

# SELF-ESTEEM, TRAIT ANXIETY AND PARENTAL EDUCATIONAL LEVEL OF CHILDREN PRACTICING NON-COMPETITIVE GYMNASTICS SPORTS

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## Abstract

*The aim of this study was to examine the relation between self-esteem, trait anxiety and parental educational level of 117 children (M age= 10.61 years, SD=0.7), practicing non-competitive gymnastics sports. To measure self-esteem and trait anxiety, the Greek versions of Harter's Self-Perception Profile for Children (1985a) and of the State-Trait Anxiety for Children (STAIC; Spielberger, Edwards, Lushene, Montuori, & Platzek, 1973) were used respectively. ANOVA procedure and independent samples t-test were performed in order to examine differences in self-esteem and trait anxiety between the different educational levels of the parents. Results indicated that father's educational level was related only to one subscale of self-esteem (social acceptance) and had no relation with trait anxiety while mother's educational level was related to most of the subscales of self-esteem (school competence, athletic competence, social acceptance and physical appearance) and to trait anxiety. When both parents' educational level was examined simultaneously, results indicated that children with parents of higher educational level scored higher in most of the subscales of self-esteem (school competence, athletic competence, social acceptance and physical appearance) but not in behavioral conduct and global self-esteem, and there was no difference in trait anxiety. Further research is required on the impact of structural features of the family on young athletes' psychological parameters.*

**Keywords:** *self-esteem, trait anxiety, gymnasts, parents, education*

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## INTRODUCTION

Most experts in child development and education believe that children's emotional, cognitive and behavioral development is profoundly affected by the way, in which their parents have raised them (Gekas & Schwabe, 1986; Harter, 1985b; Rosenberg, 1986). Findings show that young children and adolescents whose parents convey affection, acceptance and support are likely to report higher self-esteem, lower anxiety and depression, greater happiness and scholastic achievement and fewer behavioral problems (Antunes & Fontaine, 1998; Ball, 1992; Gekas & Schwabe, 1986).

Self-esteem is the evaluative element of self-concept (Brown, 1993; Makri-Botsari, 2001b) and can be defined as the degree to which individuals feel positive about themselves (Sonstroem, 1989). According to experts, (Coopersmith, 1981; Rosenberg, 1986) self-esteem reflects the extent to which people believe themselves to be capable, significant, successful, and worthy. Self-esteem is not definitive and may vary from a situation to another, according to problems to be solved or choices to be made (Tap, Tarquinio, & Sordes-Ader, 2002).

To define anxiety, Spielberger (1966), on the basis of previous research, formulated the anxiety theory that suggests possible relationships between state and trait variables. Trait anxiety is a personality disposition that predisposes some young athletes to more often perceive an imbalance between environmental demands and their response capabilities, which in turn causes them to respond with increased state anxiety (Scanlan & Lewthwaite, 1986).

High self-esteem is one of the most important developments in childhood (Barrett & Campos, 1987; Coopersmith, 1981; Makri-Botsari, 2001b) and it is categorized within the emotional/social domain of development (Ball, 1992). Low self-esteem and/or high trait anxiety are associated to risk behaviours, such as substance abuse, suicidal attempts, dieting and other extreme weight control methods (Laure, Binsinger, Ambard, Girault, & Friser, 2005; McGee & Williams, 2000).

The multidimensionality of self-esteem has been well documented (Harter, 1993). Marsh, (1989) demonstrated the organization of the components of self-esteem in a hierarchical structure with global self-esteem at the apex. Achievement related areas like school (cognitive competence), sport (physical competence), and peer relationships (social competence) are supposed to represent important achievement domains. According to Harter (1993), these areas might be seen as independent. For example, children may think they are poor students, good baseball players, homely children, or trustworthy friends.

Empirical research has focused so far on the social framework of self-esteem and in particular on structural features of the family, such as socioeconomic status, parental occupation and education (Johnson, McGue, & Iacono, 2006; Roberts, Bengston, 1993). Socioeconomic status (SES; Pervin, 1993) is traditionally composed of three parts, income, occupation and education. It must be noted that these are not independent concepts; more education typically leads to increased

income and to a more prestigious occupation. In short, it reflects an aspect of culture that is commonly considered as environmental variable but there is substantial evidence that the individual personal characteristics contributing to SES are under genetic as well as environmental influence (Bouchard & McGue, 2003).

A frequent finding reported in the literature is that children's self-esteem and anxiety are related to parents' socioeconomic status (SES; Johnson, et al., 2006; Philips & Zigler, 1980; Roberts & Bengston, 1993; Twenge & Campbell, 2002). In addition, parents' level of education and occupational status are associated with children's future educational and occupational aspirations (Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001).

It has been reported that during children's school age, feedback and support from significant others (parents, teachers/coaches, and peers) are critical for the development of self-esteem and for coping with mental stress (Cohn, Patterson & Christopoulos, 1991; Gekas, 1972; Harter, 1985b; Kashani, Canfield, Borduin, Soltys & Reid, 1994). In the case of young athletes, parents are typically the individuals who play a key role in children's involvement with sport and future athletic development (Ommundsen & Vaglum, 1991; Scanlan & Lewthwaite, 1986). In most studies of young athletes, it is assumed that parental involvement is the main means of support. Moreover, the stronger is the parental support the child receives, the more positive is the evaluation of the self and lower the level of anxiety or depression that the child feels (Bowlby, 1988; Gotlib & Hammen, 1992). In addition, the possibility of asking from parents for support is very important for adolescents, because they generally have more limited coping resources than adults (Printz, Shermis & Webb, 1999; Van Yperen, 1995).

Gymnastics sports (artistic gymnastics, rhythmic gymnastics, acrobatic, trampoline and gymnastics for all) are popular in young children. Competitive sports are defined as those in which children

compete against others formally for awards. Non-competitive (recreational) sports are operationally defined as those in which children practice regularly but do not compete against others, and do not participate in competitions against other teams for places and awards.

Recently, Amac, Anastasio, Morwick, and Yi (2002), reported that, conversely to what was hypothesised, the self-esteem of young girls (aged 10-13 years) practicing competitive gymnastics was significantly lower than the self-esteem of girls practicing recreational gymnastics. They mentioned several characteristics of the competitive environment that might lead to this result including the amount of pressure created by competition, the highest expectations from coaches and parents, and the urge to find a balance between school life and sport life (Amac et al., 2002). In another study, Kerr and Goss (1997) found that elite female gymnasts aged 11-17 years, reported lower self-esteem scores than the published age- and gender-appropriate norms for children of this age, while the trait anxiety scores did not differ significantly from the norms. For this reason, in order to examine the relation of parental educational level to self-esteem and trait anxiety of children, without the bias of high-level competitive gymnastics, only children from non-competitive gymnastics sports participated in this study.

This study aimed to examine the relationship between parental educational level, and self-esteem and trait anxiety of gymnasts practicing non-competitive gymnastics sports. On the basis of existing evidence of a positive relationship between parental socioeconomic status and children's self-esteem, (Johnson, et al., 2006; Roberts & Bengston, 1993; Twenge & Campbell, 2002) a positive relationship between parental educational level and children's self-esteem, was hypothesized.

Previous research reflected a negative relationship between family socioeconomic status and children's trait anxiety (Bradley & Corwyn, 2002; Cohen & Wills, 1985; Gallo & Matthews, 2003); consequently, a negative relation between parental

educational level and children's trait anxiety was expected. The relations between parental educational level and the subscales of self-esteem within the present research will enable further understanding of whether the level of education of the parents is also affecting the way that parents can support their children, deal with their problems, and provide information when it is needed. Different relationships between the educational level of the mother and the educational level of the father to children's self-esteem and trait anxiety were predicted, in line with the existing literature about the different role of the parents in children's emotional, cognitive and behavioral development (Bell, 1970; Georgas, 1998).

## METHODS

### Participants

One hundred seventeen children (101 girls and 16 boys) aged 10-12 years old ( $M=10.61$ ,  $SD=0.71$ ), practising non-competitive gymnastics sports, participated in this study. Gymnasts were representing four gymnastics sports (artistic gymnastics: 55 children, rhythmic gymnastics: 15 girls, trampoline: 17 children, and gymnastics for all: 30 children). This study was nationwide; subjects were drawn from 15 different clubs affiliated with the Hellenic Gymnastic Federation, set up at several locations throughout Athens and Thessaloniki

The gymnasts were practising for 2-5 years ( $3.84\pm 0.70$  years), and training 2-3 times a week, for "45-60 minutes" every time. They were practising in a training stream, which excluded taking part in any competition and moving up to the competitive program was not possible as well.

### Instruments

The Greek version (Theodorakou, 1997) of Harter's Self-Perception Profile for Children (1985a) was used to measure the self-esteem of each participant. Self-Perception Profile for Children (Harter, 1985a) is widely used for assessing self-esteem in youths and was created for

children aged 8-14 years old. The scale measures the children's perception of themselves across various domains of their life. It consists of six separate subscales reflecting five specific domains (*scholastic competence, social acceptance, athletic competence, physical appearance, behavioural conduct*) as well as *global self-esteem*. Each of the six subscales contains six items, resulting to a total of 36 items.

The Greek version of the instrument consists of 38 items. Two items from the subscale of physical appearance ("Some kids are happy with their height and weight" and "Some kids wish something about their face or hair looked different") were divided in two items each, resulting to 4 independent items (regarding height and weight, face and hair respectively). This division was done as, during the pilot studies these items showed inadequate validity because there were many children that answered that they were happy with their height but not with their weight or happy with their hair but not face. Participants answered on a four-point scale, where a score of 1 indicates low perceived competence and a score of 4 reflects high perceived competence. Cronbach's  $\alpha$  values for Greek population, ranged from 0.67 to 0.74 (Makri-Botsari, 2001a; Theodorakou, 1997). On the first page of the inventory, children completed the data about their parents' level of education and occupation, separately for their father and their mother. According to their educational level, parents were divided in two categories: 1) *Lower level* of education (parents that had elementary and/or secondary education) and 2) *Higher level* of education (parents that had postsecondary education, - University, College and/or higher degree of studies).

To measure anxiety, the Greek version (Psychountaki, Zervas, Karteroliotis, & Spielberger, 2003) of the State-Trait Anxiety Inventory for Children (STAIC; Spielberger, Edwards, Lushene, Montuori & Platzek, 1973) was used. This scale is frequently used to measure anxiety in children 9 to 12 years old. It is a "how-I-feel" questionnaire that consists of two

forms (State and Trait anxiety) of 20 items each, that ask the children how they feel generally, when they respond to the T-Anxiety (Trait anxiety) scale and how they feel at a particular moment when they respond to the S-Anxiety (State anxiety) scale (Spielberger, 1983). For the purpose of this study, only the T-Anxiety scale was used. The STAIC T-Anxiety scores are 3, 2 or 1 for all items. Participants were asked to respond to each item by indicating the frequency of occurrence of the behaviour described by it. The scoring weights are assigned to very often, sometimes, and hardly ever. Cronbach's  $\alpha$  value for Greek athletic population was found to be 0.80 in previous research (Psychountaki et al., 2003).

### Procedure

For the young gymnasts who participated in this study written parental consent was provided. With the permission of the coaches and club administrators, investigators visited a training session and distributed questionnaires which were completed before the training. Instructions to the participants included a reminder to respond to all items and a statement that there were no correct or incorrect answers. Cover letters were also given to the parents and coaches in which were mentioned the importance of participation, purpose of this study, confidentiality and anonymity.

### RESULTS

Measures of skewness and kurtosis found the data to be normally distributed therefore, the use of parametric statistics was deemed appropriate. Internal consistency of the trait anxiety and self-esteem scales was checked with Cronbach's  $\alpha$  values. Results from reliability analysis provided adequate evidence for the internal consistency of the State-Trait Anxiety Inventory for Children (STAIC; Spielberger et al., 1973); Cronbach's  $\alpha$  value for trait anxiety was 0.83. For the subscales of Harter's Self-Perception Profile for Children (SPPC; Harter, 1985a) Cronbach's  $\alpha$  values

ranged from 0.69 to 0.73 and were considered acceptable except for the subscale of *behavioral conduct* which demonstrated poor internal consistency (0.52). In particular, Cronbach's  $\alpha$  values for the rest of the subscales of self-esteem were as follows: *scholastic competence*, 0.72, *social acceptance*, 0.71, *athletic competence*, 0.70, *physical appearance*, 0.71, and *global self-esteem*, 0.69), thus being in agreement with previous research in Greek population of this age (Makri-Botsari, 2001a).

Mean differences of children's trait anxiety and the subscales of self-esteem

between the two groups of educational level of the parents were initially examined separately for the father and the mother. Comparisons between the two groups were performed with the independent samples t-test. Means and standard deviations of trait anxiety and self-esteem subscales between the two different educational levels of the fathers are presented in Table 1. As can be seen, children whose fathers had higher educational level, scored higher in one subscale of self-esteem (*social acceptance*), and there was no difference in trait anxiety.

Table 1. Mean values of self-esteem subscales and trait anxiety between the different educational levels of the fathers.

	Fathers with lower level of education (N=54)	Fathers with higher level of education (N=63)	p
	<i>M/SD</i>	<i>M/SD</i>	
Scholastic competence	3.03±0.73	3.26±0.66	0.06
Social acceptance	2.75±0.66	3.19±0.55	0.00*
Athletic competence	2.77±0.62	2.97±0.60	0.08
Physical appearance	2.88±0.73	3.06±0.74	0.19
Behavioral conduct	3.10±0.71	3.08±0.73	0.83
Global self-worth	3.12±0.58	3.20±0.57	0.43
Trait anxiety	31.24±6.00	30.00±5.80	0.26

\* p<0.05

Mean values and standard deviations of trait anxiety and self-esteem subscales between the two different educational levels of the mothers are presented in Table 2. Children with mothers of higher educational level scored higher in most of the subscales of self-esteem and lower in trait anxiety than children with mothers of lower educational level. In order to examine the relation of both parents' educational level to children's anxiety and self-esteem, children were divided in 4 groups including a first group with children whose both parents had lower level of education (42 children), a second group with children whose father had higher level of education and mother lower level (22 children), a third group with

children whose father had lower level of education and mother had higher level (10 children) and a fourth group with children whose both parents had higher level of education (42 children). The small number of couples with different educational level shows that people with similar SES tend to cluster together (Jeynes, 2002).

Dependent variables (trait anxiety and self-esteem) were examined with ANOVA procedure, having as independent factor the level of education of the parents. When ANOVA procedure, revealed significant differences between the four groups of children, followed post-hoc comparisons, with corrections for multiple comparisons, using Dunnett multiple comparisons test

(Howell, 1987). In this method, all groups were compared with the first group (lower educational level for both parents) which was considered as control group. The aim of this analysis was to examine the possible changes in the groups when one parent or both parents had higher level of education. Mean differences of trait anxiety and the subscales of self-esteem between the four children groups that were created from the examination of both parents' educational level, are presented In Table 3. Post-hoc comparisons, with Dunnett multiple comparisons test, indicated that children from the second group - father with higher level of education and mother with lower level - scored higher than the children of the first group - both parents with lower level of education - only in one subscale of self-esteem, the *social acceptance* ( $p < 0.01$ ). Children from the third group - mother with higher educational level and father with lower educational level - had higher values than children of the first group in the subscales of self-esteem, *school competence*, *athletic competence* and *physical appearance*. The fourth group of children - both parents with higher educational level - scored higher than the first group in the subscales of self-esteem, *school competence*, *athletic competence*, *physical appearance* and *social acceptance*.

## DICSUSION

The aim of this research was to examine the relation between self-esteem, trait anxiety and parental educational level of children (10-12 years old) practicing non-competitive gymnastics sports. Results indicated that father's educational level was related only to one subscale of self-esteem (*social acceptance*) and had no relation with trait anxiety, while mother's educational level was related to most of the subscales of self-esteem (*school competence*, *athletic competence*, *social acceptance* and *physical appearance*) and to trait anxiety. When both

parents' educational level was examined at the same time, it was shown that children with parents of higher educational level scored higher in most of the subscales of self-esteem (*school competence*, *athletic competence*, *social acceptance* and *physical appearance*); however there was no difference in trait anxiety.

The educational level of the father, examined separately from the educational level of the mother, was related to only one subscale of children's self-esteem, the *social acceptance*. Harter (1985a) clarifies that the subscale of *social acceptance*, mainly expresses the degree to which the child feels popular or accepted from his peers. It seems that the educational level of the father, which is affecting the socioeconomic level of the family, is consequently influencing the way that the child feels accepted by his peers and friends. Many researchers report that the two parents differ not only to the degree of support that they offer to their children, but also in the relation of this support to different aspects of the self (Georgas, 1998; Makri-Botsari, 2000).

On the other hand, the educational level of the mother was related to most of the subscales of self-esteem (*scholastic competence*, *athletic competence*, *social acceptance*, *physical appearance*) and to trait anxiety. Mother is the main "reference" person in the life of the child (Bell, 1970). According to Bowlby (1988), mother is most of the times the person from which the child asks for affection and support, consequently the link between the mother and the child is more critical for the child's social and emotional development than the link with the father. In addition, because of the father's longer absence from home, mother is emotionally closer to her children and is dealing more systematically with their problems (Georgas, 1998). Later, when children get older, their relation with their father becomes more important (Cohn, Patterson & Christopoulos, 1991).

Table 2. Mean values of self-esteem subscales and trait anxiety between the different educational levels of the mothers.

	Mothers with lower level of education (N=66) M/SD	Mothers with higher level of education (N=51) M/SD	p
Scholastic competence	2.99±0.69	3.37±0.66	0.00*
Social acceptance	2.85±0.64	3.15±0.61	0.01*
Athletic competence	2.69±0.57	3.12±0.59	0.00*
Physical appearance	2.82±0.71	3.17±0.73	0.01*
Behavioral conduct	3.00±0.70	3.20±0.72	0.14
Global self-worth	3.12±0.57	3.23±0.57	0.29
Trait anxiety	31.62±5.80	29.43±6.00	0.05*

\* p&lt;0.05

Table 3. Mean values and standard deviations of trait anxiety and self-esteem subscales for the four children groups.

	Father and mother with lower level of education (n=42)	Father with higher and mother with lower level of education (n=22)	Father with lower and mother with higher level of education (n=10)	Father and mother with higher level of education (n=42)	F <sub>3,111</sub>
Scholastic competence	2.92±0.69	3.14±0.70	3.50±0.76*	3.34±0.63*	3.57*
Social acceptance	2.69±0.64	3.21±0.48**	3.09±0.71	3.17±0.59**	5.83**
Athletic competence	2.66±0.60	2.74±0.55	3.24±0.56*	3.09±0.60**	5.37**
Physical appearance	2.76±0.71	2.97±0.72	3.44±0.57*	3.10±0.75	3.08*
Behavioral conduct	3.08±0.69	2.90±0.73	3.33±0.78	3.17±0.72	1.06
Global self-worth	3.09±0.56	3.18±0.56	3.28±0.6	3.22±0.57	0.52
Trait anxiety	32.21±6.00	30.83±5.40	28.24±6.40	29.63±6.00	1.93

\* p&lt;0.05

\*\* p&lt;0.01

Interestingly, the subscales of *behavioral conduct* and *global self-esteem* did not have any significant difference because of the father's or the mother's higher educational level. Probably, the behavior of a child does not depend so much on the education of the parents, but on the family values, behavior, and culture. It is also possible that warmth and unconditioned acceptance - total acceptance of the child with his experiences and behavior without any critical evaluation, (Rogers, 1961) - from the parents are more important for a child's *global self-esteem* than the level of parental education. Many researchers report that the child that feels affection, respect and trust can think of himself as someone who deserves affection, respect, and trust (Gecas, 1972, Hattie, 1992, Rosenberg, 1986).

The results of this study also indicated that children whose mothers had higher educational level, scored lower in trait anxiety. Probably, children with mothers of higher educational level, at least *felt* that their mothers could handle better problems at school or in the gym or problems concerning their relations with peers, their physical appearance etc.

Further, the educational level of both parents simultaneously was examined in order to examine its relation to children's self-esteem and trait anxiety. This study highlights an interesting finding: it was expected that young athletes with both parents of higher educational level would score higher in self-esteem and lower in trait anxiety. This expectation was confirmed for most of the subscales of self-esteem but not for *global self-esteem* and *behavioral conduct*. Harter (1985a) clarifies that *global self-esteem* constitutes a global judgment of one's worth as a person, rather than domain-specific competence or adequacy. The results of this study indicated that parental educational level is important to the process of children's cognitive and emotional development in many domains, - like *scholastic competence*, *athletic competence*, *social acceptance*, and *physical appearance* - but it did not affect the extent to which the

children liked themselves as persons, and were generally happy with the way they are.

Unexpectedly, no difference was found in young gymnasts' trait anxiety between the different educational levels of the parents. One possible explanation of this result could be that parents' high educational level affects the educational expectations they have from their children (DeRidder, 1990; Kaplan, Liu & Kaplan, 2001; Penick & Jepsen, 1992). These expectations tend to be based on parents' financial situation, their own experiences with educational attainment and their own aspirations regarding education (Kaplan, et al., 2001; Penick & Jepsen, 1992). Namely, the environment that both these parents create will affect the children, as they tend to expect from their children higher marks at school or to choose a certain career, thus influencing the level of trait anxiety of the children. The participants of this study were not high-level athletes. They practiced regularly and they kept improving their skills in gymnastics sports but there were no specific goals other than to do better for their own self-confidence and to have fun with friends, peers, etc. However, school performance was a demand that they were also asked to fulfil.

It should be recognized that this study has its limitations. First, data were collected by using inventories and though this is a common method, investigators do not have the possibility to check the answers (Bisinger, Laure & Ambard, 2006). On the other hand, this technique does not seem to disrupt excessively the validity of results (Pate, 1993). Another limitation comes from the fact that participants of this study were mostly girls. This was due to the fact that in Greece there are few boys participating in non-competitive gymnastics sports. Probably, if data were collected from another sport, like football, and if there were more boys participating in this study, results would be different, especially in what concerns the relationship with the father. Nevertheless, these results are in agreement with previous studies in Greece (Makri-Botsari, 2000) where it is reported that the

subscales of self-esteem in children correlate higher with the support from the mother than from the father. A final point about the present study is that with the current study design a link of causality between parental educational level and gymnasts' trait anxiety and self-esteem cannot be established.

Despite its limitations, the strength of this study is the examination of the relation of only one of the components of S.E.S - parental educational level - to young gymnasts' psychological parameters and as such can be considered as a new contribution in the area of youth sports. Further longitudinal research, adequately controlled, should examine the relation of structural features of the family to young gymnasts' anxiety and self-esteem separately for boys and girls. Some of the results that were found in the present study appear to warrant further investigation as it seems possible that all the components of the S.E.S of a family (income, occupation, and education) can have different relation to children's psychological characteristics. With the noted differences in self-esteem and trait anxiety of gymnasts with parents of different educational levels, it seems plausible that the results of this study reflect that parental educational level has an important relation to gymnasts' self-esteem but not to trait anxiety.

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