answer on a four-grade scale (1= Very difficult, 4= Very easy). It investigates a. conflict situations and b. non-conflict situations. Conflict situations refer to social situations in which a child conflicts with peers, and the non-conflict situations refer to situations in which the child interacts with peers without conflicting his or her interests with those of other children. The scale shows good psychometric characteristics; the Cronbach's alpha is .79 for the conflict situation subscale, .80 for the non-conflict situation subscale, while the whole questionnaire has a .84 (Galanaki & Kalantzi-Azizi, 1999).

#### **4. Procedure**

Initially, the parental consents were distributed to the students of 5th and 6th grades of 20 Greek Elementary Schools. Then, the children, who returned the signed consent form, completed the 3 anonymous questionnaires in the classroom while their teacher being present. The questionnaires in self-report form were taken about 40 minutes to be completed. Then, researchers recorded and quantified children's answers analyzing them by using SPSS statistical analysis software.

#### **5. Results**

The verification of the validity of the three scales was done by using exploratory factorial analysis on main components and rectangular rotation (Varimax - Principal Components Analysis).

The following criteria were met:

- a) the value of the index showing a good accuracy in the Factorial Analysis, according to the Kaiser-Meyer-Olkin measure (KMO), is from 0.6 to 1;
- b) the table showing the correlation for every two of the questions is not diagonal;
- c) the Bartlett test with the significance level (sig) is sufficiently small (<0.05).

The Principal Component analysis for the Mental Resilience Questionnaire resulted in a solution of 4 factors with eigenvalues greater than 1 (Kaiser, 1960) explaining 57% of overall differentiation of the Internal Factors subscale. Factorial analysis on main components revealed 8 factors that interpreted 65.07% of the total dispersion, a satisfying percentage.

**Table 1:** Principal components of  
 the Internal Factors scale of the Resilience Questionnaire (n=169)

Items	Empathy	Ambitions	Goals	Self- awareness/ self- confidence
I feel bad when someone is upset.	.81			
I try to figure out what other people go through.	.72			
I try to understand how other people feel and think.	.68			
I like working with other (male and female) classmates of my age.	.58			-,45
My aim is to go to university or continue with something else when I finish high school.		.75		
My goal is to finish junior high school and high school.		.72		-,52
I can defend myself without reducing/beating others down.		.41		
I make plans and set goals for my future.			,84	
There is a purpose in my life.		.40	,70	
There are many things that I do well.				
I can solve my problems on my own.				,78
I can work with someone who has different opinions than me.				,61
I understand why I do what I do.				.59
<b>Eigenvalue</b>	<b>3.5</b>	<b>1.63</b>	<b>1,18</b>	<b>1,09</b>
<b>Cumulative Variance Explained (%)</b>	<b>18%</b>	<b>31,9%</b>	<b>44,7%</b>	<b>57%</b>
<b>Cronbach's Alpha</b>	<b>.73</b>	<b>.61</b>	<b>.63</b>	<b>.57</b>

As shown in the table, component 1 consisted of 4 items that measure Empathy. Component 2 consisted of 4 items aiming to explore the Aspirations/Ambitions of the students. Component 3 consisted of 2 items that referred to whether children could set Goals and Component 4 consisted of 4 items measuring students' Self-awareness and self-confidence. The factors in general were in agreement with the factors that emerged in the study of researchers who adjusted the scale above.

The table also shows the Cronbach's alpha reliability indices of each component, ranging from .57 to .73 and considered satisfactory. Regarding criterion (1), the KMO was satisfactory (.78), as was for criterion (3); the significance level of the Bartlett test was low ( $p = .000$ ).

In addition, 7 factors with eigenvalues greater than 1 were found to account for 61.57% of the variance in the External Factors Scale of the Resilience Questionnaire. In detail, the following factors were: 1. Community support (6 items), 2. Peer support (3 items), 3. School support (3 items), 4. Family support (3 items), 5. Family support 2 (3 items), 6. Teacher support (2 items), and 7. Friends' school performance (2 items). The

KMO index was good (.76) as also was the significance level of the Bartlett test ( $p = .000$ ). The Cronbach's alpha indices of the components ranged from .38 to .77.

The PCA for the Culture-Free Self-Esteem Inventory for children revealed 11 components with eigenvalues greater than 1 that explained 64.33% of the overall differentiation of the Self-Esteem Scale. Component 1 had 5 questions and investigated children's feelings of frustration; component 2 included 3 questions that examined whether children could accept their gender; component 3 consisted of 4 questions that examined whether children could compare themselves to their peers; component 4 consisted of 3 items that explored whether children presented the tendency to avoid dealing with their problems; component 5 was loaded with 2 items exploring academic self-esteem, while component 6 was loaded with 3 items exploring whether children had a defensive attitude. Component 7 was loaded with 2 items that examined social self-esteem and component 8 was loaded with 2 items which referred to self-esteem with regard to parents. Then, in component 9 were loaded 2 sentences that examined whether children lie, in component 10 were loaded 3 items that had no common theme, and in component 11 were loaded 2 items that explored self-esteem in relation to parents. The analysis showed that the KMO index was sufficient (.70) and the significance level of the Bartlett test was low ( $p = .000$ ). The Cronbach's alpha indices of the components ranged from .13 to .62.

Finally, PCA identified 5 components with eigenvalues greater than 1, which account for 60.32% of the overall differentiation of the Children's Self-Efficacy for Peer Interaction Scale. Component 1 was loaded with 5 items that measured children's self-efficacy when they had to defend their interest confronting with their peers. Component 2 was loaded with 5 questions that explored situations in which the child was asked to suggest a way of entertaining their peers. Component 3 was loaded with 5 questions that examined situations in which the child was asked something from his/her peers. Component 4 consisted of 2 items that measured self-efficacy in situations in which children were required to defend a peer. Finally, component 5 included 4 items that examined situations in which the child had to ask peers to accept someone as a friend. The KMO index was found to be significant for this scale (.85) and the significance level of the Bartlett test low ( $p = .000$ ). The Cronbach's alpha indices of the components ranged from .63 to .80 and are considered satisfactory.

Because the three scales used in the present study were translated and adapted in Greek a test-retest of their reliability levels was necessary. Table 1 is presented the Cronbach's alpha reliability index on three scales and the Cronbach's alpha index found by the researchers who adapted the tools, as well as the number of questions on each scale.



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**Table 2:** Cronbach's alpha reliability index on three scales and Mann Whitney U Test Scores

Sub-scales	Cronbach's alpha for controls  n=108	Cronbach's alpha for students with M.S.E.N.  n=61	Cronbach's alpha of the adapters  n=343	Number of questions
<b>Resilience Questionnaire</b>				
Empathy	.76	.69	.63	3
Goals and ambitions	.60	.54	.66	4
Self-awareness and self-confidence	.54	.63	.67	6
Community support	.75	.80	.80	6
Peer support	.56	.74	.81	5
School support	.45	.68	.69	5
Family support	.41	.56	.64	5
<b>Internal Factors</b>	.72	.77	.94	13
<b>External factors</b>	.80	.85	.92	21
<b>Culture Free Self-Esteem Scale (n=117)</b>				
General self-esteem	.30	.16	.71	10
Social self-esteem	.11	.03	.66	5
Academic self-esteem	.26	.28	.67	5
Self-esteem in relation to parents	.15	.002	.76	5
Lie-defense scale	.27	.35	-	5
<b>Self-Efficacy Scale in Interactions with Peers (n=238)</b>				
Conflict situations	.85	.80	.79	12
Non-conflict situations	.77	.68	.80	8

\*M.S.E.N stands as an abbreviation for Mild Special Educational Needs

As it can be seen the reliability levels for the majority of the subscales proved to be satisfactory and very close to the reliability levels found by the researchers (Nearchou, Stogiannidou & Kiosseoglou, 2014; Kleftras & Didaskalou, 2009; Galanaki & Kalantzi-Azizi, 1999) (However, given that on subscales of Self –Esteem scale the questions were dichotomous (Yes/No answers) and not Likert scale questions, their reliability levels were found not very satisfactory. In such scales the reliability level is performed with test-retest method something that was not feasible in the present study (Zafiropoulos, 2015).

Table 3 shows the comparison of the mean values (St.Dev) of students with and without mild special educational needs in the three questionnaires/scales at p-value <0.05 using the nonparametric test Mann Whitney test. Only the statistically significant differences being observed between the responses of the two samples are presented below.

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**Table 3:** Mean values, standard deviations, statistically significant differences  
 in students' responses with and without mild special educational needs (M.S.E.N)

Sub-scales	Min.	Max.	Age-matched Control Students (St.Dev.)	Students with M.S.E.N. (St.Dev.)	Mann Whitney U	Level of Significance p<0,05
<b>The Resilience Questionnaire</b>						
<b>Internal Factors</b>	1	4	3.31 (.36)	3.11 (.46)	2.373	.003**
Empathy	.	.	3.11 (.71)	2.90 (.75)		
Goals and ambitions	.	.	3.63 (.44)	3.26 (.59)	1.904,5	.000***
Self-awareness and self- confidence	.	.	3.20 (.41)	3.12 (.50)		
<b>External factors</b>	.	.	3.40 (.29)	3.22 (.45)	2.554,5	.015**
Community support	.	.	3.32 (.57)	3.23 (.66)		
Peer support	.	.	3.31 (.47)	3.12 (.69)		
School support	.	.	3.37 (.43)	3.14 (.57)	2.510,5	.003**
Family support	.	.	3.63 (.31)	3.41 (.45)	2.268,5	.001**
<b>Culture-Free Self-esteem Inventory for Children</b>						
General self- esteem	1	2	1.64 (.14)	1.57 (.15)	2.431,5	.004**
Social self-esteem	.	.	1.31 (.18)	1.34 (.20)		
Academic self- esteem	.	.	1.65 (.19)	1.56 (.23)	2.475	.004**
Self-esteem in relation to parents	.	.	1.59 (.11)	1.61 (.15)		
Lie-defense scale	.	.	1.65 (.23)	1.47 (.25)	2.051,5	.000***
<b>Children's self-efficacy scale in interactions with peers</b>						
Conflict situations	1	4	3.13.14 (.54)	2.88 (.54)	2.320	.001**
Non-conflict situations	.	.	3.13.12 (.49)	2.97 (.49)	2.658,5	.037*
Self-efficacy	.	.	3.13.13 (.47)	2.91 (.48)	2.378	.003**

As far as the subscale internal factors (as an overall score) of the Mental Resilience Questionnaire was concerned the students with M.S.E.N had scored a lower mean value (m=3.11) than their control counterparts (m=3.31) did. In the same line students with M.S.E.N had shown lower mean value for the subscale of goals and ambitions (m=3.26) compared to mean value (m=3.63) of their controls. A lower mean value was also observed by the students with M.S.E.N compared to that shown by their controls concerning the subscale of external factors (as an overall score) of the same questionnaire (m=3.22). Similarly students with M.S.E.N had shown lower mean value for the subscale school support (m=3.14) and that of family support (m=3.41) than their counterparts did [school support (m=3.37) and family support (m=3.63)] respectively. The factors for which there were no significant differences between the two groups were the subscales of empathy, self-esteem/self-confidence, community support, and peer support. Although

there were not significant differences between the two groups concerning the former subscales nevertheless it was observed that students with mild special educational needs had somehow reported lower goals-ambitions and empathy than their controls had related to subscales of internal factors of mental resilience whereas controls on other hand had reported somehow higher levels of family and school support – subscales of internal factors of mental resilience.

Moving to Culture-Free Self-esteem Inventory for Children it was apparent that controls were more confident for themselves and had shown statistically higher levels for both general ( $m=1.64$ ) and academic self-esteem ( $m=1.65$ ) than their M.S.E.N. counterparts did respectively [general self-esteem ( $m=1.57$ ), academic self-esteem ( $m=1.56$ )]. Although both groups of students had generally responded positively to the self-esteem scale, the control students appeared to be more positive than the M.S.E.N. ones. Such pattern of result seemed to suggest that students with mild special educational needs might have been lagging somehow behind in terms of self-esteem in comparison to their controls. Finally, with regard to the Self-efficacy scale, it appeared that controls felt far more effective in managing social situations than the group of M.S.E.N. students. The only factor for which no significant differences were recorded between the two groups was self-esteem in relation to parents' subscale and social self-esteem.

Finally, and in relation to children's Self-efficacy scale in interactions with peers, statistically significant differences were observed between the mean values of the two groups in all the three subscales. Students with M.S.E.N had shown lower mean values than their normal counterparts did for the conflict situations ( $p<.001^{**}$ ), for the self-efficacy ( $p<.003^{**}$ ) and for the non-conflict situations ( $p<.037^*$ ). From the three subscales only the subscale –conflict situations claimed the highest statistical difference between the two groups.

As far as the within subjects' differences were concerned for the three main variables resilience, self-esteem and the self-efficacy, a few statistically significant differences were observed for both groups (group of controls and group of students with M.S.E.N). More specifically, a statistically significant difference was found between male and female students of the control group on the empathy subscale (Mann Whitney  $U = 1,789.5$ ,  $p = .033$ ), of the Mental Resilience Questionnaire and on academic self-esteem (Mann Whitney  $U = 1.086.5$ ,  $p = .015$ ) of the Culture Self-Esteem Questionnaire. In group of students with mild special educational needs on other hand there were statistically significant differences between the answers of male and female students concerning the subscale general self-esteem (Mann Whitney  $U = 320$ ,  $p = .040$ ) and that of social self-esteem scale (Mann Whitney  $U = 620$ ,  $p = .011$ ) of the Culture-Free Self-esteem Questionnaire. Similarly, on the basis of grade (fifth graders versus sixth graders) only a few differences between the answers of (male and female) students were observed for both groups. Thus there were statistically significant differences between 5<sup>th</sup> and 6<sup>th</sup> graders of control group on subscale of empathy (Mann Whitney  $U = 1.068$ ,  $p = .027$ ) and community support (Mann Whitney  $U = 1.807,5$ ,  $p = .014$ ) of the Mental Resilience

Questionnaire and there were statistically significant differences between the answers of 5<sup>th</sup> and 6<sup>th</sup> graders of group with M.S.E.N in the community support scale (Mann Whitney U = 319, p = .034) of the same Questionnaire.

Due to the non-normal distribution of our research sample, non-parametric correlation analyses (*Spearman correlation coefficient*) were performed in order to establish the relationships among the variables. As expected, strong correlations were revealed among the subscales of the Mental Resilience Questionnaire as it is a scale with internal consistency and very good reliability indices. The correlations ranged from Ps = 200 with p <0.05 to Ps = .686 with p <0.01. Table 4 below presents the correlations among the subscales of Culture Self-Esteem and Self-Efficacy in Peer Interactions for controls while table 5 presents the correlations among the subscales of Mental Resilience and Culture Free Self-Esteem for the same group of students.

**Table 4:** Spearman Correlations among subscales of Culture Free Self-Esteem and Self-Efficacy in Peer Interactions for control students

Sub-scales	2	3	4	5	6	7	8	9
1. General self-esteem	-.060	.479**	.107	-.100	.704**	<b>.326**</b>	<b>.354**</b>	<b>.371**</b>
2. Social self-esteem		-.177	-.135	.099	.302**	.025	-.042	.001
3. Academic self-esteem			.078	-.036	.573**	.142	.005	.093
4. Self-esteem in relation to parents				-.085	.201*	-.049	-.110	-.087
5. Lie-defense scale					.408**	.052	-.040	.017
6. Total self-esteem						<b>.256**</b>	.134	<b>.228*</b>
7. Conflict situations							.540**	.928**
8. Non-conflict situations								.790**
9. Overall self-efficacy								

\*\* the correlation coefficient is significant at significance level 0.01 Sig.

\* the correlation coefficient is significant at significance level 0.05 Sig.

As observed in Table 4, some statistically significant correlations were found between the subscales of the Culture Free Self-Esteem Scale. A particularly high correlation was found between general self-esteem and academic self-esteem (Ps = .479, p <0.01) subscales of the same questionnaire. Similarly, conflict and non-conflict situations that belong as subscales to the Self-efficacy scale in interactions with peers were found to be positively and significantly correlated. There were also significant correlations between general self-esteem (subscale of Self-Esteem scale) and both conflict situations and non-conflict situations (subscales of the Self-efficacy scale in interaction with peers) with [(Ps = 326, p <0.01 and Ps = 354, p <0.01)] respectively. In addition, a positive correlation was found between total self-esteem score and total self-efficacy score with (PS = .228, p <0.01). In summary, self-esteem and self-efficacy in interactions with peers were found to be significantly correlated.

**Table 5:** Spearman Correlations among subscales of Mental Resilience and Culture Free Self-Esteem for control students

Sub-scales	General self-esteem	Social self-esteem	Academic self-esteem	Self-esteem in relation to parents	Lie-defense scale
Empathy	-.076	-.081	.032	.076	-.115
Goals and ambitions	-.036	-.137	-.107	.047	-.026
Self-awareness/ self-confidence	.200*	<b>-.254**</b>	.185	.100	-.085
Internal factors	.075	-.232*	.100	.106	-.127
Community support	-.025	-.041	.102	-.082	.191*
Peer support	-.026	-.172	.150	-.057	-.084
School support	.029	-.001	.140	.47	-.181
Family support	.029	-.176	.203*	-.138	-.071
External factors	-.033	-.149	.208*	-.060	.035

\*\* the correlation coefficient is significant at significance level 0.01 Sig.

\* the correlation coefficient is significant at significance level 0.05 Sig.

Interestingly enough Table 5 revealed a negative though significant correlation between the self-awareness and self-confidence (subscale of the internal factors) of the Mental Resilience Questionnaire and the social self-esteem subscale of the Culture free Self-esteem Questionnaire.

**Table 6:** Spearman Correlations among subscales of Mental Resilience and Self-Efficacy in Peer interactions for control students

Sub-scales	Conflict situations	Non-conflict situations	Self-efficacy (overall score)
Empathy	.164	.072	.144
Goals and ambitions	.115	.098	.120
Self-awareness/self-confidence	<b>.266**</b>	<b>.234*</b>	<b>.297**</b>
Internal factors	.208*	.165	.220*
Community support	-.003	.134	.046
Peer support	.085	.081	.102
School support	.173	.188	.213*
Family support	.218*	.110	.194*
External factors	.135	.195*	.176

\*\* the correlation coefficient is significant at significance level 0.01 Sig.

\* the correlation coefficient is significant at significance level 0.05 Sig.

In Table 6, two highly positive correlations were observed. The first one was between self-awareness/self-confidence subscale of Mental Resilience scale and conflict situations subscale of Self-Efficacy scale with ( $P_s = .266^{**}$ ) whereas the second one was between self-awareness/self-confidence subscale of Mental Resilience Questionnaire and non-conflict situations ( $P_s = .234^*$ ) subscale of the Self-Efficacy scale. In short, the internal factor self-awareness/self-confidence of the Mental Resilience was positively correlated with Self-efficacy in peer interactions with ( $P_s = .297^{**}$ ). Additionally, a positive

correlation was found between family support and conflict situations with ( $P_s = .203^*$ ) as well as between family support and self-efficacy ( $P_s = .194^*$ ). A positive correlation was also found between school support and Self-efficacy in peer interactions ( $P_s = .213^*$ ). It was observed that the external factors of mental resilience were positively correlated with non-conflict situations with ( $P_s = .195^*$ ). In general, it appeared that mental resilience correlated with students' self-esteem and social self-efficacy. This result is also supported by the findings of Papakonstantinopoulou's research (2018) who investigated these three concepts in both normal performance students and students with learning difficulties.

As for control group, so for the group of students with mild special educational needs, the tables 7, 8 were showing the correlations among all three scales. The correlations among the subscales of the Mental Resilience Questionnaire were similarly high, a result that was expected. These correlations range from ( $P_s = .272$  with  $p < 0.01$  to  $P_s = .818$  with  $p < 0.01$ ). Particularly significant was the correlation between empathy and peer support ( $P_s = .619$ ,  $p < 0.01$ ), self-awareness/self-confidence and peer support ( $P_s = .498$ ,  $p < 0.01$ ) and the correlation between internal and external factors. ( $P_s = .698$ ,  $p < 0.01$ ).

The same pattern of results was observed for some subscales of the Culture Free self-esteem scale. General self-esteem was found to positively correlate with academic self-esteem ( $P_s = .273$ ,  $p < 0.05$ ). Likewise, academic self-esteem was positively correlated with self-esteem in relation to parents ( $P_s = .292$ ,  $p < 0.05$ ) and negatively correlated with the lie scale ( $P_s = -.274$ ,  $p < 0.05$ ). Moreover in the Self-Efficacy Scale it was found that the conflict situations and the non-conflict situations were positively correlated with ( $P_s = .640$ ,  $p < 0.01$ ), which was an expected result, since they were scales of the same questionnaire with a considerable reliability indices.

**Table 7:** Correlations among subscales of Mental Resilience and Culture free self-esteem for students with mild special educational needs (M.S.E.N)

Sub-scales	General self-esteem	Social self-esteem	Academic self-esteem	Self-esteem in relation to parents	Lie-defense scale
Empathy	-.192	-.049	-.096	.085	-.076
Goals and ambitions	.107	-.168	-.104	-.059	-.163
Self-awareness/ self-confidence	.007	<b>-.323*</b>	.006	.084	-.200
Internal factors	-.032	<b>-.260*</b>	-.083	.082	-.224
Community support	.094	-.045	-.071	.058	.015
Peer support	-.032	<b>-.314*</b>	.010	.073	-.235
School support	.046	-.146	.159	.065	-.157
Family support	.145	.019	.112	.096	.072
External factors	.102	-.198	.070	.090	-.139

\*\* the correlation coefficient is significant at significance level 0.01 Sig.

\* the correlation coefficient is significant at significance level 0.05 Sig.

**Table 8:** Correlations among subscales of Mental Resilience and Self-efficacy  
 in interaction with peers for students with mild special educational needs (M.S.E.N)

Sub-scales	Conflict situations	Non-conflict situations	Self-efficacy (overall score)
Empathy	.101	.089	.086
Goals and ambitions	.052	.196	.106
Self-awareness/ self-confidence	.082	.089	.097
Internal factors	.098	.165	.123
Community support	.192	.188	.186
Peer support	.151	.209	.165
School support	<b>.270*</b>	<b>.385**</b>	.322*
Family support	-.055	.112	-.008
External factors	<b>.248*</b>	<b>.340**</b>	<b>.281*</b>

\*\* the correlation coefficient is significant at significance level 0.01 Sig.

\* the correlation coefficient is significant at significance level 0.05 Sig.

More specifically Table 7 had shown a negative correlation between self-awareness/self-confidence subscale of Mental Resilience scale and social self-esteem subscale of Culture Free Self-Esteem scale with ( $P_s = -.323$  and  $p < 0.05$ ). In addition, a significant negative correlation was observed between peer support subscale of Mental Resilience scale and social self-esteem subscale of Culture Free Self-esteem scale with ( $P_s = -.314$ ,  $p < 0.05$ ). In table 8 two positive correlations had been observed offering a further support for the existing relation between the sub-scales of Mental Resilience and Self-efficacy in interaction with peers. The first one was between school support subscale of the Mental Resilience scale and conflict situations subscale of the Self-efficacy scale with ( $P_s = .270$ ,  $p < 0.05$ ) and the second one was also between school support and the non-conflict situations with ( $P_s = .385$ ,  $p < 0.01$ ). Finally, but not least a statistically significant correlation was found among external factors of mental resilience and non-conflict situations ( $P_s = .340$ ,  $p < 0.01$ ).

In order to investigate further the predictive power among the three main variables –Mental Resilience, Culture Free Self-esteem and Self-efficacy in interaction with peers multiple Linear Regression analyses were performed. The following models emerged, in which the independent variables were correlated with the dependent ones.

In the first model of Multiple Regression, Self-awareness /self-confidence, school support (internal and external subscales of Mental Resilience) and general self-esteem interpreted 24% of general self-efficacy in peer interactions for control students. The general self-esteem had better explanatory power in relation to other independent variables ( $Beta = .401$ ). The control students who believed in themselves, who had high self-esteem, positive relationships with their parents, and were supported by teachers, they were more likely to have successful social interactions with peers. This finding was supported by the Spearman index correlations presented formerly.

In the second model of Multiple Regression, the external factors of Mental Resilience, the social self-esteem, and the Self-efficacy in peer interactions explained the

internal factors of Mental Resilience by 35%. The external factors had the greatest predictive power (Beta=.496). The external support that a child might have received (school, home, and peers), the social self-esteem, and the feeling of being able to achieve the desired interactions with others, seemed to have reinforced his/her individual characteristics that made him/her mentally resilient.

In the third model of Multiple Regression, internal factors of Mental Resilience, academic self-esteem and general self-esteem interpret the external factors by 37%. A student's individual characteristics, his/her academic self-esteem, and his/her general self-esteem, seemed to have influenced the level of support provided to him/her by his/her school, family or peers (see Table 9).

**Table 9:** Multiple regression analysis with dependent variable the external factors of Mental Resilience and independent ones those of internal factors, academic and general self-esteem for controls

Model 3	External Factors		
	Beta	R2	p
<b>Step 1</b>			
Internal factors	.541	.293	.000
<b>Step 2</b>			
Internal factors	.507		
Academic self-esteem	.176	.323	.000
<b>Step 3</b>			
Internal factors	.505		
Academic self-esteem	.279		
General self-esteem	-.242	.370	.000

The tables 10 and 11 below are showing the multiple regression models emerged for students with mild special educational needs.

**Table 10:** Multiple Regression analysis with dependent variable the school support (*external factor of Mental Resilience*) and independent variables the internal factors, the conflict and non-conflict situations of self-efficacy for students with mild special educational needs (M.S.E.N)

Model 1	School Support		
	Beta	R2	p
<b>Step 1</b>			
Internal factors	.666	.443	.000b
<b>Step 2</b>			
Internal factors	.653		
Conflict situations	.214	.489	.000b
<b>Step 3</b>			
Internal factors	.634		
Conflict situations	.046		
Non-conflict situations	.245	.520	.000b



The internal factors of Mental Resilience, the conflict situations, and the non-conflict situations (subscales of Self-Efficacy) interpreted the dependent variable “school support” (external factor of Mental Resilience) by 52%. The internal factors as a variable had the highest interpretive ability (Beta =.634); with the Non-conflict situations (Beta =.245) and conflict situations (Beta=.046) followed in strength. The personal characteristics of students with M.S.E.N, that gave them mental resilience, and the awareness of their ability to interact with peers, seemed to have determined the degree of support they receive from their school.

**Table 11:** Multiple Regression analysis with dependent variable the external factors of Mental Resilience and independent ones those of internal factors, Conflict Situations, and the overall score of Self-Esteem Scale for students with mild special educational needs (M.S.E.N)

Model 2	External Factors		
	Beta	R2	p
<b>Step 1</b>			
Internal factors	.786	.617	.000b
<b>Step 2</b>			
Internal factors	.813		
Conflict situations	.142	.637	.000b
<b>Step 3</b>			
Internal factors	.806		
Conflict situations	.156		
Self-esteem (overall score)	.173	.666	.000b

The internal factors, the conflict situations and the self-esteem seemed to have interpreted the external factors of Mental Resilience by 66% in the second model of Multiple Regression. The highest interpretive ability had been observed for the internal factors variable (Beta=.806). This pattern of results seems to suggest that high levels of internal factors, high levels of self-efficacy in conflict situations, and more positive self-esteem could lead children with M.S.E.N in receiving higher levels of support from their parents, teachers, friends, and community.

In the third model of Multiple Regression for (male and female) students with mild special educational needs the Social self-esteem, the self-esteem in relation to parents, and the lie-defense scale explained the self-awareness/self-confidence by 17%. The social self-esteem variable has the strongest predictive ability of all the other variables (Beta=-.350). Students with positive self-esteem in relation both to their peers and their parents were more likely to have confidence in their abilities as well as high levels of self-awareness.

## 6. Discussion

The ultimate purpose of the present study was a twofold one: first we looked for relationships among three variables under investigation: Mental Resilience, Self-esteem, and social Self-efficacy in Peer Interactions in two different groups of elementary school

students (students with and without mild special educational needs) and secondly we compared students' response scores in all these questionnaires. The predictive power among the three main variables –Mental Resilience, Culture Free Self-esteem and Self-Efficacy for both groups of students was also investigated.

Initially the investigation of any statistically significant differences between the responses of two groups of students (with and without M.S.E.N) was carried out by comparing their mean values with the non-parametric Mann-Whitney test. Statistically significant differences were found in the responses of the two groups regarding the internal and external subscales/ factors of Mental Resilience, the Self-Esteem sub-scales (except for that of social self-esteem) as well as for the two Self-Esteem sub-scales. In general, these differences had shown lower scores for children with mild special educational needs compared to higher scores for their controls. It was also observed that (male and female) students with mild special educational needs had lower levels of Mental Resilience, Self-esteem and Self-efficacy than those of their age matched controls, something that made the former group even more vulnerable in adverse conditions. Finally, there were some statistically differences within the two groups of students concerning their response scores in the three questionnaires based on gender. Thus, within group of control students' girls were found to have higher levels of empathy than boys and also within the group of students with mild special educational needs girls were found to have higher levels of social self-esteem than boys

The results from the correlations seemed to have confirmed the existence of the relationship between Mental Resilience, Self-esteem, and Self-efficacy in both children with and without mild special educational needs. Thus, there were significant correlations between general self-esteem and self-efficacy in interactions with peers. Also, the relationships between self-awareness/self-confidence (subscale of Mental Resilience) with social self-esteem and that of self-awareness/self-confidence with social self-efficacy were highlighted. More specifically the correlations found for the group of students with mild special educational needs revealed that self-awareness /self-esteem (as an internal factor of Mental Resilience) was associated with social self-esteem (subscale of Culture free Self-esteem, a finding common to age matched control students. There was also a relationship between school support as an external factor of mental resilience, and self-efficacy in interactions with peers. However, in group of students with mild special educational needs, there was no correlation between self-esteem and self-efficacy. The above relationships were also verified in an earlier research by Papakonstantinopoulou (2018).

Even far more interesting though were the results that emerged from the regression analyses carried out for establishing a pattern of predictive ability among the Mental Resilience, Self-esteem and Self Efficacy in Peer interactions for the group with M.S.E.N. In the first model of multiple regressions the internal factors of Mental Resilience, the conflict situations, and the non-conflict situations (subscales of Self-Efficacy) interpreted the dependent variable "school support" (external factor of Mental

Resilience) by 52%. The internal factors as a variable had the highest interpretive ability (Beta =.634); with the non-conflict situations (Beta =.245) and conflict situations (Beta=.046) followed in strength. In other words, the personal characteristics of students with M.S.E.N, that gave them mental resilience, and the awareness of their ability to interact with peers, seemed to have determined the degree of support they receive from their school. Finally, in the second model of multiple regression analysis it was revealed that the internal factors as an overall score, the conflict situations and the self-esteem had interpreted the external factors of Mental Resilience by 66%. The highest interpretive ability had been observed for the internal factors variable (Beta=.806). This pattern of results seemed to suggest that high levels of internal mental resilience, high levels of self-efficacy in conflict situations, and more positive self-esteem could lead children with M.S.E.N in receiving higher levels of support from their parents, teachers, friends, and community.

From the correlations carried out for the control students it was found that students with high general self-esteem had managed their social interactions more easily than their classmates with low self-esteem. Also, those with high self-esteem and self-confidence felt more able to interact with their peers effectively. In addition, it was seemed plausible to suggest that children who had received external support from family and school had managed to have higher academic self-esteem than children who did not have the same support. Still, children who had high self-esteem did not seem to be interested in being accepted by the wider peer community. Similar findings were found in Antoniou's research (2016), according which the more support children receive from the various support frameworks, the less their sense of social dissatisfaction is. According to a study by Dubow and Ulman (1989), even the support of a single person can enhance their mental well-being. When children have confidence in themselves, and have a friend who supports them through difficult times, it seems that they are not particularly concerned about being accepted by the wider peer community.

The regression analyses carried out for establishing a pattern of predictive ability among the Mental Resilience, Self-esteem and Self Efficacy for the control group revealed that in the first model the Self-awareness /self-confidence, school support (internal and external subscales of Mental Resilience) and general self-esteem had interpreted a 24% of general self-efficacy in peer interactions. The general self-esteem had better explanatory power in relation to other independent variables (Beta=.401). The control students who believed in themselves, who had high self-esteem, positive relationships with their parents, and were supported by teachers, they were found to have more successful social interactions with peers. This finding was supported by the Spearman index correlations presented in the results section. In the second model of Multiple Regression, the external factors of Mental Resilience, the social self-esteem, and the self-efficacy in peer interactions explained the internal factors of mental resilience by 35%. The external factors had the greatest predictive power (Beta=.496). The external support that a child might have received (school, home, and peers), the social self-esteem, and the feeling of

being able to achieve the desired interactions with others, seemed to have reinforced his/her individual characteristics that made him/her mentally resilient. Finally, but not least in the third model of Multiple Regression, the internal factors, the academic self-esteem and the general self-esteem interpreted the external factors of Mental Resilience by 37%. A student's individual characteristics, his/her academic self-esteem, and his/her general self-esteem, seemed to have influenced the level of support provided to him/her by his/her school, family or peers.

To sum on up what was more than obvious from the findings of the present study, was that students with M.S.E.N are in a need of an increased levels of self-esteem and good mental resilience compared to ones of their controls. It is therefore suggested that the teachers and the parents as well should create opportunities for these children in order to improve their levels of self-esteem and increase their mental resilience. After all, successes boost self-efficacy, while repeated failures undermine it (Bong, 2003). According to Baumeister (2003), however empowering self-esteem alone could not lead students with M.S.E.N to perform better at school, or to respect the rights of others, and interact better with their peers. It is only when the self-esteem is perceived by the students as a reward for their ethical behavior and remarkable achievements that can lead to better school performance and to a better social interaction with peers. Therefore, educational institutions should aim to minimize risk factors and adversities and maximize protective factors, through educational interventions, for mental resilience, self-esteem and self-efficacy.

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AND SELF-EFFICACY FOR PEER INTERACTION OF STUDENTS WITH AND  
WITHOUT MILD SPECIAL EDUCATIONAL NEEDS

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