Educators' attitudes concerning teaching of students with special educational needs in the mainstream Greek school

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Abstract

Nowadays, teaching in a diverse students' needs environment is a common situation emerged in the school community. In order for all the students to access the good of education and become a part of the school society, it is needed to be acceptable by teachers in the general school, who have to implement an appropriate instruction procedure to meet pupils' needs successfully. Suitable teaching depends on teachers' attitudes toward the inclusion of all the students independently and especially for those who show special educational needs. In the current study, participated 373 preschool, primary and secondary educators who teach in the Greek mainstream school. The participants completed the "Attitudes Toward Inclusive Education Scale" [1] [2]. The findings showed that teachers hold reserved attitudes toward the inclusion of students with physical disabilities and academic difficulties, but they hold favorable attitudes for behavior problem and social difficulties students. Comparisons were conducted using other variables, which exert influence on teachers' attitudes. The results observed show the necessity of establishing supporting services in the school and organizing appropriate training programs in order for the teachers to acquire the theoretical background and skills to implement inclusive practices effectively.

Keywords: teachers, inclusion, special educational needs, students

1. Introduction

School community offers to the developing individual education and the opportunity to experience situations in a social and behavioral level, in order to be prepared for the transition to the wider environment of the adult society. In a community like this, teachers play an important role, during the learning process, because they define each student needs, by observing their behaviors in the classroom [3]. According to the research, teachers undertake the responsibility to organize and improve students' procedure of knowledge acquisition, recognize their needs and implement teaching strategies respectfully to their demands and abilities. A successful school climate is characterized by the academic dimension, which is

related to students' learning achievements, according to instructive process and social dimension which is connected to the quality of social interactions among the students and the teacher [4], which are fostering and guiding by the classroom educator. In order for the teachers to meet successfully the diverse students' needs, and especially the pupils with special educational needs, it is necessary to express positive attitudes toward the student population, because teachers' attitudes are crucial to the successful implementation of inclusive policies [5].

2. Theoretical framework

In general, teachers express positive attitudes toward the inclusion of students with special educational needs [6] [7]), but they are concerned about the insufficient instruction procedure and inadequate means of education for pupils with special educational needs [6] They also express their preference to teach students with learning difficulties, speech and language problems compared to students who present behavior problems or multiple disabilities [8].

Research in the field of inclusive education showed that men adopt less positive attitudes toward the inclusion policy in relation to women [9] [10]. Teachers who received training in special education formed positive attitudes [9]. Furthermore, age emerged as a differentiated variable. Younger teachers hold more positive attitudes that older teachers [11] [8] [9] [10], but the last ones declare higher levels of efficacy regarding inclusion policies 12]. Additionally, subject teachers express less favorable attitudes that pedagogy teachers [10], but other study, where secondary and subject teachers participated, resulted that they express positive attitudes [13]. A similar study presented positive attitudes for secondary teachers [14]. Also, service in public education has influenced teachers' attitudes, especially for those teachers who went through a low amount of service [13]. According to the same research, another variable, knowledge of special education Act exerted differentiated impact on teachers' attitudes. Teachers who were aware of the law policies disposed higher levels of efficacy and feelings of adequacy in teaching students with disabilities [15]. The role of supporting services is important, as they reinforce positively teachers' attitudes [16] [17].

Concerning grade teaching, secondary teachers declare acceptance of the inclusion of students with special educational needs, especially for those students with physical disabilities, and mild speech and health problems [16]. Primary education teachers hold slightly negative attitudes [18]. In another study, primary and secondary teachers showed positive attitudes [15] and preschool teachers showed positive attitudes [19]. In addition, teachers who taught special needs students hold negative attitudes about pupils who present disruptive behavior and learning difficulties [20] in contrast to another study [21], where teachers who taught in students with special educational needs expressed positive attitudes.

2. Method

2.1 Participants

The participants of the present study are educators who teach in the Greek mainstream school. Table 1 show the demographic characteristics of the participants according to gender, grade of teaching, specialization, age years of teaching in public school, place of teaching, teaching subject, participation in special education seminars. Specifically, the survey involved 373 teachers, among them 106 are men and 262 are women. Of the total sample, 73 teachers are teaching in preschool education, 162 teach primary education and 135 teach secondary education. Of the research teachers, 29 people hold a second degree, 58 hold a postgraduate degree and 7 hold a PhD degree. The age of 136 individuals in the sample ranges from 41-50 years, 170 are over 51 years old, 44 are 31-40 years old and 16 are 21 to 30 years of age. In terms of years of teaching experience at the public school, 135 people declared teaching experience of 11-20 years, 131 people declared a service from 21-30 years, 58 people taught from 1-10 years and 39 people taught more than 31 years in the public school. Still, of the sample individuals, 232 teachers teach in urban areas, 34 teachers are occupied in schools situated in small towns and 94 are big cities educators. In terms of teaching, 216 people teach subjects belonging to the science of education (eg preschool teachers, primary education teachers, physical education teachers), 68 people teach science subjects (eg mathematics, physics, chemistry, computer science) 67 people teach theoretical sciences (eg philologists, foreign language teachers) and 16 teachers teach other subjects (eg, arts). Most of the sample, 221 teachers, have not attended seminars in special education, while 145 teachers have attended special education seminars (table 1).

Furthermore, table 2, presents the demographics variables concerning the Organization where the special education seminars were conducted, the teaching experience of students with special needs, the knowledge of Special Education Act and the knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center. In particular, regarding the providers of the special education seminars, 47 programs belong to University Departments, 41 belong to the Ministry of Education, Research and Religious Affairs, and 29 were implemented by other departments. Of the total sample of teachers in research, 164 teachers have teaching experience with pupils with disabilities, and 178 teachers have not been taught to pupils with special needs. With regard to the knowledge of the legal framework of special education, 172 teachers possess knowledge of the laws on special education and the same number of teachers do not know the legal framework for special education. Most of the sample teachers, 341 in number, know about the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center while few people, 25 in number, state that they have no knowledge of purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center

Table 1. Demographic characteristics of the participants

Demographic variables	Participants N = 373	Total (f)	Relative frequencies (%)
Gender	Men	106	28.4
	Women	262	70.2
Grade of teaching	Preschool	73	19.6
	Primary	162	43.4
	Secondary	135	36.2
Specialization	2nd degree	29	7.8
	Master	58	15.5
	PhD	7	1.9
Age	21-30	16	4.3
	31-40	44	11.8
	41-50	136	36.5
	>51	170	45.6
Years of teaching experience in public schools	1-10	58	15.5
	11-20	135	36.2
	21-30	131	35.1
	>31	39	10.5
Place of teaching	Big city	94	25.2
	Urban areas	232	62.2
	Small towns	34	9.1
Teaching subject	Peadagogy science	216	57.9
	Human / theoretical sciences	68	18.2
	Sciences subjects	67	18.0
	Other subjects	16	4.3
Participation in special education seminars	Yes	145	38.9
	No	221	59.2

Note: missing values: 5 for gender (1.3%), 3 for grade of teaching (0.8%), 6 for age (1.6%), 9 for years of teaching experience in public schools (2.4%), 13 for place of teaching (3.5%), 6 for teaching subject (1.6%), 7 for participation in special education seminars (1.9%).

Table 2. Demographic characteristics of the participants

Demographic variables	Participants N = 373	Total (f)	Relative frequencies (%)
Organization where the special education seminars were conducted	University	47	12.6
	Greek Ministry of Education, Research and Religious Affairs	41	11.0
	Other organizations	29	7.8
Teaching experience of students with special needs	Yes	164	44.0
	No	178	47.7
Knowledge of Special Education Act	Yes	172	46.1
	No	172	46.1
Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center	Yes	341	91.4
	No	25	6.7

Note: missing values: 256 (68.6%) for organization where the special education seminars were conducted, 31 for teaching experience of students with special educational needs (8.3%), 29 for knowledge of Special Education Act (7.8%), 7 for knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center (1.9%).

Table 3 presents the total and relative frequencies according to gender and grade of teaching. Relating to gender, 2 men and 71 women are teaching in preschool settings, 45 men and 115 women are offering instructing services in primary education students, 59 men and 75 women are teaching in secondary schools. Regarding the grade of teaching, 73 participants are teaching in preschoolers, 160 teachers are teaching in primary education students and 134 educators are teaching in secondary school settings.

Table 3. Distribution (total and relative frequencies) for the 373 teachers participants regarding to the gender and the grade of teaching

Grade of teaching	Gender				Total	
	Men		Women			
	Total (f)	Relative frequencies (%)	Total (f)	Relative frequencies (%)	Total (f)	Relative frequencies (%)
Preschool	2	1.9	71	27.2	73	19.9
Primary	45	42.5	115	44.1	160	43.6
Secondary	59	55.7	75	28.7	134	36.5
Total	106	100	261	100	367	100

2.2 Instrument

In order for the research data to be collected, it was used a psychometric tool, which is divided in two parts. The first part includes the "Attitudes Toward Inclusive Education Scale" [1] [2]. The second part is referred to questions that are related to demographic variables of the participants (school grade, lesson, years of service in private and public education, existence of disabled person in the family, attendance of special education seminars, previous teaching experience of children with special educational needs, knowledge of Special Education Act, knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center, grade of teaching, place of teaching, teaching subject, participation in special education seminars, organization where the special education seminars were conducted, Years of teaching experience in private and public schools, teaching experience of students with special needs, specialization, gender, age) which were formed on the basis of previous research [22] [23]. The demographics part was modified for the three education levels in the selection of the basic degree, as the survey is addressed to preschool education teachers, to primary education teachers and to secondary education teachers.

This scale was designed to measure attitudes that are related to inclusion and particularly, attitudes toward the education of students with physical disabilities, learning difficulties, behavior problems and social difficulties within the general classroom. The sixteen (16) items are grouped in four (4) factors and each factor contains four (4) items, assessing four (4) aspects of inclusion: 1) physical inclusion (the inclusion of students with physical disabilities), 2) academic inclusion (the inclusion of students with learning difficulties), 3) behavioral inclusion (defining behavior which is characterized by disruptive and inappropriate expressions, which block the normal adaptation in the school environment), 4) Social inclusion (identifying students with difficulties in interacting in a functional manner with other schoolmates). The responses are rating according to a 6-point Likert scale, where the total score equals to a value which range from 16, the least acceptable value, to 96, the most acceptable value. The psychometric properties of the scale, as stated in the original article, showed good reliability values and are formed as followed for each factor: $a = 0.83$ for physical disabilities factor, $a = 0.84$, for academic difficulties factor,

a = 0.87 for behavior problems factor and a = 0.82 for social difficulties factor and Cronbach's a = 0.92 for the total scale [1].

Each of the items was translated, from English language to the Greek language, by two bilingual translators. A test administration followed, where five teachers answered the questionnaire and completed the demographics, in order to check the items wording and understanding, or other issues. Two other researchers were responsible for the reverse translation of the questionnaire. Lastly, three specialized, in the sector of inclusion and psychometric test construction, scientists were in charge of assessing the content validity, using the method of content analysis [24].

In the present research, it was used a 6-point Likert scale, where point scale 1 corresponds to strongly disagree and point scale 6 corresponds to strongly agree. A value of 3 equals to "Disagree somewhat" and it would be identified, to a certain degree, as a negative attitude in comparison to value 4 ("Agree somewhat"), which would constitute a positive attitude [13]. The scale includes 14 items for preschool education teachers and 16 items for primary and secondary education teachers [7]. For the preschool education environment, the term "classes" was replaced by the phrase "early childhood settings" and the first and fifth item, concerning the academic achievement, were excluded from the scale [25] [7].

2.3 Procedure

A survey permission was offered by the Greek Ministry of Education, Research and Religious Affairs, in order to enter the schools. Each school principal gave the permission to conduct the research. Before the procedure of questionnaire completion, the researchers informed the participants about the purpose of the study, that the participation is voluntary, the questionnaire was anonymous and the information given, is confidential and it is going to be used for research purpose. The researchers were present during the completion of the questionnaire, which took place in the school environment, during hour breaks. The completion of each questionnaire lasted 10-15 minutes [7] [3].

3. Research questions

The present survey was designed to define the following questions:

- What attitudes do teachers adopt concerning the inclusion of students with special educational needs?
- What attitudes do teachers express concerning the inclusion of students with physical disabilities, academic difficulties, behavior problems and social difficulties?

Also, the research assessed the variables that affect teachers' attitudes, according to previous studies [26] [27].

4. Statistical analysis

Data analysis was conducted using the Statistical Package for Social Sciences (SPSS 19). In particular, it was used, Factor analysis, Cronbach' s a reliability analysis, Pearson correlation analysis, Independent Samples T-test and Univariate ANOVA to detect possible difference among the variables.

5. Results

5.1 Factor analysis for the Attitudes Toward Inclusive Education Scale (Wilczenski, 1992; 1995) [1] [2]

The new questionnaire contains sixteen (16) items. The factor analysis conducted for the Greek version of the questionnaire, using the principal component analysis with varimax rotation, verified the four (4) factors of the initial scale: (KMO = 0.827), Bartlett's test - $x^2 = 1905.644$, $p = 0.000$, $p < 0.001$, that explains the 65.569% of the total variance.

The four (4) factors that emerged include the same amount of items in comparison to the original scale, a result that is similar to another survey [13]. Concerning factor analysis, differences were observed in another survey [28]. The results of this survey showed five (5) factors: language difficulties, social difficulties, behavior problems, slow learning students, intellectual disabilities). According to [29], the total Cronbach's a was found equal to 0.89, and in a related research the results presented the total Cronbach's equivalent to 0.62 [21].

The first factor is consisted of four (4) items (table 4), it is named physical disabilities (a = .813) (table 10) and explains the 20.749% of the variance. The second factor includes four (4) items (table 5), it is called academic difficulties (a = .717) (table 10) and explains the 17.535% of the variance. The third factor comprises four (4) questions (table 6), it is called behavior problems (a = .819) (table 10) and explains the 14.469% of the variance. The fourth factor contains four (4) items (table 7, it is called social difficulties (a = .737 (table 10) and explains the 12.816% of the variance.

Table 4. Factor analysis for the Greek version of the Attitudes Toward Inclusive Education Scale for teachers [1] [2]

Items	1st Factor Physical Disabilities	M	SD
Students who cannot hear conversational speech should be in regular classes. (14)	0.817	3.44	1.49
Students who use sign language or communication boards should be in regular classes. (11)	0.802	3.59	1.43
Students who cannot read standard print and need to use braille should be in regular classes. (7)	0.798	3.56	1.47
Students who cannot move with the help of others should be in regular classes. (3)	0.408	4.42	1.46

Table 5. Factor analysis for the Greek version of the Attitudes Toward Inclusive Education Scale for teachers [1] [2]

Items	2nd Factor Academic difficulties	M	SD
Students whose academic achievement is 1 year below the other students in the grade should be in regular classes. (5)	0.785	4.36	1.23
Students whose academic achievement is 2 or more years below the other students should be in regular classes. (1)	0.712	3.45	1.43
Students who need training in self-service skill and activities of daily living should be in regular classes. (10)	0.650	3.60	1.48
Students who need an individualized functional academic program in everyday reading and math skills should be in regular classes. (13)	0.578	3.39	1.41

Table 6. Factor analysis for the Greek version of the Attitudes Toward Inclusive Education Scale for teachers [1] [2]

Items	3rd Factor Behavior problems	M	SD
Students who do not follow school rules for conduct should be in regular classes. (15)	0.785	4.03	1.32
Students who are verbally aggressive toward their peers should be in regular classes. (8)	0.633	4.33	1.23
Students who are physically aggressive toward their peers should be in regular classes. (2)	0.586	3.99	1.41
Students who cannot control their behavior and disrupt activities should be in regular classes. (12)	0.584	3.99	1.32

Table 7. Factor analysis for the Greek version of the Attitudes Toward Inclusive Education Scale for teachers [1] [2]

Items	4th Factor Social difficulties	M	SD
Students who are shy and withdrawn should be in regular classes. (4)	0.824	5.42	0.80
Students who are frequently absent from school should be in regular classes. (16)	0.758	4.30	1.34
Students whose speech is difficult to understand should be in regular classes. (6)	0.693	4.54	1.19
Students who have difficulty expressing their thoughts verbally should be in regular classes. (9)	0.615	4.73	1.11

Table 8 presents the Pearson r correlations between the factors. Correlation of each factor with the identical factor equals to 1. Furthermore, the range of correlation between the factors ranges in a moderate and strong relation. The correlation is characterized by a positive direction and by a statistical lever of significance $p < 0.01$.

Additionally, table 9, displays mean and standard deviations of the participants' answers, for the scale factors. Specifically, for physical disabilities factor the mean is equal to 3.75 and standard deviation is equal to 1.16, for academic difficulties, mean is equal to 3.64 and standard deviation is equivalent to 1.02, for behavior problems, the mean is equal to 4.10 and standard deviation is equal to 1.05 and for social difficulties factor, mean is equal to 4.75 and standard deviation is equivalent to 0.84. According to another research 13], the mean score for physical factor was 3.13, 3.99 for academic factor, 3.59 for behavior factor and 4.33 for social factor.

Table 8 Pearson r correlations between the Factors for the Attitudes Toward Inclusive Education Scale [1] [2]

Factors	1	2	3	4
Physical disabilities	1	.647**	.455**	.457**
Academic difficulties	.647**	1	.610**	.666**
Behavior problems	.455**	.610**	1	.678**
Social difficulties	.457**	.666**	.678**	1

Note: **p < 0.01

Table 9. Factors' mean and standard deviation for the Attitudes Toward Inclusive Education Scale [1] [2]

Factors	M	SD
Physical disabilities	3.75	1.16
Academic difficulties	3.64	1.02
Behavior problems	4.10	1.05
Social difficulties	4.75	0.84

Table 10. Factors' Cronbach's a for the Attitudes Toward Inclusive Education Scale [1] [2]

Factors	Cronbach' s α N= 373
Physical disabilities	.813
Academic difficulties	.717
Behavior problems	.819
Social difficulties	.737

5.2 Factor analysis for the Attitudes Toward Inclusive Education Scale [1] [2]

Place of residence emerged as a differentiated factor concerning teachers' attitudes toward inclusion of children with special educational needs for behavior problems factor ($F_{2, 335,} = 3.734$, $p = .025$, $p < 0.05$). Post hoc analysis using LSD showed that the statistical significant differences are located between the teachers who live in small cities (M = 4.56, SD = 0.76) και and those who live in big city (M = 4.03, SD = 1.06), as well for teachers who live in small cities (M.O. = 4.56, T. A. = 0.76) and those who live in urban area (M = 4.05, SD = 1.09). The same variable influence teachers' attitudes for social difficulties factor ($F_{2, 333,} = 3.804$, $p = .023$, $p < 0.05$). LSD analysis showed statistical significant differences among teachers who live in small town (M = 5.08, SD = 0.61) and those who live in urban areas (M = 4.67, SD = 0.86) (Table 14, Table 15).

Teaching grade proved to be a differentiated variable among teachers' attitudes for academic difficulties factor ($F_{1, 286,} = 9.105$, $p = .003$, $p < 0.01$). Based on LSD test, further differences didn't result for this factor. The same variable showed modified results for behavior problems factor ($F_{2, 345,} = 24.660$, $p = .000$, $p < 0.001$). According to LSD test, statistical significant differences were observed between preschool teachers (M = 4.68, SD = 0.84) and primary education teachers (M = 3.67, SD = 1.11), primary education teachers (M = 4.21, SD = 0.94) and secondary education teachers (M = 3.67, SD = 1.11). The same variable proved to differentiate teachers' attitudes for social difficulties factor ($F_{2, 343,} = 23.391$, $p = .000$, $p < 0.001$). Discrete differences emerged with LSD test, among the group of participants who teach in preschool education (M = 5.23, SD = 0.59) and those who teach in primary education (M = 4.74, SD = 0.80), between preschool teachers (M = 5.23, SD = 0.59) and secondary teachers (M = 4.48, SD = 0.86), among those who teach in primary education (M = 4.74, SD = 0.59) and those who teach in secondary education (M = 4.48, SD = 0.86) (Table 13, Table 14, Table 15).

Subject of studying and teaching acts as a differentiated variable for academic difficulties factor ($F_{3, 281} = 3.367$, $p = .019$, $p < 0.05$). Concerning the differences among groups, LSD showed dissimilarities for pedagogy science (M = 3.81, SD = 0.99) and human / theoretical sciences (M. = 3.39, SD = 1.03), for pedagogy sciences (M = 3.81, SD = 0.99) and sciences subjects (M = 3.48, SD = 1.10). The same variable showed differences for behavior problems factor ($F_{3, 342} = 12.115$, $p = .000$, $p < 0.001$). Multiple analysis according to LSD test, differences emerged for pedagogy sciences (M = 4.36, SD = 0.94) and human / theoretical sciences (M = 3.69, SD = 1.07), pedagogy sciences (M.O. = 4.36, T. A. = 0.94) and sciences subjects (M = 3.67, SD = 1.18), sciences subjects (M = 3.67, SD = 1.18) and other subjects (M = 4.33, T. A. = 0.71), theoretical / human sciences (M = 3.69, SD = 1.07) and other sciences (M = 4.33, SD = 0.71). Teachers' attitudes are presented different for social difficulties factor as well ($F_{3, 340} = 6.686$, $p = .000$, $p < 0.001$). Multiple comparisons using LSD test, are referred to pedagogy science (M = 4.92, SD = 0.79) and theoretical / human sciences (M.O. = 4.52, T. A. = 0.91), pedagogy sciences (M = 4.92, SD = 0.79) and sciences subjects (M = 4.49, SD = 0.84). For physical disabilities factors, differences emerged using LSD test and they are located among pedagogy sciences (M = 3.85, SD = 1.16) and theoretical / human sciences (M = 3.51, SD = 1.24) (Table 13, Table 14, Table 15).

Years of teaching in public schools differentiate teachers' attitudes according to multiple comparisons, using LSD. Especially, the dissimilarities are observed among the group of teachers who taught from 1 to

ten years (M = 3.96, SD= 1.04) and the group pf teachers who taught from 21 to 30 years (M = 3.62, SD = 1.05) for physical disabilities factor (Table 13, Table 14).

Special education seminars showed a differentiated impact on teachers' attitudes for all the factors. Teachers who have attended similar seminars (M = 4.00, SD = 1.18) form different attitudes in comparison to those who have not attended seminars (M = 3.59, SD= 1.13) for physical disabilities factor (t = 3.268, df = 251, p = .001, p < 0.01). Differences are observed for those who have participated in special education seminars (M = 3.83, SD = 0.98) and those who haven't participated in any seminar (M = 3.54, SD = 1.04) for academic difficulties factor (t = 2.221, df = 283, p = .027, p < 0.05). Teachers who took part in special education seminars (M = 4.33, SD = 0.96) express different attitudes in comparison to those who didn't take part (M = 3.95, SD = 1.08) for behavior problems (t = 3.430, df = 309.938, p = .001, p < 0.01). Participants' attitudes who have attended special education seminars (M = 4.95, SD = 0.75) are different to those who have not attended special education seminars (M = 4.63, SD = 0.88) for social difficulties factor (t = 3.603, df = 315.277, p = .000, p < 0.001) (Table 11, Table 12).

Teaching experience with special needs students impacts on teachers' attitudes. Teachers who have taught in special needs students (M = 3.95, SD = 1.17) in comparison to those who haven't taught (M = 3.64, SD = 1.11) form different attitudes for physical disabilities factor (t = 2.478, df = 328, p = .014, p < 0.05). Educators who have taught in special needs students (M = 4.27, SD = 0.96) express different attitudes compared to those who haven' t taught in special needs students (M = 4.02, SD = 1.09) for behavior problems (t = 2.146, df = 320, p = .033, p < 0.05) (Table 11, Table 12).

Knowledge of Special Education Act exert an influence on teachers' attitudes for physical disabilities factor . Those who possess knowledge (M = 3.92, SD = 1.09) form different attitudes in comparison to those who assess no knowledge (M = 3.60, SD = 1.21) for the specific factor (t = 2531, df = 332, p = .012, p < 0.05) (Table 11).

According to the results, the variable "knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center" differentiate teachers attitudes for the four factors. Those who possess knowledge (M = 3.82, SD = 1.14) express dissimilar attitudes to those who possess no knowledge (M = 2.87, SD = 1.05) for physical disabilities factor (t = 4.041, df = 351, p = .000, p < 0.001). Teachers' attitudes who are aware of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center (M = 3.69, SD = 1.01) are not identical to those who are not aware of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center (M = 3.09, SD = 0.96) for academic difficulties factor (t = 2.772, df = 283, p = .006, p < 0.01). Teachers' attitudes who have that knowledge (M = 4.16, SD = 1.02) are inconsistent to those teachers' attitudes who have not that knowledge (M = 3.35, SD = 1.19) for behavior problems factor (t = 3.683, df = 344, p = .000, p < 0.001). Teachers who are acknowledged about the supporting services of the center (M = 4.78, SD = 0.82) possess different attitudes to those who are not acknowledged about the supporting services of the center (M = 4.30, SD = 0.98) for social difficulties factor (t = 2.746, df = 343, p = .006, p < 0.01) (Table 11, Table 12).

Gender have an effect on teachers' attitudes. Men express lower scores (M = 3.87, SD = 1.12) than women (M = 4.20, SD = 1.00) for behavior problems factor (t = 2.742, df = 345, p = .006, p < 0.01). Men are also

expressing lower scores (M = 4.52, SD = 0.83) compared to women (M = 4.84, SD = 0.82) for social difficulties factor (t = 3.254, df = 343, p = .001, p < 0.01) (Table 12).

Additionally, age has emerged as a differentiated factor according to LSD multiple comparisons: differences among age group 21 – 30 years old (M = 4.16, SD = 0.73) and 41 – 50 years old (M = 3.47, SD = 1.11) for academic difficulties factor (Table 13).

The variables relating to the pre-service teaching on private education, the existence of a disabled person in the family and in the friendly environment and the organization where the special education seminars were conducted did not alter the attitudes of the sample teachers.

Table 11. Means and standard deviations for statistically significant differences among the factors for the Attitudes Toward Inclusive Education Scale [1] [2], according to t-test

Factors	Teachers groups N = 373		N	M	SD
Physical disabilities	Special education seminars	Yes	137	4.00	1.18**
		No	215	3.59	1.13**
	Teaching experience with special needs students	Yes	158	3.95	1.17*
		No	172	3.64	1.11*
	Knowledge of special education Act	Yes	166	3.92	1.09*
		No	168	3.60	1.21*
	Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center	Yes	328	3.82	1.14***
		No	25	2.87	1.05***
Academic difficulties	Special education seminars	Yes	97	3.83	0.98*
		No	188	3.54	1.04*
	Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center	Yes	261	3.69	1.01**
		No	24	3.09	0.96**

Note: Level of significance: p<0.05*, p<0.01**, p<0.001***

Table 12. Means and standard deviations for statistically significant differences among the factors for the Attitudes Toward Inclusive Education Scale [1] [2], according to t-test

Factors	Teachers groups N = 373		N	M	SD
Behavior problems	Special education seminars	Yes	135	4.33	0.96**
		No	211	3.95	1.08**
	Teaching experience with special education needs students	Yes	156	4.27	0.96*
		No	166	4.02	1.09*
	Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center	Yes	322	4.16	1.19***
		No	24	3.35	0.82***
	Gender	Man	102	3.86	1.12**
		Woman	245	4.20	1.00**
Social difficulties	Special education seminars	Yes	234	4.95	0.75***
		No	210	4.63	0.88***
	Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center	Yes	321	4.78	0.82**
		No	24	4.30	0.97**
	Gender	Man	100	4.52	0.83**
		Woman	245	4.84	0.82**

Note: Level of significance: $p<0.05$*, $p<0.01$**, $p<0.001$***

Table 13. Means and standard deviations for statistically significant differences among the factors for the Attitudes Toward Inclusive Education Scale [1] [2], according to LSD test

Factors	Teachers groups N = 373		N	M	SD
Physical disabilities	Teaching subject	Pedagogy science	209	3.85	1.16[a]
		Human / theoretical sciences	66	3.51	1.24[a]
	Teaching service in public schools	1 – 10 years	59	3.96	1.04[a]
		21 – 30 years	126	3.62	1.05[a]
Academic difficulties	Teaching subject	Pedagogy science	139	3.81	0.99*
		Human / theoretical sciences	66	3.39	1.03*
		Sciences subjects	64	3.48	1.10*
	Age	21 – 30 years	14	4.16	0.73 [a]
		41 – 50 years	103	3.47	1.11 [a]

Note: Level of significance: p<0.05*, p<0.01**, p<0.001***

a: based on LSD only

Table 14. Means and standard deviations for statistically significant differences among the factors for the Attitudes Toward Inclusive Education Scale [1] [2], according to LSD test

Factors	Teachers groups N = 373		N	M	SD
Behavior problems	Place of residence	Small town	34	4.56	0.76*
		Big city	88	4.03	1.06*
		Urban city	216	4.05	1.09*
	Teaching grade	Preschool education	68	4.68	0.84***
		Primary education	153	4.21	0.94***
		Secondary education	127	3.67	1.11***
	Teaching subject	Pedagogy sciences	202	4.36	0.94***
		Human / theoretical sciences	63	3.70	1.07***
		Sciences subjects	65	3.67	1.18***

Note: Level of significance: p<0.05*, p<0.01**, p<0.001***

Table 15. Means and standard deviations for statistically significant differences among the factors for the Attitudes Toward Inclusive Education Scale [1] [2], according to LSD test

Factors	Teachers groups N = 373		N	M	SD
Social difficulties	Place of residence	Small town	33	5.08	0.61*
		Urban area	215	4.67	0.86*
	Teaching grade	Preschool education	66	5.23	0.59***
		Primary education	153	4.74	0.80***
		Secondary education	127	4.48	0.86***
	Teaching subject	Pedagogy sciences	200	4.92	0.79***
		Human / theoretical sciences	65	4.52	1.91***
		Sciences subjects	64	4.49	0.84***

Note: Level of significance: $p<0.05$*, $p<0.01$**, $p<0.001$***

6. Discussion

Research teachers appear to develop more favorable attitudes towards including pupils with behavioral problems and social difficulties and express more restrained willingness to teach in the general education class of students with physical disabilities and school performance problems, a result that comes in agreement with other studies [7] [30] and it is not in harmony with other research Teachers living in a village tend to adopt more positive attitudes towards inclusive education of students with behavioral problems than teachers living in the city. Still, students with social difficulties are becoming more admitted in class by teachers living in the village than teachers living in the city. This finding is consistent to previous research [13], where it seems that students with behavioral and interaction problems are integrated into the broader classroom, where the educator looks to develop a sense of security, understanding and emotional expression in the classroom.

Preschool teachers are expressing more willing attitude to accept students with behavior problems and social difficulties related to primary education teachers' attitudes. Primary school teachers are more willing to teach to students who present disruptive behavior or interaction difficulties in comparison to secondary school teachers. Previous studies are referred to positive attitudes of preschool teachers towards inclusion [19]. Secondary educators are adopting neutral attitudes toward students with special educational needs, when they are invited to include them in the general classroom [17] compared to primary education teachers, who express positive attitudes, that are reinforced when class climate is characterized by high levels of cohesion, which means that students are developing friendly relationships between them and they experience emotions of happiness and satisfaction when they complete their tasks in the classroom [8]. In another study [32], teaching grade didn't emerge as a differentiated variable.

Teaching subject impacts on teachers' attitudes, where preschool educators are showed to be more acceptable of students with special educational needs, irrelevant to their disability, in comparison to teachers of human sciences or sciences subjects. It is possible that pedagogy teachers have acquired a specialization during their university studies, a fact that strengthens their attitudes [17]. Educators' attitudes who teach different subjects can be interpreted based on teaching subject and not based on the student personality, while those teachers are offering education in different aged groups and probably, they appeal to more students in comparison to pedagogy teachers or special education teachers [10].

Teaching experience in public schools affects teachers' attitudes, where teachers who have completed 10 years of service in public education express more positive attitudes as to teachers who have taught more than 10 years for physical disabilities factor. In a similar study [14], it was found that teaching experience guide teachers to be convinced that students with special educational needs have the ability to succeed, but educators have to pay more attention to meet their needs in a fully level. Another study showed that teachers adopt negative attitudes, irrelevant to their teaching service in public schools [33].

Teachers who have participated in special education seminars adopt more positive attitudes compared to teachers who haven't attended any seminar. This finding is in accordance with a close survey [34] which has observed that teachers who have been participating in training programs focused on disability is more possible to develop positive attitudes toward special needs students and their inclusion, especially when training has offered the sufficient means to meet children's attitudes [32].

Teaching in special needs students influence teachers' attitudes in a favorable direction with regard to inclusion of physical disabilities students and pupils with behavior problems compared to those attitudes developed by teachers who have no similar previous teaching, a result that is supported by another study [33]. Other research showed no differentiated impact of the variable on teachers' attitudes [31].

Knowledge of special education Act affects positively teachers' attitudes toward the inclusion of students with physical disabilities, a finding that comes in accordance with previous study [7], but another research [13] concluded to different results.

Teachers who possess the knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center, independently to the students' disabilities express more positive attitudes. Teachers who are aware of the services provided by that center, receive advisory support and guidance from the scientific staff that working in this center. In case there is no support offered, teachers form low level attitudes and consequently, negative attitudes toward inclusion of students with special educational needs [17].

According to gender variable, women expressed more favorable attitudes than men, concerning students with behavior problems and social difficulties, a result that is similar to a recent research [10], but it is reversed displayed in another survey [13].

Younger aged teachers support inclusion of students with academic difficulties compared to older aged students, a finding that was observed in other studies [35] [36]. The same result wasn't approved in another study [31]. According to researchers [8], younger teaches are informed and educated in a higher level, they participate in special education seminars and they appeared more willing to adopt positive attitudes toward special needs students.

No results observed about having a member with disability in the family environment, a fact that is supported by another study [8] and comes in disagreement with previous research [17].

6. Conclusion

Considering the predominance of pupils with special educational needs within the general education class, it is important for teachers to get aware of the diversity of the school population in schools and with the problems that may arise in inclusion classes [14]. Teachers' attitudes appear to reflect the educational policy implemented in each country [37].

Teachers in the Greek school seem to express acceptable attitudes toward special educational needs students, especially to those who present behavior problems and social difficulties, followed by physical disabilities and academic difficulties. Inclusive education encounters obstacles when it comes to be implemented to higher grades of school, where teaching is conducted by educational specialists [10]. These attitudes are assessed in comparison to variables that form and influence teachers' attitudes [38] [39.]

It is important to notice that self-reported measures guide the researcher to focus on information that were gathered through that method (Boyle et al., 2013) without verifying the behavior expressed during teaching in the classroom or controlling the educating practices adopted in the instruction process [33].

It is a priority to be conducted appropriate programs, where there is offered the appropriate training and support to teachers [16]. School principals should plan specified programs, in long term [40], in order for the teachers to access knowledge, experience and apply effective instructions policies, satisfying the diverse needs of the students.

7. References

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