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FACTORS INFLUENCING THE OCCURRENCE OF ANXIETY LEVELS IN CHILDHOOD AND COPING STRATEGIES

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Abstract:
Anxiety disorders in childhood constitute a serious phenomenon nowadays, as they impede academic and social functioning, such as school performance, social-emotional development and interaction with the family environment. In order to minimize or overcome abnormal stress, children may develop several coping strategies. The current study examined the occurrence of anxiety disorders in childhood, as well as the use of coping strategies in relation to various demographic data. 461 students of 5th and 6th Primary School Grade participated in the study which was conducted in urban and suburban areas of Greece. Two scales were used: a) The Spence's Anxiety Scale (SCAS), which examines anxiety disorders in childhood and b) Brodzinsky's Coping Scale for Children and Youth, which detects stress coping strategies. The results showed that gender and the educational level of the mother were significantly related to both of these concepts, whilst age was related to anxiety disorders.

Keywords: anxiety disorders; coping strategies; gender; age; mother's educational level

Introduction

Anxiety disorders are the most common psychiatric disorder in childhood and are associated with impairments in intellectual, social and academic progress, as anxiety-disordered children experience significantly more negative life events than non-anxious

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children (Legerstee, Garnefski, Jellesma, Verhulst, & Utens, 2010). Epidemiological studies based on large samples of children estimate the prevalence of anxiety disorders in childhood at rates ranging between 10% and 20% (Breinholst, Esbjorn, Reinholdt-Dunne, & Stallard, 2012; Keeley & Storch, 2009; Kendall et al., 2010). Although not all studies are in agreement, the occurrence of these disorders in girls appears to be observed more frequently than in boys (Riedford, 2010).

In order to deal with uncomfortable situations in a child's everyday life, certain psychological coping mechanisms are activated, that moderate the relationship between stress and well-being (Fedorowicz, 1995; Lazarus & Folkman, 1984; Pereda, Forns, Kirchner, & Munoz, 2009). These mechanisms, known as coping strategies or coping skills, are regarded as the conscious, cognitive and behavioral efforts to address special external or internal challenges (personal and interpersonal problems), with the aim of total suppression, minimization or simple tolerance of anxiety causes (Camisasca, Caravita Milani, & Di Blasio, 2012; Carver & Connor, 2010; Fedorowicz, 1995). Although the coping strategies applied to stressful situations are considered very important for the mental well-being of children, most studies have dealt with mechanisms developed by adults; therefore, the theories applied to children are based on the literature for adults (Fedorowicz, 1995).

Anxiety disorders in childhood

According to Lazarus and Folkman (1984), the interpretation of stress is a central element in the interaction of the individual with their environment. The various environmental stimuli are accepted, processed and sometimes considered dangerous by the individual for his/her existence. The evaluation of a stimulus as a threat leads certain persons to the manifestation of excessive anxiety (anxiety disorder) and others to the need to face the problem with gradual maturation.

Most research on anxiety disorders converges in a multi-level symptoms system, which are cognitive (anxious thoughts, impaired concentration in school), psychosomatic (sleep problems, heart palpitations, headaches, gastrointestinal disorders) and behavioral (avoidance of situations in personal and social life) (Alfano, Ginsburg & Kingery, 2007; Keeley & Storch, 2009; Riedford, 2010).

With regard to the causes of anxiety disorders in childhood, researchers speak of a complex action of causes that may be biological, psychosomatic, genetic and environmental (Keeley & Storch, 2009). More specifically, the temperament of the child (increased sense of shame in the early years), the genetic and neurophysiological effects (correlation of anxiety disorders with specific parts of the brain), the parent-child

interaction, the various negative events in life (experience of a traumatic event), as well as adverse social circumstances (social exclusion) have been implicated as causes of anxiety manifestations (Vallance & Garralda, 2008). Of course, there are also cases, where the cause of their occurrence cannot be determined (Rapee, Schniering, & Hudson, 2009). In addition, sometimes they may constitute a concomitant symptom of an existing disorder, such as autism spectrum conditions (Merrill, 2012).

According to the DSM-V classification (American Psychiatric Association, 2013), the anxiety disorders identified in children and adolescents are: separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, agoraphobia, generalized anxiety disorder. Obsessive- Compulsive disorder and Trauma- and Stressor- Related disorders characterized by excessive and absurd anxiety but now according to DSM-V belong to separate diagnostic categories.

The prognosis depends on a variety of factors, such as comorbidity, age of onset, severity and type of disorder. Some of these are easier to identify diagnostically (e.g. separation anxiety) than others (e.g. agoraphobia) during childhood (Vallance & Garralda, 2008). Some parents consider it difficult to distinguish such disorders from normal childhood fears, thus complicating their early detection. Another factor that contributes to the difficulty of forecasting is an incorrect diagnosis of either attention deficit disorder (ADHD) or physical conditions (Biederman et al., 2013). There is of course, a significant percentage of comorbidity between them, but this is also true with other psychiatric illnesses where comorbidity is approximately 40% (Vallance & Garralda, 2008). More specifically, the coexistence with disorders, such as ADHD, oppositional-defiant disorder (Riedford, 2010), depression, addiction to substances or even manifestation of suicidal tendencies (Breinholst et al., 2012) is frequent.

Coping strategies in anxiogenic situations

Within the literature, the coping strategies in anxiogenic situations are classified into dichotomic conceptualization, according to the theory on which they are based. Thus, the "problem-focused strategies" are distinguished from "emotion-focused strategies" (Lazarus & Folkman, 1984) and "active strategies" from "avoidance strategies" (Billings & Moos, 1981; Ebata & Moos, 1991). The first parts of the diad aims to modify the situation and directly face the anxiogenic situations, while the second part aims to regulate the negative emotions or avoid them. However, overall the classification of strategies is considered similar (Camisasca et al., 2012).

When a person uses "problem-focused strategies" he/she attempts to address or change the anxiogenic situation. On the other hand, when using "emotion-focused strategies" the person attempts to regulate emotion rather than address the problem,

endeavoring to make sense of and address the problematic situation (Carver & Connor-Smith, 2010; Fedorowicz, 1995). According to Lazarus & Folkman (1984), these two types of strategies, which are used by children when faced with stressful situations in everyday life, are very helpful. However, a number of researchers disagree, suggesting that no strategy can effectively help to reduce anxiety (Camisasca et al., 2012).

According to Fedorowicz (1995), the second diad, which distinguishes the coping mechanisms in anxiety into "active strategies" and "avoidance of stress-problem strategies", is similar to the first. The "active strategies" include either the use of cognitive strategies to change the way someone thinks about a problem, or the use of behavioral strategies to solve the problem directly (for example searching for support) (Carver, Scheier, & Weintraub, 1989; Fedorowicz, 1995). Cognitive strategies appear to be more associated with children who experience increased anxiety, whilst behavioral strategies are associated with children who experience less anxiety (Fields & Prinz, 1997). In a survey conducted with a sample of 717 children from the general population, approximately 28% appeared to use cognitive coping strategies (Garnefski, Rieffe, Jellesma, Terwogt, & Kraaij, 2007).

The "avoidance strategies", which are considered a passive method, include the use of cognitive avoidance mechanisms, in order for the individual to deny or minimize the existence of the problem, by using behavioral avoidance strategies to either avoid the problem or relieve the tension caused by negative feelings (Carver et al., 1989; Fedorowicz, 1995; Kendall et al., 2010). Some of these mechanisms, such as detachment or avoidance, may be helpful to the child in the short term but can be harmful if used for longer periods. However, when using active strategies, such as assistance seeking and positive reappraisal of the problem, permanent positive results can be achieved (Ben-Zur, 2009).

"Problem-focused strategies" and "active strategies" are considered more effective for the adjustment of children in their environment, compared to "emotion-based strategies" and "avoidance strategies" (Fields & Prinz, 1997; Richards & Steele, 2007). It has been argued that a proactive attitude towards anxiety is associated with effective anxiety reduction and better social adaptation (Camisasca et al., 2012; Whiteside, Gryczkowski, Ale, Brown-Jacobsen, & McCarthy, 2013), while avoidance and withdrawing contribute to perpetuation of elevated anxiety (Camisasca et al., 2012; Richards & Steele, 2007).

In addition, it is believed that a passive attitude towards anxiety (emotion-focused coping) is associated with aggression and antisocial behavior of children (Fields & Prinz, 1997). Indeed, research by Sandler, Tein and West (1994) showed that children who used "avoidance strategies" exhibited signs of depression, generalized anxiety and

conduct problems. Furthermore, research by Pereda et al. (2009) showed that children living in normal environments more usually used active coping strategies to deal with anxiogenic situations, whilst children living in harsh environments for example exposure to community violence or poverty and economic hardship used "behavioral avoidance strategies" without exhibiting effective management of situations. According to Gary & Pilyoung (2013), children living in adverse environments are more likely to develop chronic stress that disorientates them and renders them impotent to face stressful stimuli. Both classification systems of coping strategies during anxiogenic situations have received severe criticism, having been viewed as very simplistic, as there are anxiety avoidant behaviors used by children which cannot be classified in any specific category (Fedorowicz, 1995).

Factors associated with coping strategies

Many of the surveys carried out in recent years have aimed to highlight the most important factors associated with the various coping strategies of stress used by children. Thus, the following parameters have emerged:

Nature of the problem: The nature of the problems that create stress in children seem to be associated with the type of preferred coping strategy. The problems faced by children aged 7-12 years old appear to be mainly of a personal nature (quarrel with a friend, failure in exam, scolding from parents, family member illness). Girls seem to experience difficulties mainly in their relationships with others (Pereda et al., 2009).

In stressful social situations, as well as in school, a frequent use of "problem-focused strategies" was observed (direct problem solving including involvement of parents) and to a lesser extent "emotion-focused strategies" were observed (Fields & Prinz, 1997). Pereda et al. (2009) report that for problems associated with health, "avoidance strategies", such as distraction, social withdrawal, cognitive restructuring, emotion regulation and "active strategies", such as support-seeking are utilised. Many people support that this combination can indeed lead to the solution of the problem.

Gender: with regard to the coping strategies of anxiogenic situations during childhood and their correlation with gender, there are no clear data (Camisasca et al., 2012). Several previous studies had reported gender differences in strategies, but the results were not always consistent (Pereda et al., 2009). So, while some authors found that girls more often used "avoidance strategies" and "emotion-focused strategies" to cope with problems (Billings & Moos, 1981; Frydenberg & Lewis, 1993), other authors noted that boys used more escape-oriented strategies (Eschenbeck, Kohlmann, & Lohaus, 2007; Roecker, Dubow, & Donaldson, 1996).

However, some studies have revealed differences in specific mechanisms, while using these strategies. In particular, differences in support/assistance-seeking and generally in the use of active coping methods have been identified, with girls using such methods more frequently compared to boys (Camisasca et al., 2012). However, boys seem to use "direct problem-solving strategies" as well as "positive thinking" more often, in comparison with girls, because they believe that such strategies are advantageous when attempting to solve problems directly (Pereda et al., 2009).

Age: regarding the coping strategies of anxiogenic situations in relation to age, a literature review conducted by Fields and Prinz (1997) showed that children aged 8-12 years use more methods of "cognitive avoidance" of anxiety and fewer "behavioral avoidance strategies", which are preferred by younger children, aged 3-7 years. A further difference observed in the two age groups is that the 3-7 year-old group seeks support mainly from adults, whereas children in the older age group prefer the support of their peers.

In addition, Eschenbeck et al. (2007) reported that children in the last grades of primary school prefer support-seeking strategies and cognitive solutions rather than "avoidance strategies". The comparison of the 8-12 age group with adolescents showed that as the years progress, the variety of coping strategies becomes smaller, with the "cognitive strategies" the only type to increase in usage (Fields & Prinz, 1997).

Personality: Personality seems to play a role in influencing the strategy that a child uses to address a problem that evokes anxiety. According to Carver and Connor-Smith (2010), personality is directly related to problem-solving strategies. Optimistic, extroverted individuals with conscientiousness and honesty seem to harness more adaptive strategies (positive strategies). This factor seems to be influenced by the personality of mothers as well, according to Neitzel and Stright (2004). It would appear that mothers try to transmit to their children those coping strategies that will ultimately help them to achieve cognitive and emotional maturity and autonomy.

The purpose of the current study and the research questions

The purpose of this study was to investigate the anxiety disorders prevalent during childhood in the Greek population, to identify strategies used to deal with problems that create stress, as well as to define the factors influencing these strategies. The following research questions were formulated:

- What levels of anxiety have got the children in the last grades of primary school in Greece?
- What coping strategies are used by children in the last grades of primary school?

- What factors affect anxiety disorders?
- What factors are associated with the use of different strategies to cope with anxiety?

Method

Participants

Participants were 461 children (52.7% were girls, 47.3% boys), pupils of six public primary schools located in Athens and Agrinio, a semi-urban area, between the months of December 2015 and March 2016. The socio-economic status of participants' families was assessed by asking for parents' qualifications and jobs. Schools that agreed to participate in the present study were selected through a standard procedure that included introductory meetings with school director and teachers, and letters describing the goals and procedures of the research. The parents of all students signed consent forms which described the research project and its aims the voluntary nature of participation and the confidentiality of the data collected.

Completion of the questionnaires lasted no more than 20 minutes and took place during lesson time, with the presence of the teacher. Of the total sample, 49.2% (n = 227) were students in the 5th grade of primary school, while 50.8% (n = 234) were students in the 6th grade. Finally, 50.8% of the students lived in urban areas (n = 234), while 49.2% resided in semi-urban areas (n = 227). The majority of the students reported Greece as their birthplace (98%).

Measure

A questionnaire consisting of two scales was used in the survey including:

a) A Greek adaptation of the "Spence Children's Anxiety Scale (SCAS)" (Spence, 1998), which is a child self-report measure designed to evaluate symptoms relating to separation anxiety, social phobia, obsessive- compulsive disorder, panic-agoraphobia, generalized anxiety and fears of physical injury in the general population of children 8-12 years old. The results of confirmatory and exploratory factor analyses supported six factors consistent with the hypothesized diagnostic categories. The scale contains 44 closed questions, in which each Likert-type question was accompanied by the following response scale: "Never", "Sometimes", "Often", "More often", and one open question. Of these, 38 questions relate to specific anxiety symptoms and the remaining six questions to positive, filler items to reduce negative response bias; therefore, they are not included in the statistical analysis.

b) The "Coping Scale for Children and Youth" (Brodzinsky, Elias, Steiger, Simon, Gill, & Hitt, 1992) to measure the stress coping strategies. The scale contains 29 questions, in which each Likert-type question is accompanied by the following response scale: "Never", "Sometimes", "Often" and "Very often".

Data analysis

All data collected through the questionnaires were analyzed with the specialized SPSS statistical software for Windows (ed. 22). The survey data were subjected to univariate and multivariate analyzes to examine the correlation of all individual variables with demographics. Analyses were performed, with findings summarize in tables and illustrative graphics. For analyses between qualitative variables crosstabs and the chi-square criterion were used. Regression analysis was also used.

Results

The occurrence of anxiety disorders in childhood

In order to determine to what extent children in Greece experience anxiety disorders, the responses to the SCAS questionnaire were processed and analyzed thoroughly. The control of the measure's reliability as a whole, as well as that of its parameters, was achieved using the Cronbach's α in the total number of the sample responses (n = 461). The reliability values were satisfactory for the overall value of SCAS-GR (α = 0.786), as well as for the individual categories, which, to some extent, was consistent with the values of similar surveys in other countries (Spence, 1998). This confirmed good psychometric properties of the SCAS as a self-report questionnaire in the identification of anxiety disorders.

The examination of averages and standard deviations (Table 1) showed that there is an average tendency to relatively low self-reported levels of the various forms of anxiety, with the highest rates being observed in the Obsessive-Compulsive Disorder indicators (M = 6.46, SD = 3.74), Social Phobia indicators (M = 5.47, SD = 3.65) and Generalized Anxiety Disorder indicators (M = 5.06, SD = 3.36).

Table 1: Indices of SCAS-GR main tendency, its parameters and Cronbach's Alpha

SCAS-GR	Mean Value	Standard Deviation	Cronbach's Alpha
Separation anxiety disorder	4.00	3.41	0.755
Social Phobia	5.47	3.65	0.748
Obsessive-Compulsive disorder	6.46	3.74	0.755
Panic attack – Agoraphobia	3.22	3.82	0.745
Physical Injury Fear	3.30	2.82	0.774
Generalized Anxiety Disorder	5.06	3.36	0.774
SCAS-GR total	27.52	15.41	0.786

Usage of coping strategies in childhood

The control of reliability of the Brodzinsky et al. scale in total and of its parameters, was achieved by using the Cronbach's α in the total number of responses in the sample (n = 461). The reliability values were less satisfactory for the overall value (α = 0.66) and also for the separate categories. This fact is difficult to interpret, as the scale administration procedure was conducted exactly in the way indicated by the authors, and the survey sample was of sufficient size, which generally helps better to represent the population (Katsillis, 2005; Katsillis, 2006).

As can be seen in Table 2, Assistance-Seeking seems to be used more often as a stress coping strategy (M = 1.43, SD = 0.65) with the strategy of Cognitive – Behavioral Problem Solving taking the second position (M = 1.39, SD = 0.69). The Cognitive Avoidance (M = 1.05, SD = 0.67) and Behavioral Avoidance (M = 0.82, SD = 0.62) reportedly used less as coping strategies in anxiogenic situations, based on the main tendency indicators.

Table 2: Indices of main tendency of the Brodzinsky scale, its parameters and Cronbach's Alpha

Brodzinsky Scale	Mean Value	Standard Deviation	Cronbach's Alpha
Assistance seeking	1.43	0.65	0.618
Cognitive-Behavioral problem-solving	1.39	0.69	0.578
Cognitive avoidance	1.05	0.67	0.596
Behavioral avoidance	0.82	0.62	0.578

Correlation of anxiety disorders with the demographics of the sample

A statistical analysis (crosstabs, chi-square) was applied to correlate the SCAS-GR scale factors to the demographics of the sample. After conducting tests with crosstabs and criteria, we observed a statistically significant relationship between some of the SCAS-GR factors and various demographic characteristics of the sample. The results are summarized in Table 3.

Table 3: Correlations between SCAS-GR scale factors socio-economic characteristics of the sample (n=461)

SCAS-GR	Gender	Mother's educational level
Separation anxiety	13.031**	8.628*
disorder	(0.000)	(0.035)
Social	11.206**	9.401*
Phobia	(0.001)	(0.024)
Generalized anxiety	7.920**	-
disorder	(0.005)	

*p< 0.05, **p<0.01

The results initially show that the "Separation anxiety disorder", "Social Phobia" and "Generalized anxiety disorder" variables correlate strongly with gender, and this relationship was significant at the 1% significance level (~13.031, p< 0.01) for the first, (~11.206, p< 0.01) for the second and (~7.920, p< 0.01) for the third. More specifically, it was estimated that girls exhibit higher stress rates in all three factors compared to boys. Furthermore, a statistically significant relationship was observed between the "Separation Anxiety Disorder" and "Social Phobia" variables and the educational level of the mothers of the participating children; this relationship was significant at the 5% significance level (~8.628, p<0.05 and ~9.401, p<0.05 respectively). More specifically, the students whose mothers had a higher level of education, exhibited lower stress levels in these factors compared to the students whose mothers had a lower educational level.

Below (Table 4), by using the multiple linear regression model (OLS regression), we attempted to evaluate the effect of socio-economic characteristics of the sample on the SCAS variables. More specifically, the following equation was used: $yi = \beta_o + \beta i * xi + \varepsilon i$, where yi is the dependent quantitative variable, which is a SCAS factor, β_o is the coefficient of the variation each time, xi is the vector of explanatory variables that determine the socio-economic profile, βi is the estimated coefficients and εi the errors of the regressions.

Based on the results of the multiple linear regression (Table 4), boys seem to exhibit less stress at almost all levels and particularly within the following parameters: Separation Anxiety Disorder, Social Phobia, Panic attack-Agoraphobia and Special Phobia (Physical Injury Fears) and Generalized Anxiety Disorder, in comparison with girls. It is also noteworthy that the coefficient of the gender variable was assessed as statistically significant at the 1% significance level. In addition, our research demonstrated that the higher educational level of the mothers of the children in the sample was associated with lower anxiety levels of the children. Thus, the students with mothers at the highest educational level exhibited less Separation Anxiety, Social

Phobia, Obsessive-Compulsive traits, Panic attack-Agoraphobia and Special Phobia (Physical Injury Fears).

Table 4: Multiple linear regression assessment on the impact of the socio-economic characteristics of the sample on the SCAS factors

Variable	Coefficient (β_0)	Gender (β1)	Mother's educational level - Highest (β_2)	Graduation Class (β_3)
Separation anxiety disorder	4.014** (21.64)	-1.305** (-4.26)	-0.854** (-2.83)	0.760* (2.48)
Social phobia	6.135** (16.19)	1.581** (-4.80)	-0.806* (-2.44)	-
Obsessive-compulsive disorder	7.035** (19.50)	-	-1.018** (-2.90)	0.718* (2.09)
Panic attack-Agoraphobia	4.017** (13.15)	0.980** (-2.80)	0.923** (-2.64)	-
Special Phobia (Physical injury fears)	4.238** (19.54)	-1.310** (-5.14)	-0.621* (-2.44)	-
Generalized anxiety disorder	5.798** (27.64)	-1.551** (-5.83)	-	-

*p< 0.05, **p<0.01

Regarding age, our sample showed that children who attend younger classes, namely the fifth grade of primary school, exhibit Separation Anxiety and Obsessive-Compulsive indications, more frequently in comparison with children attending the sixth grade.

Comparison of coping strategies with the demographic data of children

A statistical analysis was applied to correlate the Brodzinsky scale parameters (Assistance-seeking, Cognitive-Behavioral Problem Solving, Cognitive Avoidance, Behavioral Avoidance) with the demographic characteristics of the sample. The results are summarized in Table 5.

Table 5: Correlations of the Brodzinsky scale with the socio-economic characteristics of the sample (n = 461)

	Mother's Educational Level	**Father's Occupation**	**Area of residence**
Cognitive-Behavioral Problem Solving	119.993** (0.001)	-	46.386** (0.006)
Assistance-Seeking	-	106.562** (0.000)	-

**p<0.01

As shown in Table 5, the Cognitive-Behavioral Problem Solving variable correlates with the "Area of Residence" and "Mother's Educational Level". These relationships were significant at the 1% significance level (~46.386, p< 0.01 and ~119.993, p< 0.01 respectively). More specifically, it was estimated that students with mothers at the highest and higher educational level exhibit a higher percentage of the Cognitive-Behavioral Problem Solving coping strategy. In addition, it was estimated that students who are residents of urban areas harness Cognitive-Behavioral Problem Solving strategies, compared with students from suburban areas. Finally, the Assistance-Seeking variable reflected the Father's Occupation variable and this relationship was significant at the 1% significance level (~106.562, p< 0.01).

Results of a comparative study between urban and suburban areas

Since the investigation was a comparative study, a statistical analysis was applied to correlate the SCAS scale parameters, as well as the Brodzinsky scale parameters with the socio-economic characteristics of the sample by residence, to compare the results between the participants residing in urban and suburban areas. The results are summarized in Table 6.

Table 6: Correlations of the SCAS-GR Scale parameters with gender and by residence (Athens n = 234 and Suburban n = 227)

	Gender		**Mother's Educational Level**	
	Urban Areas (n=234)	**Suburban Areas (n=227)**	**Urban Areas (n=234)**	**Suburban Areas (n=234)**
Separation Anxiety Disorder	7.241** (0.007)	6.462* (0.011)	-	-
Social Phobia	4.543* (0.033)	7.401** (0.007)	13.77** (0.003)	-
Generalized Anxiety Disorder	-	3.875* (0.049)	-	-
Obsessive-Compulsive Disorder	-	-	13.99** (0.003)	-
Panic Attack – Agoraphobia	-	-	10.818* (0.013)	-

*p< 0.05, **p<0.01

With regard to children living in suburban areas, the results show that the "Separation Anxiety Disorder" and "Generalized Anxiety Disorder" variables correlated with the gender variable and this relationship was significant at the 5% significance level (~6.462, p< 0.05 and ~3.875, p< 0.05 respectively). Girls express higher rates of stress in both of these parameters, compared to boys. Furthermore, the "Social Phobia" variable correlated with gender (~7.401, p< 0.01), with girls living in suburban areas expressing higher levels of stress on this parameter.

With regards to children residing in urban areas, the results show that the "Separation Anxiety" and "Social Phobia" were related to gender and these relationships were significant at the 1% and 5% significance level respectively (~7.421, p< 0.01 and ~4.543, p< 0.05). Moreover, it was identified that girls, when compared with boys, exhibit higher levels of anxiety in these two domains. Thus, it would appear that the occurrence of elevated anxiety is mediated by gender, with girls reporting higher anxiety levels, irrespective of their place of residence.

Furthermore, the "Social Phobia", "Obsessive-Compulsive Disorder" and "Panic Attack-Agoraphobia" variables correlated with the "Mother's Educational Level" variable for children living in urban areas, and this was observed at the 1% and 5% significance levels (~13.770, p< 0.01, ~13.995, p< 0.01 and ~10.818, p< 0.05 respectively). Children residing in Athens with mothers at the highest educational level, expressed lower anxiety levels on the "Social Phobia" and "Panic Attacks – Agoraphobia" parameters. However, children with mothers at higher educational levels reported higher anxiety levels within the "Obsessive-Compulsive Disorder" domain.

Discussion

The purpose of this study was to investigate the presence of levels of anxiety during childhood within the Greek population, and to explore the coping strategies that children use to prevent or manage their anxiety in schools in urban and suburban areas. Regarding the SCAS parameters (types of anxiety disorders), it was observed that "Obsessive-Compulsive Disorder" was rated highest with a mean value of 6.46 and Social Phobia was in second place with a mean value of 5.47. Research by Mellon & Moutavelis (2007), which was also conducted with a Greek sample, provided similar findings and it was estimated that such findings relate to the Greek culture and habits of Greek society. More specifically, it was identified that certain obsessive-compulsive habits (such as frequent checks, ritualistic movements, prayers, prostrations, "wood knocking" for example are more widely considered acceptable in the Greek society for the prevention of bad luck or accidents, compared to other behaviors associated with anxiety.

Question No 14 of the SCAS-GR "When I have completed a task, I check again and again if everything is correct" was the only question rated "Very Often" at a high percentage of 31,5%. The second highest percentage was observed for Question No 40 "I have to repeat some things again and again" at 24.9%. A similar phenomenon is also observed with regard to the social phobia exhibited by Greek children. Most questions refer to the school and the students' relationships (fear of exams, fear lest I become a laughing stock in the classroom, etc). It would appear that the Greek educational system may create or exacerbate assessment anxiety for Greek students, as it is orientated toward exams and school success, leaving aside the socialization and affective cooperation among students.

Thirdly, the "Generalized Anxiety Disorder" dimension elicited a mean value of 5.06, ranking as the third highest mean score. This is consistent with research literature with reported prevalence rates of around 10% in the pediatric population (Keeley & Storch, 2009; Vallance & Garralda, 2008). In addition, it is considered mainly a disorder of the prepubertal period (included in our sample) and adolescence (Vallance & Garralda, 2008). The fact that the Separation Anxiety Disorder (mean value 4.00) does not appear in the top positions of our ranking is well explained, as it is a disorder that affects mainly younger children (Allen, Lavallee, Herren, Ruhe, & Schneider, 2010).

With a mean value of 3.30, it is worth noting that among all statements-questions regarding "Special Phobia" (Physical Injury Fears), Question No 33 "I am afraid of insects or spiders" gathered almost 50% (Sometimes, Very Often). This finding reminds us of a special phobia called zoophobia/insect phobia (APA, 2013), which according to

research is one of the most common special phobias in childhood (Becker et al., 2007). The panic attack-agoraphobia disorder features lastly and is generally considered a disorder of adulthood. In children, its appearance is less often and is associated with a specific negative event (Doerfler, Connor, Volungis, & Toscano, 2007; Keeley & Storch, 2009).

In relation to the mean values of the coping strategies for problems, it is concluded that the sample of Greek students prefer to face their problems with the "Assistance-seeking" strategy (1st place). In second place, the strategy known as "Cognitive-Behavioral Problem Solving" is observed, while the third and fourth place most highly reported were the "Cognitive Avoidance" and "Behavioral Avoidance" strategies respectively. Our results are consistent with by the relevant literature. More specifically, in a survey by Pereda et al. (2009), children chose (at a percentage of 35%) "Support-seeking" from their family or social circle as the best method to deal with their problems.

According to Fields & Prinz (1997), and Richards & Steele (2007), children who experience increased anxiety choose more often strategies oriented to avoid the problem and emotion (cognitive avoidance/behavioral avoidance) and less often harness problem-solving mechanisms (assistance seeking/cognitive-behavioral problem solving). Thus, we understand that since the sample in this study comprised a community sample and not a clinical population, but responses referring to cognitive and behavioral avoidance strategies were relatively infrequently selected (In Questions No 13 to 29 of this scale, that correspond to these two strategies, the "never" answer ranged 30% and 76%). This finding is consistent with Eschenberck et al. (2007), who reported that children in the final grades of primary school report support-seeking strategies and cognitive problem solving more frequently than "avoidance strategies".

The relationship of anxiety disorders with demographics

When analyzing the data in relation to anxiety disorders and demographics, a significant correlation with gender was observed in specific categories. It was estimated that girls have a higher likelihood of exhibiting separation anxiety, social anxiety, generalized anxiety, features of special phobia and panic attack-agoraphobia, compared with boys. This is confirmed by similar studies (Bernstein, Borchardt, & Perwien, 1996; Mellon & Moutavelis, 2007; Riedford, 2010; Spence, 1997, 1998).

In addition, there did not seem to be a correlation between obsessive-compulsive behaviours and gender: a finding also highlighted by Spence (1997), during the construction of the tool. In particular, the results for the "Separation Anxiety Disorder" parameter are also confirmed by Topolski et al. (1997), who studied the "Separation

Anxiety Disorder" and the "Generalized Anxiety Disorder" in correlation with gender and concluded that in the 11-13 age group girls differ in the incidence of the first disorder compared to boys. The findings of this survey for the "Generalized Anxiety" do not coincide with our own results, as no significant difference was observed.

Regarding the graduation class (age of children), our findings (see Table 4) demonstrate that the younger children exhibit symptoms such as separation anxiety and obsessive-compulsive behaviours more frequently, in comparison with children attending higher classes. Thus, it appears that stress and its causes are associated with the age of the children. This finding is consistent with the findings of other studies (Bernstein et al., 1996; Mellon & Moutavelis, 2007), as well as with the conclusion that the separation anxiety is more often observed in younger ages (Allen et al., 2010).

A finding that has not been studied or proved in another relevant study and was observed in our study, is the statistically significant relationship between stressors and the educational level of the children's mothers (Tables 3 and 4). Specifically, the students whose mothers were at the higher or highest educational level exhibited lower stress levels compared with students whose mothers had attained a lower educational level.

The relationship of coping strategies with demographics

Concerning the parameters of Brodzinsky's Scale (Table 5), it is identified that the Cognitive-Behavioral Problem Solving strategy correlates with residence and the educational level of the mothers of the children included in the sample. In more detail, it was estimated that students living in urban areas address anxiety mainly with "Cognitive-Behavioral Problem Solving" strategies, compared to students from suburban areas. The same seems to apply for students with mothers at a higher or highest educational level. A similar finding was reported by Neitzel and Stright (2004), which showed that mothers with a higher educational level provided more metacognitive information. Mothers with lower educational levels were less open to experiences, were less likely to regulate task difficulty, encourage their children's efforts, and encourage their children's active role in problem solving.

However, more educated mothers encourage their child to have an active role in dealing with a difficult problem. This difference seems to be due to better transmission of meta-cognitive information and approach strategies in problem solving to their children. During the construction of the questionnaire, Brodzinsky et al. (1992) showed that this research tool is influenced by the age and gender of the sample. However, many researchers challenge whether a correlation between strategy and age exists. Our research did not reveal a statistically significant effect on the choice of one strategy over

another, in relation to gender or age. However, with reference to age, it must be noted that the age groups of the children were very close.

Conclusions

In conclusion, the survey results demonstrated that obsessive-compulsive behaviours, social anxiety and the generalized anxiety more reported with greatest in frequency among the Greek sample. Furthermore, it was also concluded there is a correlation between anxiety and gender, with girls reporting elevated anxiety more frequently. However, it would appear that younger children experience separation anxiety and obsessive-compulsive behaviours with greater intensions than older children. However, due to the small age range we believe that there is a limit to the usefulness of the finding. It would be useful to include children of a wider age range in future research. Another interesting finding is the correlation between elevated anxiety and the educational level of the mother, which could be explored further in future research.

With regards the coping strategies, it was identified that children's reported Cognitive-Behavioral Problem Solving strategies correlated with the residence, and the educational level of the mothers of the children included in the sample. The second finding was considered particularly important, since it was estimated that mothers with higher educational levels prepare their children both cognitively and meta-cognitively to face a stressful problem. If further research confirmed this correlation and the postulated mediating mechanisms, this would hold implications for the content.

Finally, it would be useful if some of the results of our research could be used in the future investigation of anxiety disorders, which constitute one of the most common mental disorders in childhood. Their early detection and early intervention will help the child to fully develop by mitigating their impact.

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