

## Teachers' perceptions toward education of gifted children in greek educational settings

KONSTANTIA POLYZOPOULOU<sup>1</sup>, DIMITRIOS KOKARIDAS<sup>2</sup>, ASTERIOS PATSIAOURAS<sup>3</sup>, AIKATERINI GARI<sup>4</sup>

<sup>1, 4</sup>Department of Psychology, National and Kapodistrian University of Athens, GREECE

<sup>2, 3</sup>Department of Physical Education and Sport Science, University of Thessaly, GREECE

*Published online: June 25, 2014*

*(Accepted for publication May 25, 2014)*

**DOI:10.7752/jpes.2014.02033;**

### Abstract:

The purpose of this study was to examine the attitudes of school teachers regarding the education of gifted students in Greek educational settings and to identify the factors affecting such perceptions. The sample consisted of 245 teachers (70 men and 145 women) of primary (N = 85) and secondary (N = 150) education who completed the questionnaire «Opinions about the gifted and their education» of Gagné & Nadeau (1991). The results showed that the perceptions of teachers concerning gifted children and their education are influenced by factors such as prior teaching experience with gifted students, knowledge in pedagogy and special education issues, and the area of teachers' expertise. Overall, attitudes of educators in this sample seem consistent with similar studies conducted in other countries with any differences attributed to cross-cultural and educational differences between states and the early transition period of recent Greek legislation concerning gifted students and their education.

**Key Words:** gifted children, evaluation, teachers' attitudes

### Introduction

The most current legislation regarding the Special Education as reflected through the 3699 Act of 2008 defines as children with 'disabilities / special educational needs' not only those who present significant learning difficulties due to sensory, mental, cognitive, developmental and mental disorders experienced during their school years, but also pupils with cognitive, emotional and social problems and offending behavior due to abuse, parental neglect and abandonment, as well as gifted students who possess mental abilities and talents developed to the extent that far exceed the expectations of their age group (Article 3, Law 3699 / 08). Conclusively, pupils with special educational needs are no longer those necessarily characterized by some sort of 'disability' but also those who, due to social inequalities or special skills such as the gifted students, need teaching adaptations so as to meet their educational needs within school environment.

Opinion is a cognitive content held as true or a thought or sentiment shared by most people. Perception is defined as the opinion and belief anyone can form about a situation or a person. Attitudes are closely related to one's opinions and are based upon previous experiences (Nel et al., 2011). Thus, people express their attitudes while observing their overt behaviors, in the contexts their behaviors take place (Chaiken, & Baldwin, 1981). Attitude is defined as a significant source of behavioral variance and could serve to integrate and explain a wide range of behavior (Summers, 1977).

Our behavior is consistent with many of our attitudes and specific attitudes predict specific behaviors. The attitude – behavior relation is moderated by many factors, such as individual differences, situational variables, attitude aspects and aspects of the behavior in assessment. In case attitudes are measured appropriately, they are a major determinant element of our behavior (Bohner, & Wanke, 2002; Summers, 1977). Research on attitudes as behavior influencing elements shows that indirect measures of attitude (attitude measured over a discussion through deliberative thinking) predict less controllable behavior, whereas distinct measures (for example, self-report instruments, e.g. questionnaires) of attitude predict more controlled behavior. The use of these two kinds of measurement, may contribute to a general prediction of attitude (Bohner, & Dickel, 2011). According to Summers (1977, p. 141): "The group administered inventory instrument, checked by the respondent, is perhaps the most widely used approach".

Many types of models have been developed, that give a description and a definition of giftedness and talent. Reis and Renzulli (2009) argued that the idea of "gifted behaviors" results from the interaction between distinct intra-individual characteristics. In particular, a gifted child is characterized by high level of three

characteristic, that is, mental abilities, creativity, and persistence that interact and function above the medium average in order to succeed a final goal. The three-ring conception of giftedness provides a broader definition of giftedness that can be used in schools as the basis for identification that, in turn, leads to more targeted programming options for gifted students. It contains a liberal definition, that not only expands the concept, but it also allows for more flexibility in the interpretation of both test and non-test performance (Renzulli, 2002).

The academic advancement, the mature social competence and the affect regulation in gifted children, which appears to be higher than their chronological age (Reis, & Renzulli, 2004) demands special education forms to be organized in the school in order to satisfy the special educational and emotional needs of the gifted students and provide support. Acceleration is one type of gifted education, which can take many forms such as early entrance to school, early entrance to college, and grade skipping (Neihart, 2007). Children, who entered the school in early age, didn't show significant social or emotional difficulties comparing to their regularly admitting peers (Gagné, & Gagner, 2004). In addition, other studies shown that early entrants do demonstrate mood problems, but these were often ameliorated by a change in curriculum, a change in counseling support, or improved selection criteria (Neihart, 2007). Ability grouping is proposed as another type of educating gifted students. It is defined as a regulation that places gifted and talented youth in homogeneous groups, classes, schools. The ability grouping forms influence in a different way the socioaffective development of gifted students and their academic performance (Adams-Byers et al., 2004; Neihart, 2007). Furthermore, enrichment, as an instructive regulation of gifted children, can be applied by implementing individualized or group activities within the regular classroom, in particular subject areas. These activities can influence, in a positive way students who possess the ability to learn in faster rates and those who display higher levels of comprehension than others (Renzulli, & Reis, 2002).

Gifted and talented students are characterized as a group of individuals who have advanced abilities and require changes in the school environment, such as the instructional curriculum and teacher behaviors (Reis, & Renzulli, 2004).

Success in teaching a gifted student depends largely on the ability of every teacher who has the necessary training and knowledge along with a positive attitude towards teaching these individuals. However, assessment, prediction, and attitude change of teachers educating gifted students are issues that require great effort. Without the provision of regular and expertise support, teachers who are assigned to educate gifted children fall short in their attempt to follow the curriculum and provide knowledge that motivates talented students (McCoach & Siegle, 2007).

Teachers seem to lack knowledge concerning children who possess creative skills related to the nature of creativity and the types of behavior that gifted children present, as well as the learning methods applied in classroom settings in order to foster creative behaviors (Ugur, 2004). Furthermore, teachers with previous experience in educating gifted students, recognize the negative traits of gifted students as an expression of disappointment. On the contrary, teachers without experience perceive these features as evidence of inappropriate behavior leading to the separation of these pupils out of the education programs designed for gifted populations (Copenhaver & Intyre, 1992).

Nowadays, the teacher should not only affect the academic performance but also the personal development of students (Kesner, 2005), adopting a role which affects education, curriculum and student success within the school context, indicating in this way the importance of the teaching role in the success of the modern educational system (Hong et al., 2011). In case the teacher manages a class of students in a way that meets their social, emotional and cognitive needs then most students meet motivation in learning, derive pleasure from the learning process and become more accepted by their peers (Moon et al., 2002). On the other hand, the apathy of teachers and school adversely affects the development of talent causing serious negative effects on the social and emotional development of gifted students (Eddles – Hirsch et al., 2010).

According to McCoach & Siegle (2007) although many studies have been conducted examining teachers' perceptions and attitudes toward gifted children and their education, a clear picture concerning this issue does not exist so far. Multicultural studies have shown differences related to teachers' perceptions for the education of gifted children in each country (Tirri, 2008), with cultural differences playing an important role in identifying gifted students, as well as in shaping perceptions and influencing behaviors (Ramos, 2010).

Recent research suggests that teachers appear to express almost neutral perceptions concerning the education of gifted children (McCoach & Siegle, 2007) with expanded and vague conceptions about giftedness and talent development (Reis & Renzulli, 2010) as well as the setting variables that affect and influence those perceptions (Portesova et al., 2011). According to Lassig (2009), the majority of teachers agree that schools should offer special educational services for gifted students as a prerequisite to achieve their potential. They also acknowledged that attending a regular classroom can be tiring for gifted students as "stifling intellectual curiosity" of these students. However, a significant number of teachers also expressed concerns that the implementation of special educational provisions for gifted students and the fact that the value of gifted students as a social group is often overestimated, may lead talented students to adopt an arrogant attitude.

Overall, differences regarding teachers' perception depend on whether teachers have prior teaching experience with gifted students or not (Kesner, 2005), work in general or special education (McCoach & Siegle,

2007) or else in primary or secondary education (Copenhaver & Intyre, 1992; Hany, 1997) and whether they have attended relative seminars and programs regarding the education of gifted students (Geake & Gross, 2008). Moreover, studies in intercultural level (Tirri & Tallent-Runnels, 2004; McCoach & Siegle, 2005) showed that the perception of teachers is affected by the country they live in and the relative education system in which they operate (Tirri, Tallent-Runnels, & Adams, 1998).

In other countries, the educational system already provides strategies to meet the special educational needs of gifted students. The Greek educational system has not established structures in order to educate high ability learners. In regular schools there are inclusion classes where special education teachers educate children with special educational needs, but not gifted ones. There is also the parallel support method, where a special education teacher provides education in special educational needs students in the context of the regular classroom. Students, who display a sport or an art of music talent, receive education in sport and art - music schools. In Greece, the concept of giftedness constitutes a new idea since teachers are not aware of relative educational adaptations due to lack of available information, knowledge and training.

Reviewing the literature, there are a few studies investigating teacher's attitudes toward high ability learners using "Opinions about the gifted and their education" questionnaire. According to Lassig (2003), special services which are recognized as a "valuable resource" should be installed for the gifted students. Concerning the factor "ability grouping", teachers agreed that it fosters the possibility of labeling plus "acceleration" would cause difficulties in social adjustment. A survey conducted in New Zealand (Watts, 2006) confirms the need to provide to gifted children a challenging education and that "acceleration" is appropriate for the exceptional achievers since in other case might influence negatively gifted learners' emotional and social needs. Other researchers (McCoach & Siegle, 2007) created an instrument using items from Gagné and Nadeau's questionnaire ("support", "elitism", and "acceleration"), and they also developed a scale called "self-perception as gifted". Teachers of that survey developed positive attitudes toward the gifted education, expressed heterogeneous opinions toward acceleration and indifferent attitudes concerning the factor "elitism". A pre-service teachers' study (Troxclair, 2013), reveal that pre-service teachers support the special needs of gifted students, but they adopt negative attitudes toward "social value", "rejection", and "ability grouping". Furthermore, according to Allodi & Rydelius (2008), participants had a positive attitude toward "needs and support" and they didn't verify negative attitudes to special provisions for the gifted children. Nevertheless, they confirmed the existence of negative attitudes toward "ability grouping" and "acceleration", and ambiguous attitudes concerning "social values" and "rejection". No validation studies using the Gagné and Nadeau (1991) scale have been located for assessing opinions toward other group of students.

Many studies, attempting to investigate teachers' attitudes use self - report questionnaires. Questionnaire is a printed document which comprises a sequence of questions, that the respondent is invited to answer, according to his willingness. Questions are formulated in a way that answers provide us the information required. Answering a questionnaire is a complex task, which involves judgments based on several high level cognitive conclusions by the respondent (Shulruf et al., 2008). Self-report questionnaires are characterized by low respond rates and bias, because the respondents may not be typical of the subject group. Problems can be observed in case there is no control by the researchers over the order in which questions are answered and no check on incomplete responses. The researcher may receive incomplete questionnaires, having to decide whether or not a particular return is valid (Jones, Murphy et al., 2008). Another point of interest is related to effects of social desirability in self-report questionnaires. Respondents, seem hesitated to report behaviors that are unusual in the context of the response scale, e.g., because they constitute the extreme categories (Schwarz et al., 1985; Weijters et al., 2010). Individuals tend to present themselves in a favorable context, in order to be accepted by the society and to conform to societal norms. Respondents, regardless to their "true" feelings or "actual" behavior, tend to estimate positively those activities which are socially or culturally desirable (Randall, & Fernandes, 1991). Social desirability effects may function as a) unmeasured variable, that generates false correlations between the study variables, b) repressive variable, that conceals variables correlations, c) as moderator variable, that acts as a prerequisite factor that determines the relationship between two other variables (Ganster et al., 1983). Necessary methods to apply are related to the use of alternative methodologies such as randomized response methods, forced-choice items, proxy subjects, or computer administration. On the other hand, assuring the respondents that their names will never be associated with their findings, or asking that names not be placed on the survey instrument itself, may minimize a social desirability response bias (Randall, & Fernandes, 1991).

Gifted student needs, as well as each student needs, are defined by the behavior observations teachers make in the classroom, during the learning process. Teachers are responsible for organizing and improving students' learning processes, recognizing their needs and teaching them respectfully according to their demands and capacities. Consequently, the development of effective interventions requires the assessment of teachers' perceptions of gifted students, aiming to better teaching and satisfaction of their needs.

Developing effective intervention programs requires first the recording of Greek teachers' perceptions concerning gifted students and their education. Thus, the purpose of this study was to examine the attitudes of teachers regarding the education of gifted students in Greek educational settings and to identify the factors

affecting such perceptions. Reviewing the literature, it seems that no other similar studies have been conducted in Greece, thus, this research aims to be the first to deal with this important issue.

### **Research aims**

The present study focused on attitudes teachers reveal concerning the education of gifted children. Further research questions of this study include to assess the reliability and validity of the translated questionnaire into the Greek language. Furthermore to check whether statistical significant differences do exist among teachers between primary and secondary education, between the two genders or according to their diploma degree.

### **Material and method**

#### ***Participants***

The sample consisted of 245 participants (70 men and 145 women), from 7 school districts in the capital city, and 15 school districts in urban areas of Greece. The teachers of each school district completed the questionnaire according to their availability. The sample is random for Greek teachers. Of the participants, 158 teachers were teaching in urban areas and 55 in the capital city. All teachers working in different (general, art of music and sport) schools of primary (N = 85) and secondary (N = 150) education. Of these teachers, 202 had a master degree, 7 had a doctoral, and 34 had a second bachelor degree. Concerning their teaching lesson, 45 teachers were teaching Greek literature, 29 were teaching foreign languages and theology, 42 were teaching natural sciences, 28 were teaching arts, 58 were general and special education primary teachers, who teach in general education schools and 11 were physical education teachers. Regarding their teaching experience in public schools, 80 had 1 to 10 years of teaching experience, 83 had 11 to 20 years, 74 had 21 to 30 years and 8 had more than 31 years. In relation to their teaching experience in private education, 38 had 1 to 5 years of teaching experience, 30 had 6 to 10 years, 15 had 11 to 15 years, 4 had 16 to 20 years and 4 had more than 21 years. A large proportion of the sample, 130 teachers, had no teaching experience in private education. When we asked teachers about their opinion concerning the implementation of a gifted education program in their school district, 119 teachers expressed their agreement and 98 expressed their disagreement. In relation to others forms of gifted education, 67 participants expressed their positive opinion toward "special classes" and 154 expressed their negative opinion, 56 expressed their positive opinion toward "program enrichment" and 165 expressed their negative opinion, 28 expressed their positive opinion toward "class enrichment" and 193 expressed their negative opinion. Furthermore, 46 expressed their positive opinion toward "pull-out program in primary and secondary education" and 175 expressed their negative opinion, 84 expressed their positive opinion toward the "curriculum enrichment" and 137 expressed their negative opinion, 65 expressed their positive opinion toward "specialized educational goals" and 156 expressed their negative opinion and 58 participants expressed their positive opinion toward "group teaching" and 163 expressed their negative opinion. None of the participants has attended a gifted education conference and almost all the participants, except for one, haven't any gifted education degree or certification. In addition, 22 participants had attended special education courses, which were organized by public universities and other education organizations, and 198 haven't attended any special education course. Concerning the education of students with special needs, 18 participants have previous teaching experience with special needs students and 201 haven't taught children with special needs. Missing data were excluded from further statistical analysis.

#### **Instrument**

The «Opinions about the gifted and their education» (Gagné & Nadeau, 1991) questionnaire was used as it constitutes a reliable instrument (Cronbach's  $\alpha = .91$ ) to measure the perceptions of teachers regarding the education of the gifted children (Begin & Gagné, 1994; 1995). The initial questionnaire consists of 34 items assessing the factors of needs and support (needs of gifted children and support for special services), level of opposition (objections based on ideology and priorities), social value (social usefulness of gifted persons on society), rejection (isolation of gifted persons by others in the immediate environment), ability grouping (attitudes toward special homogeneous groups, classes, schools) and school acceleration (attitudes toward accelerative enrichment). Items are scored on a 5-point Likert-type scale with anchors 1: Totally disagree and 5: Totally agree.

**Content validity analysis:** During the first phase, the aim was to translate the English questionnaire into Greek language, to make all relevant adjustments and verify content validity of the new instrument. Initially, the translation from English to Greek was carried out by two bilingual translators. The translation was then given to five educators to test phrasing and intelligibility of questions or other problems. Next, the reverse procedure was followed, and the initial Greek version of «Opinions about the gifted and their education» was converted into English by two different independent researchers. Subsequently, the two translations were checked by three independent researchers with expertise on the topic, in order to verify content validity via structured content

analysis (Weber, 1990) and make all appropriate changes when necessary, in order to ensure that questions represented accurately the concept that each factor aimed to assess.

Additionally, the survey included questions about teaching lessons, teaching experience in general education schools, teacher's background in gifted and special education, knowledge of and interest in gifted education, training needs, perception of gifted education, years of teaching in public and private education, gender, ethnicity, bachelor and master degree, and doctoral degree (demographic questionnaire), factors that have been examined by previous studies as well (McCoach, & Del Siegle, 2007; Kim, & Gentry, 2008). Master degrees are referred to social sciences, education / pedagogy sciences (where an instructor develops conceptual knowledge and manages the content of learning activities in pedagogical settings) and philosophy sciences (history of social and political ideas, ancient history, modern history).

Table 1. Cronbach's  $\alpha$  and comparison of factor analysis results

Studies	Factors	N	Cronbach's $\alpha$
McCoach & Del Siegle, 2007	Support	262	.76
	Elitism		.80
	School Acceleration		.71
Polyzopoulou et al., 2014	Ability Grouping	245	.81
	Rejection		.67
	Social Value		.64
	School Acceleration		.74
	Level of opposition		.54

### Procedure

Each participant completed the Greek version of the «Opinions about the gifted and their education» (Gagné & Nadeau, 1991) questionnaire. Prior completing the questionnaire, the participants were informed about the purpose of research and they were assured that the questionnaire was anonymous, their participation in the study was voluntary and the collected information would be held strictly confidential. The teachers were given the following information about the purpose of the research: “the following statements concern gifted children and their education. We would like to know the extent of your agreement or disagreement with each of them”.

The researchers gave verbal instruction prior to the completion of the questionnaire and they were present during the whole procedure that took place within school premises during hour breaks to answer any question posed by the participants.

### Statistical analysis

Statistical analysis included the use of Statistical Package of Social Sciences (SPSS 17.0). Univariate ANOVA was used to locate possible differences existing among variables. The importance of differences between the means of cells was examined with the application of post hoc t-test for independent samples. Level of statistical significance was set at  $p < 0.05$ . Using the formula  $k(k-1)/2$  where  $k$  was the schools type (general education schools, athletic schools, art of music schools) we set the corrected alpha level to  $p = .017$ .

### Results

The factor analysis (principal components factor analysis with varimax rotation) carried out for the Greek version of the questionnaire after its administration to the participants of this study. The criterion for establishing the number of factors was that the value had to be greater than one. The level of significance was set at  $p < .30$ . The results did not confirm the 6 factors of the original questionnaire. Rather, five factors, (KMO = .779, Bartlett's test of Sphericity = 1325.604,  $p < .001$ ), and the BTS was 2773,298,  $p < 0.001$ . Five factors explaining the 56.33% of the overall percentage of variance emerged from the factors analysis and the lowest used to distribute the variables to the factors was 0.30 with eigenvalues above 1.0 (Table 1)

The first factor (F1) consisted of six questions and was called “ability grouping”. The second factor (F2) named “rejection” consisted of five questions, the third factor (F3) was named “social value” consisted of four questions, the fourth factor (F4) with two questions was named “school acceleration” and the fifth factor (F5) with four questions was named “level of opposition”.

Furthermore, the 21 items of this questionnaire were scored on a 7-point Likert-type scale (from 1 = Strongly Disagree, to 7 = strongly agree, and middle scale = neither agree nor disagree) adding the rating scores of “rather disagree” and “rather agree” in an attempt to minimize the chance for participants to provide neutral answers since no other relevant surveys have been conducted in Greece investigating the issue of giftedness in Greek school settings. The 7-point Likert scale provides a large range of responses. Thus, indifferent respondents have access to a greater number of options and this makes people more comfortable when selecting a response option.

Table 2. Factor analysis with varimax rotation for the Greek version of the Gagne & Nadeau (1991) questionnaire

Items	Factors					Mean	SD
	F1	F2	F3	F4	F5		
When the gifted are put in special classes, the other children feel devaluated.	.804					4.80	1.70
Special programs for gifted children have the drawback of creating elitism.	.797					4.70	1.78
By separating students into gifted and other groups, we increase the labeling of children as strong-weak, good-less good, etc.	.761					5.08	1.60
Gifted children should be left in regular classes, since they serve as an intellectual stimulant for the other children.	.657					4.70	1.65
Gifted children might become vain or egotistical if they are given special attention.	.644					4.90	1.60
We have a great moral responsibility to give special help to children with difficulties than to gifted children.	.482					5.24	1.74
A child who has been identified as gifted has more difficulty in making friends.		.724				4.54	1.58
Gifted children are often bored in schools.		.659				5.18	1.59
Some teachers feel their authority threatened by gifted children.		.625				3.47	1.83
The regular school program stifles the intellectual curiosity of gifted children.		.624				5.09	1.52
Often, gifted children are rejected because people are envious of them.		.610				4.67	1.44
In order to progress, a society must develop the talents of gifted individual to a maximum.			.794			5.81	1.22
Gifted persons are a valuable resource for our society.			.716			6.06	1.08
I would very much like to be considered a gifted person.			.596			4.08	1.65
Since we invest supplementary funds for children with difficulties, we should do the same for the gifted.			.571			5.00	1.62
When skipping a grade, gifted students miss important ideas (they have 'holes' in their knowledge).				.830		4.39	1.56
Most gifted children who skip a grade have difficulties in their social adjustment to a group of older students.				.819		4.73	1.40
Our schools are already adequate in meeting the needs of the gifted.					.733	2.85	1.56
The gifted children are already favored in our schools.					.555	3.97	1.68
Tax-payers should not have to pay for special education for the minority of children who are gifted.					.529	3.71	1.88
Special educational services for the gifted are a mark of privilege.					.496	4.05	1.86
Eigenvalues	4.556	2.741	1.682	1.461	1.388		
Variance (Total = 56.327)	21.695	13.054	8.011	6.956	6.611		

Note: loadings of the questions more than >.30

Furthermore, according to Symonds (1924), the scale's reliability is optimized with seven response categories. Some items were reverse coded, for example, item 4: "Special programs for gifted children have the drawback of creating elitism", the answers scored as following: 1 = 7, 2 = 6, 3 = 5, 4 = 4, 5 = 3, 6 = 2, 7 = 1. The final Greek version of the «Opinions about the gifted and their education» (Gagne & Nadeau, 1991)

questionnaire resulting from the whole factor analysis procedure, was as follows (Table 2). Additionally the factor “level of opposition” was excluded from further statistical analysis on this study because it does not meet the reliability standard (Cronbach’s  $\alpha=.54$ ). McCoach and DelSiegle (2007) conducted a similar survey using a modified version of Gagné and Nadeau’s questionnaire (1991), “Opinions About the Gifted and Their Education”. They developed three scales (support elitism and acceleration) and they also created an additional scale “self-perception”. From the other hand, Toxclair (2013), used the authentic version of Gagné and Nadeau’s questionnaire (1991), but no information about the reliability of the items was indicated.

As seen in table 3, “ability grouping” shows a moderate level of correlation with “rejection”, which express a negative or reversal direction, as well as with “school acceleration” and “level of opposition”. The second factor “rejection” seems to have a moderate level of correlation with “social value” and “level of opposition” (this correlation shows a negative or reversal direction). The third factor “social value” has shown a moderate correlation with “level of opposition”, in a negative or reverse direction. Finally the fourth factor “school acceleration” has a weak correlation with the “level of opposition”.

Table 3. Intercorrelations (Pearson’s r) between the five factors of the questionnaire.

Factors	1	2	3	4	5
1. Ability Grouping	-	.020	-.261**	.346**	.379**
2. Rejection		-	.252**	-.014	-.225**
3. Social Value			-	-.210**	-.280**
4. School Acceleration				-	.218**
5. Level of Opposition					-

Note: \*\*  $p < .001$

First, a statistically significant difference was noticed in “ability grouping” factor as regards to secondary education level  $F(2, 140) = 3.129, p = .047, \eta_p^2 = .043$ . In particular, post-hoc analysis using t-test results for independent variables indicated statistically significant differences ( $t = 1.91, df = 66, p = .031$ ) in “ability grouping” between the teachers working in general education schools with those working in sport schools. Furthermore, statistically significant results for the factor "ability grouping":  $F(1, 214) = 5.642, p = .018, \eta_p^2 = .026$  were also noticed between teachers who possess a second bachelor degree with those who do not possess a second bachelor degree scored higher in “ability grouping” ( $t = 1.806, df = 214, p = .018$ ) (Table 4).

Statistically significant results of this study were mainly noticed in “rejection” factor  $F(4, 225) = 2.745, p = .029, \eta_p^2 = .050$ . More specifically, post-hoc analysis using t-tests for independent variables for the rejection factor indicated statistically significant differences: a) between teachers with "1-10 years of teaching service in public education" and "20 years or more of teaching service in public education" ( $t = 1.78, df = 211, p = .038$ ) (Table 4).

Finally, statistically significant differences in “school acceleration” factor were observed regarding teachers’ field of expertise  $F(3, 14) = 4.641, p = .025, \eta_p^2 = .559$ . In particular, post-hoc analysis using t-test for independent variables indicated statistically significant differences between social science teachers with education/pedagogy teachers ( $t = 3.185, df = 7, p = .015$ ) and philosophy sciences educators ( $t = 3.963, df = 9, p = .003$ ) (Table 4).

Table 4. Arithmetic means, standard deviations and post hoc tests for statistically significant results.

Factors	Teacher groups	N	M	SD
Ability Grouping	General Education School	46	19.59	3.04*
	Sport School	22	17.95	3.79*
	Teachers possessing a 2 <sup>nd</sup> bachelor degree	32	17.87	3.55*
	Teachers without possessing a 2 <sup>nd</sup> bachelor degree	184	18.98	3.12*
Rejection	1-10 years of teaching service in public education	75	13.29	3.59*
	20-30 years of teaching service in public education	56	11.94	3.06*
	>31 years of teaching service in public education	8	9.37	3.85*
	Working as special education teachers	16	10.62	4.24*
	Not working as special education teachers	196	12.84	3.5*

---

	Educational / Pedagogical Studies	5	15.60	2.30*
School Acceleration	Master in Educational / Pedagogical Studies	6	10.33	1.75*
	Master in Philosophy	8	11.00	1.69*

---

Note: \*  $p < .05$

No statistically significant results were noticed in any factor in relation to gender and years of service in private education, or working in primary or secondary education.

### Discussion

The present study examined teachers' attitudes concerning the education of gifted students in Greece. In this regard, the respondents didn't support the co-education of gifted students with their classroom peers. This result doesn't indicate agreement with the findings of Banfield (2005), Dimitriadis (2012), and Van Tassel - Baska and Stambaugh (2005) studies, where teachers appreciated that co-education is beneficial for all students and helps the educator to regulate a modified teaching curriculum. It also reveals a disagreement with other studies, where it seems that the teachers' views are not based on worried considerations of elitism appearance on behalf of gifted students (Gallagher et al., 2011) or beliefs that teaching gifted and non- gifted students in the same class constitute a problem (Berman et al., 2012).

Secondary general education school teachers appeared to believe to a greater extent in the form of "ability grouping" of gifted students and not co-educating them with their school peers, compared to teachers working in sport schools. Teachers working in general education schools reveal the concern for developing high cognitive ability gifted students have, expressing their indifference for special emotional and social needs high learners dispose. Furthermore, It seems that due to lack of knowledge and information regarding the high athletic skills and sports talents that gifted children display, sport school teachers tend to believe that gifted students are only mentally and not physically talented, thus, they would struggle to follow their fellow peers in motor performance. The same finding also recorded by Bailey and Morley (2006) deprives gifted students from the opportunity to participate in a high expectations learning environment, which in turn has a negative effect on future performance in relative areas. Quite clearly, students who lack access and participation opportunities in sports is very difficult to become aware of the potential talent they possess (Bailey & Morley, 2006).

Educators with fewer years of services considered that is more likely for gifted students to be isolated from their classroom peers compared to teachers with more years of educational experience who probably met similar situations in the past and realized that co-education doesn't lurk great isolation risks for gifted students. On the other hand, Portesova et al., (2011) study showed that teachers with no teaching experience adopted a more positive attitude toward the assessment and training of gifted pupils (Megay-Nespoli, 2001) that is less influenced by the notion that there is a possibility for gifted students to become the "elite" of society. The more negative tendency of novice teachers of this sample toward gifted students and their education can be attributed to the transitional period in Greece between the theory of new legislation concerning co-education of gifted and non-gifted children and its application in practice. It seems that until the first results of the new educational reality are recorded, teachers' views will differ although previous teaching experience indicates positive attitudes toward gifted students (McCoach & Siegle, 2007).

An interesting finding is that teachers who do not hold a second degree in pedagogy appreciate that there are greater co-education chances than teachers who own an additional degree directly related to their educational training and knowledge, which makes them more cautious and modest in their estimations concerning the smooth coexistence of gifted and non-gifted students. In addition, teachers without special education knowledge support that there is a greater possibility for the gifted students to be rejected from their peers compared to teachers who have previous experience and knowledge and adopt more positive attitudes toward issues related to the education of gifted students (Geake & Gross, 2008; Bangel et al., 2010). It seems that teachers with more knowledge and information on special education issues are more optimistic regarding the possibility of harmonious co-existence of gifted and non-gifted students (Moon et al., 2002) than teachers whose highest degree of "rejection" is probably related to their own educational insecurity and inexperience to handle similar situations. Nevertheless, special education teachers develop reduced perceptions regarding the needs, enrichment of curriculum and support provision to talented students (McCoach & Siegle, 2007).

Teachers with expertise in pedagogy are more favorable toward the enrichment of school curriculum as the most appropriate strategy in order to meet the educational needs of gifted students and foster the learning process (Gallagher et al., 2011). In general, a philosophy approach in the educational practice creates a more favorable attitude towards the education of gifted students and enables teachers to recognize and focus on the educational needs of gifted students (Gagné & Nadeau, 1994).

Many researchers have studied gifted education forms such "acceleration", "ability grouping", or "enrichment". According to Watts (2006), gifted students should be accelerated according to their intellectual peers, and not according to their age peers. On the other side, grouping pupils by ability consists a mean of



raising attainment, deprives students from communicating with their peers although it helps teachers to organize their teaching course (Rogers, 2007; Tomlinson et al., 2003).

In summary, results of this study showed that teachers' perceptions toward gifted students and "ability grouping" opportunities in the classroom are influenced by factors such as teaching in general or sport schools, and knowledge in pedagogy and special education issues. In addition, gender of educators did not emerge as a factor producing different results neither different findings were produced for primary and secondary school teachers although academically gifted students may not appeal to primary educators (Carrington & Bailey, 1999). Partial differences with other studies may be caused by cross-cultural and educational differences observed from country to country (Tirri et al., 2002), with Greece being still in an initial stage of development concerning implementation issues of educational programs designed for gifted students as well as the availability of information related to the educational needs of the gifted children within a new legislative reality.

### Limitations

Overall, results showed that perceptions of teachers in this sample seem consistent with similar studies conducted in other countries despite the recent legislation concerning education of the gifted students in Greece, a finding that is at least promising.

The present research seems to be the first conducted in Greece, thus, it is limited by its exploratory nature, which may affect the generalizability of these results. Further studies with larger sample of teachers from different educational regions of Greece are needed in order to draw safer conclusions about the attitudes of Greek primary and secondary school teachers toward gifted students as well as the intervention programs that could be formulated and implemented in education settings.

Furthermore, the sample was random for Greek teachers and missing data were excluded from the survey. The questionnaire wasn't completed by all staff members within schools but according to teachers' availability. There were no data concerning the socio-economic status of the participants and additional factors that could influence the results of the study. The results are related to gifted children, to Greek population and cannot be generalized otherwise they lack validity.

### Implications for further research

Future research should investigate socioeconomic issues, school principal's opinions regarding gifted children, their needs, and school preparedness to accommodate these pupils.

### References

- Adams-Byers, J., Whitsell, S. S., & Moon, S. M. (2004). Gifted students' perceptions of the academic and social/emotional effects of homogeneous and heterogeneous grouping. *Gifted Child Quarterly*, 48 (1), 7-20.
- Bailey, R., & Morley, D. (2006). Towards a model of talent development in physical education. *Sport, Education and Society*, 11 (3), 211-230.
- Banfield, T. (2005). Ability grouping for mathematically gifted adolescent boys. *International Education Journal*, 6 (2), 141-149.
- Bangel, N. J., Moon, S. M., & Capobianco, B. M. (2010). Preservice Teachers' Perceptions and Experiences in a Gifted Education Training Model. *Gifted Child Quarterly*, 54 (3), 209-221.
- Bégin, J., & Gagné, F. (1994). Predictors of attitudes toward gifted education: A review of the literature and a blueprint for future research. *Journal for the Education of the Gifted*, 17 (2), 161-179.
- Bégin, J., & Gagné, F. (1995). Predictors of a general attitude toward gifted education. *Journal for the Education of the Gifted*, 18 (1), 74-86.
- Berman, K. M., Schultz, R. A., & Weber, C. L. (2012). A Lack of Awareness and Emphasis in Preservice Teacher Training Preconceived Beliefs About the Gifted and Talented. *Gifted Child Today*, 35 (1), 18-26.
- Bohner, G., & Dickel, N. (2011). Attitudes and attitude change. *Annual review of psychology*, 62, 391-417.
- Carrington, N. G., & Bailey, S. B. (1999). How do preservice teachers view gifted students? Evidence from a NSW Study. *The Australasian Journal of Gifted Education*, 9, 18-22.
- Copenhaver, R. W., & Mc Intyre, D. J. (1992). Teachers' perception of gifted students. *Roeper Review*, 14 (3), 151-153.
- Chaiken, S., & Baldwin, M. W. (1981). Affective-cognitive consistency and the effect of salient behavioral information on the self-perception of attitudes. *Journal of Personality and Social Psychology*, 41 (1), 1-12.
- Dimitriadis, C. (2012). How Are Schools in England Addressing the Needs of Mathematically Gifted Children in Primary Classrooms? A Review of Practice. *Gifted Child Quarterly*, 56 (2), 59-76.
- Eddles-Hirsch, K., Vialle, W., Rogers, K. B., & McCormick, J. (2010). "Just Challenge Those High-Ability Learners and They'll Be All Right!". The Impact of Social Context and Challenging Instruction on the Affective Development of High-Ability Students. *Journal of Advanced Academics*, 22 (1), 106-128.

- Gagné, F., & Nadeau, L. (1991). *Opinions about the gifted and their education*. Montréal: GIREDT Center, Université du Québec à Montréal.
- Gagné, F. (2007). Ten commandments for academic talent development. *Gifted Child Today*, 51, 93-118.
- Gagné, F., & Gagnier, N. (2004). The socio - affective and academic impact of early entrance to school. *Roeper Review*, 26 (3), 128-138.
- Gallagher, S., Smith, S. R., & Merrotsy, P. (2011). Teachers' Perceptions of the Socioemotional Development of Intellectually Gifted Primary Aged Students and Their Attitudes towards Ability Grouping and Acceleration. *Gifted and Talented International*, 26 (1), 11-24.
- Ganster, D. C., Hennessey, H. W., & Luthans, F. (1983). Social desirability response effects: Three alternative models. *Academy of Management Journal*, 26 (2), 321-331.
- Geake, J. G., & Gross, M. U. (2008). Teachers' Negative Affect Toward Academically Gifted Students An Evolutionary Psychological Study. *Gifted Child Quarterly*, 52 (3), 217-231.
- Hany, E. A. (1997). Modeling Teachers' Judgment of Giftedness: a methodological inquiry of biased judgment 1. *High ability studies*, 8 (2), 159-178.
- Hong, E., Greene, M., & Hartzell, S. (2011). Cognitive and motivational characteristics of elementary teachers in general education classrooms and in gifted programs. *Gifted Child Quarterly*, 55 (4), 250-264.
- Jones, S., Murphy, F., Edwards, M., & James, J. (2008). Doing things differently: advantages and disadvantages of Web questionnaires. *Nurse researcher*, 15 (4), 15.
- Kesner, J. E. (2005). Gifted children's relationships with teachers. *International Education Journal*, 6 (2), 218-223.
- Kim, H., & Gentry, M. (2008). A Survey of Korean Elementary Teachers' Perceptions of and In-service Needs for Gifted Education. *Gifted and Talented International*, 23 (1), 61-79.
- Lassig, C. (2009). Teachers' attitudes towards the gifted: the importance of professional development and school culture. *Australasian Journal of Gifted Education*, 18 (2), 32.
- McCoach, D. B., & Siegle, D. (2005). Personal and Contextual Predictors of Teachers' Attitudes toward the Gifted. [Presentation] *Paper presented at the American Education Research Association Annual Meeting*. Montreal, Canada.
- McCoach, D. B., & Siegle, D. (2007). What Predicts Teachers' Attitudes Toward the Gifted? *Gifted child quarterly*, 51 (3), 246-254.
- Megay - Nespoli, K. (2001). Beliefs and attitudes of novice teachers regarding instruction of academically talented learners. *Roeper Review*, 23 (3), 178-182.
- Moon, T. R., Callahan, C. M., & Tomlinson, C. A. (1999). The effects of mentoring relationships on preservice teachers' attitudes toward academically diverse students. *Gifted Child Quarterly*, 43(2), 56-62.
- Moon, S. M., Swift, M., & Shallenberger, A. (2002). Perceptions of a Self-Contained Cass for Fourth and Fifth-Grade Students With High to Extreme Levels of Intellectual Giftedness. *Gifted Child Quarterly*, 46(1), 64-79.
- Nel, N., Müller, H., Hugo, A., Helldin, R., Bäckmann, Ö., Dwyer, H., & Skarlind, A. (2011). A comparative perspective on teacher attitude-constructs that impact on inclusive education in South Africa and Sweden. *South African Journal of Education*, 31 (1).
- Portesova, S., Budikova, M., & Koutkova, H. (2011). Crucial determinants affecting the attitude of Czech educators toward education of extraordinarily gifted learners. *New Educational Review*, 24, 305-326.
- Ramos, E. (2010). Let us in: Latino Underrepresentation in gifted and talented programs. *Journal of Cultural Diversity*, 17, 151-153.
- Randall, D. M., & Fernandes, M. F. (1991). The social desirability response bias in ethics research. *Journal of Business Ethics*, 10 (11), 805-817.
- Reis, S. M., & Renzulli, J. S. (2004). Current research on the social and emotional development of gifted and talented students: Good news and future possibilities. *Psychology in the Schools*, 41 (1), 119-130.
- Reis, S. M., & Renzulli, J. S. (2010). Is there still a need for gifted education? An examination for current research. *Learning and Individual Differences*, 20, 308-317.
- Renzulli, J. S. (2002). Emerging conceptions of giftedness: Building a bridge to the new century. *Exceptionality*, 10 (2), 67-75.
- Renzulli, J. S., & Reis, S. M. (2002). What Is Schoolwide Enrichment?: How Gifted Programs Relate to Total School Improvement. *Gifted Child Today*, 25 (4), 18-25.
- Rogers, K. B. (2007). Lessons learned about educating the gifted and talented: A synthesis of the research on educational practice. *Gifted Child Quarterly*, 51(4), 382-396.
- Shulruf, B., Hattie, J., & Dixon, R. (2008). Factors affecting responses to Likert type questionnaires: introduction of the ImpExp, a new comprehensive model. *Social Psychology of Education*, 11 (1), 59-78.
- Summers, E. G. (1977). Instruments for assessing reading attitudes: A review of research and bibliography. *Journal of Literacy Research*, 9 (2), 137-165.
- Symonds, P. M. (1924) On the loss of reliability in ratings due to coarseness of the scale. *Journal of Experimental Psychology*, 7, 456-461.

- Tirri, K. A., Tallent-Runnels, M. K., & Adams, A.M. (1998). Cross-Cultural Study of Teachers' Attitudes towards Gifted Children and Programs for Gifted Education. [Presentation]. *Paper presented at the Annual Meeting of the American Educational Research Association*. San Diego, CA.
- Tirri, K. A., Tallent – Runnels, M. K., Adams, A. M., Yuen, M., Lau, P. S. Y. (2002). Cross - cultural predictors of teachers' attitudes toward gifted education: Finland, Hong – Kong, and the United States. *Journal for the Education of the Gifted*, 26, 112-131.
- Tirri, K., & Tallent-Runnels, M. K. (2004). Cross-cultural predictors of teachers' attitudes toward gifted education. *Gifted and Talented International*, 21, 69-78.
- Tirri, K. (2008). Who should teach gifted students? *Revista Espanola de Pedagogia*, 66, 315-324.
- Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., & Reynolds, T. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 27 (2/3), 119-145.
- Troxclair, D. A. (2013). Preservice Teacher Attitudes Toward Giftedness. *Roeper Review*, 35 (1), 58-64.
- Ugur, S. (2004). About creativity, giftedness, and teaching the creatively gifted in the classroom. *Roeper Review*, 26, 216-222.
- Van Tassel-Baska, J., & Stambaugh, T. (2005). Challenges and possibilities for serving gifted learners in regular classroom. *Theory into Practice*, 44, 211-217.
- Watts, G. (2006). Teacher attitudes to acceleration of the gifted: a case study from New Zealand. *Gifted & Talented*, 10 (1), 11-19.
- Weber, R. P. (1990). *Basic content analysis* (Vol. 49). Sage Publications, Incorporated.
- Weijters, B., Cabooter, E., & Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. *International Journal of Research in Marketing*, 27 (3), 236-247.