

Greek Teachers' Attitudes toward the Inclusion of Students with Special Educational Needs

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Abstract The aim of this study is to examine the teachers' attitudes toward the inclusion of students with special educational needs, in public schools and how these attitudes are influenced by their self-efficacy perceptions. The sample is comprised of 416 preschool, primary and secondary education teachers. The results show that, in general, teachers develop positive attitude toward the inclusive education. Higher self-efficacy was associated rather with their capacity to come up against negative experiences at school, than with their attitude toward disabled learners in the classroom and their ability to meet successfully the special educational needs students. The results are consistent with similar studies and reveal the need of establishing collaborative support networks in school districts and the development of teacher education programs, in order to achieve the enrichment of their knowledge and skills to address diverse needs appropriately.

Keywords: *inclusion, self-efficacy, teachers, special educational needs students*

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1. Introduction

In Greece, the current legislation concerning the Special Education as reflected through the 3699 Act of 2008 defines as children with 'disabilities / special educational needs' those who present significant learning difficulties due to sensory, mental, cognitive, emotional, social and developmental problems, during their school years, which, according to the multidisciplinary assessment, affect the school adaptation and learning procedure [35]. Especially, according to the most current Greek legislation [36], each School Network of Educational and Psychological Support, which is situated in public special education schools, tends to facilitate and promote the inclusion of special education needs students.

1.1. Inclusion

In recent years, the effort of implementing the inclusive education was extended to students who risk to be marginalized due to any sort of special educational need and not only due to some sort of "disability" [23]. In the context of the inclusive education, schools should be organised according to teaching adaptations, in order to meet the educational needs of all the students. For example, if a student encounters problems which affect negatively his / her learning process, their source need to be located in the school environment, during the learning processes, and not in the student only [55].

Teachers, in their classroom, are educating special education children as well as children of typical

development. Therefore, the role of general education teachers becomes important for the successive implementation of inclusive practices. Thus, it is important to study the general education teachers' attitude concerning inclusion [43]. These studies should be designed in order to change and improve teachers' role in the context of the classroom [55].

Previous studies concerning teachers' attitude with respect to inclusion, have concluded that the effectiveness of any inclusion method depends on the positive attitude teachers need to develop toward the inclusive practices [8]. Furthermore, factors such as the nature and the severity of students' difficulties, teachers' participation in educative seminars, the availability of appropriate material and technical resources and the existence of qualified teaching personnel influence teachers' attitudes toward the inclusion program [12].

In general, teachers develop positive attitudes toward inclusion, however, they express their concerns, which originates from the insufficient training and the lack of appropriate material for the education of students with disabilities [50]. Additionally, it seems that students with moderate learning disabilities, retarded language development and physical impairments can be included more easily compared to students with behavioural difficulties, such as Attention Deficit Hyperactivity Disorder (ADHD) [7]. The same study showed that teachers are less accepting schoolchildren with nervous system disorders, sensory impairments, brain injuries, or autism. Many teachers believe that they lack proper training and that they don't have access to appropriate

pedagogical materials to teach adequately the special education needs students [11].

1.2. Self-Efficacy

The last 20 years, the concept of self-efficacy has been spread widely as a significant variable in the science of education, psychology and management [49]. There have been studied two concepts of efficacy: “self-efficacy”, which is defined as teacher’s belief related to his / her ability to influence the changes concerning the school age and the student, and “educational efficacy”, concerning teacher’s belief that the education process can be reflected in the successful face of obstacles [64]. Educational efficacy, as it is expressed in individual or collective level, forms an indicator of teacher’s abilities related to his perceptions about his abilities, his functional behaviour and the assessment of his students’ learning course [45]. Because, an educator who lacks of a clear assessment regarding students’ effectiveness, fails to provide feedback that works in favour of the student. [47]. Teacher’s concept of self-efficacy influence his personal choices, his motivations [15,47,57] and his actions [15,57]. Specifically, a high level of efficacy belief toward any situation motivates the person to put in more and persisted effort in order to complete successfully his goals [37].

Research-based studies conducted in the past, have showed different findings about self-efficacy compared to gender [9,33,52,60], age of participants [9,52] courses, [9, 46] ethnicity, class of teaching and school type [9].

Teachers who have acquired a high level of self-efficacy, experience a higher level of job satisfaction and a lower level of burnout compared to teachers who dispose a weak sense of self-efficacy [5]. Teachers who believe that they will be successful during their educational action and course, set higher goals for themselves and their students compared to teachers who believe they will fail [45].

Teachers who lack of experience develop a sense of self-efficacy which is associated with positive attitudes towards the inclusion practices and their beliefs about socio-cultural differences [26]. Previous teaching experience with special education needs students helps teachers to express a higher level of self-efficacy in order to teach these students in the mainstream classroom [7,39].

2. Research Aims

The present research is conducted in order to examine:

1. Teachers’ attitudes toward inclusive education;
2. Teachers’ self-efficacy beliefs concerning their teaching role in the classroom.

In which extend perceived self-efficacy influences teachers’ attitudes towards the inclusion of schoolchildren with special educational needs in the classroom.

3. Participants

416 teachers (116 men and 284 women) were participated in the study. The sample is random for Greek teachers.

Of the participants, 71 are teaching in pre-school education, 215 are teaching in primary education and 121

are teaching in secondary education. Concerning their expertise, 71 teachers possess a second degree and 30 teachers possess a master degree. Regarding the age of the sample of teachers, 15 teachers are aged from 21 to 30, 67 teachers are aged from 31 to 40 years, 229 teachers are aged from 41 to 50 years and 82 teachers are aged over 51 years old. Additionally, regarding their teaching experience in public schools, 80 had 1 to 10 years of teaching experience, 164 had 11 to 20 years, 117 had 21 to 30 years and 22 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. Furthermore, 10 teachers are teaching in big cities, 243 teachers are teaching in urban areas and 100 are teaching in small towns. Concerning the teaching subjects, 280 teachers are teaching education sciences, 48 are teaching human / theoretical sciences, 65 teachers are teaching natural sciences and 7 are teaching other subjects. From the sample, 144 teachers have participated in special education seminars and 236 did not attend any specialized training. Most of the participants, 260 teachers, had previous teaching experience with special needs students and 98 did not have teach children with special needs in the past. Furthermore, 109 teachers are aware of the Disability Act and 265 possess no knowledge of it. A great proportion of the sample, 353 teachers, possess knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers, but 43 possess no knowledge of that institution. Missing data were excluded from further statistical analysis.

Regarding the gender of the participants, 72 men are teaching in primary education and 41 in secondary education. Additionally, 68 women are teaching in pre-school education, 135 in primary education and 78 in secondary education.

4. Instruments

The first section of the questionnaire includes the “Attitudes toward Inclusive Education Scale” [65,66] and the subscale “Perceived Self-Efficacy” of the questionnaire “Self-efficacy, Perceived School Collective-efficacy, Job Satisfaction” [15].

The second section is referred to demographic factors of the sample, according to research-based demographic variables [1,22,23]. This section has been differentiated for the three educational levels concerning the option of graduate studies, because the present study was conducted with the participation of pre-school, primary and secondary education teachers. Especially, pre-school education emerges as a protection strategy in order to avoid drop-out from formal education of children in universal level [28].

4.1. “Attitudes Toward Inclusive Education Scale” [65,66]

The scale includes 16 questions, deigned to measure different aspects of inclusion, assessing four factors of inclusive education: (i) physical integration (the mainstreaming of students with physical disabilities), (ii) academic integration (having students with disabilities

take part in a regular class curriculum), (iii) behavioural integration (the identification of appropriate range of behaviour) and (iv) social integration (students with and without disabilities interacting with each other as peers). This questionnaire constitutes a reliable instrument to measure teachers' attitude towards the inclusion of special educational needs students in the regular classrooms (Cronbach's $\alpha = .92$) [65]. Items were scored on a 6-point Likert scale, rating from "strongly agree" (1) to "strongly disagree" (6) [65]. An individuals' score could range from 16 (most favourable attitude) to 96 (least favourable attitude) [65].

Initially, the translation from English to Greek was carried out by two bilingual translators. The translation was then given to five teachers to examine phrasing and intelligibility of questions or other problems. Next, the reverse procedure was followed, and the initial Greek version of "Attitudes toward Inclusive Education Scale" 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 [63] and make all appropriate changes when necessary, in order to ensure that all questions represented accurately the concept that each factor aimed to assess.

In the current study, the questionnaire was adapted for the pre-school settings and it includes 14 items. Especially, the statement "classes" were replaced by the sentence "early childhood settings" and the first and fifth item of the scale related to "academic achievement" being one or two years "below the other students" were removed from the scale [18].

4.2. "Self-Efficacy" (Self-efficacy, Perceived School Collective-efficacy, Job Satisfaction) [15]

The self-efficacy belief scale includes 12 items which are designated to measure teachers' belief concerning their ability to handle effectively tasks, challenges and motivations, linked to their professional role (educational procedure, discipline problems in the class, developing appreciation relations with colleagues and families, and improvement of teaching procedure taking advantage of new technologies) [15]. A 7-point Likert scale was used to measure teachers' self-efficacy beliefs, ranging from "Strongly disagree" (1) to "Strongly agree" (7) [15]. According to previous research [15,57], the factor constitutes a reliable measure of self-efficacy (Cronbach's $\alpha = .74$ and Cronbach's $\alpha = .84$ respectively).

In this study, it was used a 6-Likert-type scale, which includes rating statements from "Strongly disagree" (1) to "Strongly agree" (6). A 6-point Likert scale was used in previous studies, designated to measure attitudes toward the inclusive education and self-efficacy beliefs in educational action [29,44,64] and to measure self-efficacy beliefs and job satisfaction [13,21,24,53,59]. Furthermore, a relevant 6-point Likert scale assess self-efficacy and inclusive education [23,55]. This kind of scale was used in order to avoid stating neutral responses [55] and to provide a common comparison base of participants' responses in the two different scales [53]. Also, a neutral response was excluded for the scale in order to extract

teachers' statements only concerning the degree of agreement or disagreement with the items [56].

To complete the content validity analysis of the self-efficacy scale, the authors followed respectively the same steps as they were described above for the inclusion scale [63].

5. Procedure

The authors were granted permission from the school principals in order to conduct this study at the school grounds. Before completing the questionnaire the participants were informed about the purpose of this research and they were assured that the questionnaire was anonymous and the collected information would be held strictly confidential. The teachers' participation in this study was voluntary and the completion of each questionnaire took approximately 10-15 minutes. The teachers were given the following information about the purpose of the research: 1) Concerning the inclusive education scale: "This scale concerns inclusive education as one of the methods for meeting the legal requirements for placing students with disabilities in the *least restrictive* education environment. Inclusive education means that all students with disabilities are mainstreamed and become the responsibility of the regular class teacher who is supported by specialists" [65]. 2) Concerning the self-efficacy scale: "The following statements are referred to teachers' beliefs concerning their ability to deal effectively with various situations in the school context".

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

Furthermore, the school principals were asked to express their own views concerning the inclusive education, answering the following questions: 1) What is your opinion about the special educational needs students?, and 2) Do you believe that your school is equipped to meet adequately the needs of these students?

6. Data Analysis

Statistical analysis included the use of Statistical Package for Social Sciences (SPSS 19). Especially, it was used: a) Factor Analysis, Cronbach's α reliability analysis, Pearson correlation Analysis, b) Independent samples t-test and Univariate ANOVA to locate possible differences existing among variables, c) Paired Samples t-test.

7. Results

7.1. Factor Analysis of "Attitudes Toward Inclusive Education Scale" [65,66]

In the current study, the scale contained 16 items. The results confirmed the four factors (KMO = .850, Bartlett's test of Sphericity = 1754, 296, $p < 0,001$), explaining the 22.861% of the overall percentage of variance emerged from the factor analysis. The four factors resulted from the present study contain different amount of items comparing

to the initial scale. Differences referring to factor analysis of the scale was noted in previous research (Kuyini & Desai, 2007). The first factor (F1) consisted of six questions and was called “physical disabilities” (Cronbach's $\alpha = .853$) (Table 1), the second factor consisted of 4 questions and was named “behaviour problems” (Cronbach's $\alpha = .743$) (Table 1), the third factor contains 4 questions and was named “social difficulties” (Cronbach's $\alpha = .573$) (Table 1) and the fourth factor contains 2 questions and was called “academic difficulties” (Cronbach's $\alpha = .658$) (Table 1).

Table 2 presents 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 the current study.

As noticed in Table 3, each factor shows a moderate level of correlation with the other, which express a positive direction and indicates a statistical significant difference in the level of $p < 0.01$. The means and standard deviations of the sample are denoted in Table 4.

Table 1. Cronbach's α reliability analysis of the “Attitudes Toward Inclusive Education Scale” (Wilczenski, 1992; 1995)

Factors	Cronbach's α
	N = 416
Physical Disabilities	.853
Behavior problems	.743
Social Difficulties	.573
Academic Difficulties	.658

Table 2. Factor analysis with varimax rotation for the Greek version of “Attitudes Toward Inclusive Education Scale”

Items	Factors			
	F1	F2	F3	F4
Students who cannot move without help from others should be in regular classrooms.	.521			
Students who cannot read standard print and need to use Braille should be in regular classes.	.719			
Students who need training in self-help skills and activities of daily living should be in regular classes.	.833			
Students who use sign language or communication boards should be in regular classes.	.844			
Students who need an individualized functional academic program in everyday reading and math skills should be in regular classes.	.638			
Students who cannot hear conversational speech should be in regular classes.	.786			
Students who are physically aggressive toward their peers should be in regular classes.		.630		
Students who cannot control their behavior and disrupt activities should be in regular classes.		.545		
Students who do not follow school rules for conduct should be in regular classes.		.827		
Students who are frequently absent from school should be in regular classes.		.744		
Students who are shy and withdrawn should be in regular classes.			.786	
Students whose speech is difficult to understand should be in regular classes.			.697	
Students who are verbally aggressive toward their peers should be in regular classes.			.428	
Students who have difficulty expressing their thoughts verbally should be in regular classes.			.658	
Students whose academic achievement is 2 or more years below the other students in the grade should be in regular classes.				.835
Students whose academic achievement is one year below the other students in the grade should be in regular classes.				.708

Table 3. Intercorrelations (Pearson's r) between the four factors of the “Attitudes Toward Inclusive Education Scale” (Wilczenski, 1992; 1995)

Factors	1	2	3	4
Physical Disabilities	1	.485**	.410**	.410**
Behavior Problems	.485**	1	.445**	.402**
Social Difficulties	.410**	.445**	1	.318**
Academic Difficulties	.410**	.402**	.318**	1

Note: ** $p < 0.01$

Table 4. Means and Standard Deviations of the “Attitudes Toward Inclusive Education Scale” factors

Factors	M.	S.D.
Physical Disabilities	3,26	1,19
Behavior Problems	3,94	1,03
Social Difficulties	4,61	1,04
Academic Difficulties	3,67	1,28

7.2. The Relationship between Demographic Variables and Teacher's Attitudes toward Inclusive Education Scale

The demographic factors examined in this study, which seemed to act as significant variables for teachers' attitudes toward the inclusion, are the following: gender, teaching subject, prior training in the area of special education, previous teaching experience with students with special education needs, possessing a good knowledge of special education act and of the functioning

of Greek Public Diagnostic and Assessment Centers, age, level of education and qualification level.

A statistically significant difference was noticed in the second factor as regards to gender. Specifically, women's attitudes ($M = 4.04$, $S. D. = 1.01$) are different from men's attitudes ($M = 3.75$, $S. D. = 1.09$) for the factor “behaviour problems” ($t = 2.371$, $df = 370$, $p = .018$, $p < 0.05$) (Table 5).

Furthermore, significant differences were observed in all factors concerning the teaching lesson: “physical disabilities” factor ($F(3, 380) = 3.196$, $p = .024$, $p < 0.05$), “behaviour problems” factor ($F(3, 367) = 7.517$, $p = 0.000$, $p < 0.001$), “social difficulties” factor ($F(3, 387) = 5.687$, $p = 0.001$, $p < 0.01$) and “academic difficulties” factor ($F(3, 331) = 4.946$, $p = 0.002$, $p < 0.01$). In particular, post-hoc analysis using Scheffe-test indicated statistically significant differences between sciences of pedagogy ($M = 4.07$, $S. D. = 0.98$) and human sciences ($M = 3.43$, $S. D. = 1.15$) and between sciences of pedagogy ($M = 4.07$, $S. D. = 0.98$) and other teaching lessons ($M = 2.96$, $S. D. = 1.47$) for “behaviour problems” factor. Further, using Scheffe-test, statistically significant differences appeared between pedagogy sciences ($M = 4.73$, $S. D. = 0.84$) and human sciences ($M = 4.10$, $S. D. = 1.10$) for “social difficulties” factor, and between pedagogy sciences ($M = 3.85$, $S. D. = 1.22$) and human sciences ($M = 4.10$, $S. D. = 1.10$) “academic difficulties” factor (Table 5). No significant differences were found for “physical disabilities” factor according to Scheffe test (Table 6).

Table 5. Descriptives for statistical significant differences between the groups for the factors of “Attitudes toward inclusive education scale”

Factors	Teacher Groups		N	Mean	S. D.
	N = 416				
Physical Disabilities	Training focused on special education	Yes	140	3.53	1.91**
		No	228	3.16	1.66**
	Teaching experience	Yes	93	3.69	1.23***
		No	151	3.13	1.15***
Behavior Problems	Knowledge of special education Act	Yes	105	3.71	1.10***
		No	256	3.11	1.15***
	Master degree	Yes	29	3.71	1.34*
		No	369	3.23	1.18*
Social Difficulties	Gender	Ανδρες	105	3.75	1.09*
		Γυναίκες	267	4.04	1.01*
	Training focused on special education	Yes	136	4.15	1.80**
		No	218	3.80	1.08**
	Teaching experience	Yes	89	4.33	0.92***
		No	246	3.85	1.85***
	Knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers	Yes	332	3.99	1.04**
		No	37	3.47	1.00**
Academic Difficulties	Training focused on special education	Yes	141	4.83	0.78**
		No	231	4.46	1.16**
	Teaching experience	Yes	97	4.87	0.74**
		No	255	4.54	1.14**
Academic Difficulties	Training focused on special education	Yes	115	4.04	1.48**
		No	201	3.48	1.27**
	Knowledge of special education Act	Yes	94	4.11	1.17***
No		218	3.51	1.38***	

Note: level of significance, $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$

Table 6. Descriptives for statistical significant differences between the groups for the factors of “Attitudes toward inclusive education scale”

Factors	Teacher Groups	N	Mean	S. D.	
	N = 416				
Physical Disabilities	Age	21-30	15	4.31	1.08***
		41-50	224	3.24	1.19***
		>51	80	2.98	1.10***
Behavior Problems	Teaching level	Pre-school education	65	3.50	1.20**
		Primary education	209	3.38	1.19**
		Secondary education	117	2.93	1.13**
	Teaching subject	Pedagogy sciences	252	4.07	0.98***
		Human sciences	48	3.43	1.15***
		Other	7	2.96	1.47***
Social Difficulties	Teaching level	Pre-school education	66	4.37	0.90***
		Primary education	191	3.97	0.97***
		Secondary education	121	3.69	1.14***
	Teaching subject	Pedagogy sciences	274	4.73	0.84**
		Human sciences	46	4.14	1.10**
		Other	68	4.96	0.76***
Academic Difficulties	Teaching level	Pre-school education	212	4.65	0.84***
		Primary education	118	4.32	1.40***
		Secondary education	118	4.32	1.40***
	Teaching subject	Pedagogy sciences	215	3.85	1.22**
		Human sciences	48	3.14	1.24**
		Other	213	3.83	1.21**
	Teaching level	Secondary education	121	3.38	1.36**

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

Significant differences were evident between the mean ratings of those participants who had attended specialized seminars focused on the area of inclusive education. Specifically, teachers' attitudes who had undertaken qualified training on students with disabilities ($M. = 3.53$, $S. D. = 1.91$) is different from those who had not ($M. = 3.16$, $S. D. = 1.66$) for “physical disabilities” factor ($t = 2.887$, $df = 364$, $p = 0.004$, $p < 0.01$). Mean differences have been resulted between the participants who have been trained for teaching special education needs students ($M. = 4.15$, $S. D. = 3.80$) and those who haven't ($M. = 3.80$, $S. D. = 1.08$) for “behaviour problems” factor ($t = 3.080$, $df = 352$, $p = 0.002$, $p < 0.01$). Also, differences were found to exist for those teachers who had prior training in the field of special education ($M. O. = 4.83$, $T. A. = 0.78$) and those who hadn't ($M. O. = 4.46$, $T. A. = 1.16$) for “social difficulties” factor ($t = 3.709$, $df =$

366.136 , $p = 0.000$, $p < 0.01$). Differences were observed between participants who had been trained for educating special education students ($M. = 4.04$, $S. D. = 3.48$) and those who hadn't ($M. = 3.48$, $S. D. = 1.27$) for “academic difficulties” factor ($t = 3.950$, $df = 248.960$, $p = 0.000$, $p < 0.01$) (Table 5).

Regarding prior teaching experience with special education needs students, statistical differences were observed for the first three factors. Especially, there is a difference between teachers who have been involved in teaching students with disabilities ($M. = 3.69$, $S. D. = 1.23$) and those who haven't ($M. = 3.13$, $S. D. = 1.15$) for “physical disabilities” factor ($t = 3.944$, $df = 342$, $p = 0.000$, $p < 0.01$). Differences have been resulted between participants with prior teaching experience ($M. = 4.33$, $S. D. = 0.92$) and those without ($M. = 3.85$, $S. D. = 1.85$) for “behaviour problems” factor ($t = 3.791$, $df = 333$, $p =$

0.000, $p < 0.01$). Mean differences were also found for teachers with previous teaching experience ($M. = 4.87$, $S. D. = 0.74$) and those who hadn't taught students with disabilities in the past ($M. = 4.54$, $S. D. = 1.14$) for "social difficulties" factor ($t = 3.200$, $df = 268.005$, $p = 0.002$, $p < 0.01$) (Table 6).

Concerning the knowledge of the Special Education Act 2008/2013, the results showed differences for the first and fourth factor. Particularly, there is statistically difference between those respondents who appeared to be knowledgeable of the Special Education Act ($M = 3.71$, $S.D. = 1.10$) and between those who aren't ($M. = 3.11$, $S. D. = 1.15$) for "physical disabilities" factor ($t = 4.442$, $df = 186.613$, $p = 0.000$, $p < 0.001$). Teachers' attitudes who were aware of the legislation regarding students with special education needs ($M. = 4.11$, $S. D. = 1.17$) are different from those who aren't ($M. = 3.51$, $S. D. = 1.28$) for "academic difficulties" factor ($t = 3.992$, $df = 193.243$, $p = 0.000$, $p < 0.001$) (Table 5).

Regarding knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers, statistical differences were observed for the second factor. There is a statistically significant difference between the teachers who possess knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers ($M. = 3.99$, $S. D. = 1.04$) and those who don't ($M. = 3.99$, $S. D. = 1.04$) for "academic difficulties" factor ($t = 2.962$, $df = 367$, $p = 0.003$, $p < 0.001$) (Table 5).

There were observed significant age differences for "physical disabilities" factor ($F 3, 377 = 6.195$, $p = 0.000$, $p < 0.001$) and for "social difficulties" factor ($F 3, 380 = 3.919$, $p = 0.009$, $p < 0.05$). According to Scheffe-test, the results showed statistically significant differences between teachers in the 21-30 age group ($M. = 4.31$, $S. D. = 1.08$) and those in the 41-50 age group ($M. = 3.24$, $S. D. = 1.19$), also, between those in the 21-30 age group ($M. = 4.31$, $S. D. = 1.08$) and those in the over 51 age group ($M. = 2.98$, $S. D. = 1.10$) for "physical disabilities" factor. Post hoc analysis using Scheffe-test didn't show any statistical differences between groups for "social difficulties" factor (Table 6).

When considering the level of education, statistically significant differences were found for all the factors: "physical disabilities" factor ($F 2, 388 = 6.868$, $p = 0.001$, $p < 0.01$), "behaviour problems" factor ($F 2, 375 = 9.490$, $p = 0.000$, $p < 0.001$), "social difficulties" factor ($F 2, 395 = 8.772$, $p = 0.000$, $p < 0.001$) and "academic difficulties" factor ($F 2, 338 = 8.772$, $p = 0.007$, $p < 0.01$). According to Scheffe-test, differences were observed between pre-school education ($M. = 3.5$, $S.D. = 1.20$) and secondary education ($M. = 2.93$, $S.D. = 1.13$), and primary education ($M. = 3.38$, $S.D. = 1.19$) and secondary education ($M. = 2.93$, $S.D. = 1.13$) for "physical disabilities" factor. Teachers' attitudes who were teaching in pre-school education ($M. = 4.37$, $S.D. = 0.90$) were different from those, teaching in primary education and ($M. = 3.97$, $S.D. = 0.97$) and pre-school educators adopted different attitudes ($M. = 4.37$, $S.D. = 0.90$) from those teaching in secondary education ($M. = 3.69$, $S.D. = 1.14$) for "behaviour problems" factor. Statistical significant differences were resulted between participants who were teaching in pre-school education ($M. = 4.97$, $S.D. = 0.76$) and those who were teaching in secondary education ($M =$

4.32 , $S.D. = 1.40$), and between those educators teaching in primary education ($M. = 4.65$, $S.D. = 0.84$) and those teaching in secondary education ($M. = 4.32$, $S.D. = 1.40$) for "social difficulties" factor. Statistical significant differences were also resulted between primary education teachers ($M. = 3.83$, $S.D. = 1.21$) and secondary education teachers ($M. = 3.38$, $S.D. = 1.36$) for "academic difficulties" factor (Table 6).

Additionally, regarding the qualification level of the educators, significant differences were found for the first factor. Particularly, attitudes of those who possess a postgraduate degree ($M. O. = 3.71$, $T. A. = 1.34$) are statistically different from those who held no postgraduate degree ($M. O. = 3.23$, $T. A. = 1.18$) for "physical disabilities" factor ($t = 2.110$, $df = 396$, $p = 0.035$, $p < 0.05$) (Table 5).

7.3. Self-Efficacy Scale

The variables that enabled differences for self-efficacy beliefs are proved to be gender, teaching experience, specialized training, knowledge of national policy for special education, awareness of the purpose and functioning of Greek Public Diagnostic and Assessment Centers and age.

Regarding the gender, womens' beliefs are seemed to be statistically different from mens' beliefs concerning their self-efficacy attitude ($t = 2.842$, $df = 349$, $p = 0.005$, $p < 0.01$). Men educators stated higher scores of self-efficacy ($M. = 4.96$, $S.D. = 0.50$) than female educators ($M. = 4.78$, $S.D. = 0.59$) (Table 7).

Teaching experience found to have a significant effect on teachers' self-efficacy beliefs ($F 3, 360 = 3.843$, $p = 0.010$, $p < 0.05$). Further statistically significant differences using post-hoc analysis according to Scheffe – test didn't show differences between groups.

Statistically significant differences were evident between the teachers who have attended special education seminars and those who haven't ($t = 3.790$, $df = 359$, $p = .000$, $p < .001$). Teachers' self-efficacy beliefs are higher for respondents who participated in training focused on special educational needs students ($M. = 4.97$, $S.D. = 0.52$) and those who haven't ($M. = 4.74$, $S.D. = 0.56$) (Table 7).

Furthermore, differences have been observed between groups concerning the awareness of special education legislation and the purpose and functioning of Greek Public Diagnostic and Assessment Centers. Concerning the knowledge of special education act, there were statistical differences between the mean ratings of teachers who are aware of the legal background of special education ($M. = 4.95$, $S.D. = 0.56$) and those who weren't ($M. = 4.80$, $S.D. = 0.55$) ($t = 2.452$, $df = 353$, $p = .015$, $p < 0.05$) (Table 7).

In relation to the knowledge of the purpose and functioning of Greek Public Diagnostic and Assessment Centers, the mean score of those who possess that knowledge ($M. = 4.86$, $S.D. = 0.55$) is higher than those who don't possess ($M. = 4.60$, $S.D. = 0.64$) ($t = 2.940$, $df = 376$, $p = .003$, $p < 0.05$) (Table 7).

In relation to age differences, statistically significant differences were observed for self-efficacy beliefs ($F 3, 372 = 4.822$, $p = 0.003$, $p < 0.01$). Post-hoc analysis using Scheffe-test indicated these differences between the age group of 31-40 years ($M. = 4.62$, $S.D. = 0.53$) and the age

group of 42-50 years (M. = 4.85, S.D. = 0.54), as well as = 4.85, S.D. = 0.54) and those from the age group above 52 years (M. = 4.97, S.D. = 0.61) (Table 7).

Table 7. Means, standard deviations and post-hoc tests (t-test and scheffe) for “Self-Efficacy scale”

		Teacher Groups	N	Means	S. D.
		N = 416			
Self-efficacy	Gender	Men	110	4.96	0.50**
		Women	271	4.78	0.59**
	Training focused on special education	Yes	137	4.97	0.52***
		No	224	4.74	0.56***
	Knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers	Ναι	105	4.95	0.56*
		Όχι	250	4.80	0.54*
	Age	31-40	61	4.62	0.53**
		41-50	222	4.85	0.54**
		> 51	80	4.98	0.61**

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

Table 8. Means and standard deviations for “Perceived Self-efficacy” scale

Items	Means	S.D.
I am capable of overcoming all the challenges I encounter in meeting my teaching objectives.	4.95	0.80
I am capable of getting recognition and appreciation from parents for my work.	4.93	0.86
I am capable of taking full advantage of technological innovations in my teaching	4.78	0.96
I am quick in managing and resolving class conflicts and bad behaviors (violence, bullying, vandalism, etc.).	4.89	0.86
I am capable of getting recognition and appreciation from my students.	5.05	0.78
I am capable of making my students respect rules and codes of conduct.	5.03	0.76
I am capable of engaging even the most reluctant and difficult students in my class activities.	4.79	0.86
I am capable of earning the trust and appreciation of all my colleagues.	4.88	0.84
I am capable of organizing and completing my work even when I encounter unexpected or demanding tasks.	4.86	0.82
I am capable of dealing effectively with behavioral problems of my students.	4.80	0.82
I am capable of earning the trust and appreciation of my principal.	5.01	0.80
I know how to deal with the challenges that handicap children typically face when they enter the school system.	3.94	1.30
Total	4.83	0.56

7.4. Attitudes toward Inclusion Education and Self-Efficacy Beliefs

Statistically significant differences were observed between teachers’ attitudes toward inclusive education and their self-efficacy beliefs.

Especially, the differences were found to be related to teachers’ self-efficacy beliefs and their attitudes toward inclusion for “physical disabilities” factor (t = 24.346, df = 380, p = 0.000, p < 0.001). The mean score of their self-efficacy beliefs is higher (M. = 4.83, S.D. = 0.56) than their mean score of inclusion attitudes (M. = 3.24, S.D. = 1.20).

There was also a significant interaction effect on teachers’ self-efficacy beliefs and their inclusion attitudes for “behaviour problems” factor (t = 16.023, df = 365, p = 0.000, p < 0.001). Findings reveal that their self-efficacy beliefs’ level is higher (M. = 4.84, S.D. = 0.56) than their attitudes toward mainstreamed education (M.= 3.93, S.D. = 1.04) of students who develop behavioural difficulties.

Statistically significant results were noticed on “social difficulties” factor (t = 4.051, df = 383, p = 0.000, p <

0.001), where mean scores of self-efficacy beliefs are higher (M. = 4.83, S.D. = 0.56) than mean scores of attitudes toward inclusion (M. = 4.61, S.D. = 1.05).

Similarly, statistically significant differences revealed between self-efficacy beliefs and inclusion attitudes for “academic difficulties” factor (t = 15.542, df = 331, p = 0.000, p < 0.001). The level of self-efficacy beliefs (M. = 4.82, S.D. = 0.57) is higher than the level of participants attitudes toward inclusive practices (M. = 3.68, S.D. = 1.29) (Table 9).

Table 10 presents the relation between the scores of inclusion factors and self-efficacy variable. A positive weak correlation was found on self-efficacy variable (M.O. = 4.83, T.A. = 0.56) for “physical disabilities” factor (M.O. = 3.26, T.A. = 1.19), “behaviour problems” factor (M.O. = 3.94, T.A. = 1.04), “social difficulties” factor (M.O. = 4.61, T.A. = 1.04) and “academic difficulties” factor (M.O. = 4.83, T.A. = 3.67). Self-efficacy correlation with second, third and fourth factor is positive and significant for “behaviour problems” factor and “social difficulties” factor at the level of p = 0.01 and for “academic difficulties” factor at the level of p = 0.05.

Table 9. Means, standard deviations and Paired Samples t-test for “Perceived Self-Efficacy Scale” and “Teachers’ attitudes toward inclusive education scale”

Paired Samples	N	Means	S. D.
Self-efficacy –Physical Disabilities	381	4.83	0.56***
	381	3.24	1.20***
Self-efficacy –Behavior Problems	366	4.84	0.56***
	366	3.93	1.04***
Self-efficacy –Social Difficulties	384	4.83	0.56***
	384	4.61	1.05***
Self-efficacy –Academic Difficulties	332	4.82	0.57***
	332	3.68	1.29***

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

Table 10. Intercorrelations (Pearson's r) between the four factors of "Attitudes toward inclusive education scale" [65, 66] and "Perceived Self-Efficacy Scale"

	Self-Efficacy	1	2	3	4
Self-Efficacy	1	.090	.194**	.210**	.136*
Physical Disabilities		1			
Behavior Problems			1		
Social Difficulties				1	
Academic Difficulties					1

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

8. Discussion

8.1. Teachers Attitudes toward the Inclusion of Special Education Needs Students

The results of this study revealed that teachers tend to develop positive attitudes toward the students with social difficulties, they are less concerned about students with behavioral and academic difficulties, but they perceive students with physical disabilities as less confronting in the general education school, finding that are in accordance with previous studies [11,65,54]. Teaching these students demands a higher level of preparation and specialised planning for the implementation of special education goals [3].

Regarding the issue of gender, the study showed that women were more supportive towards the inclusion of special educational needs students than men, result that is in accordance with previous studies [3,41,44,42,62].

Concerning the teaching subjects, differences were noticed between the respondents who teach human and pedagogy sciences to students with social and academic difficulties. In particular, pedagogy science teachers were more positive with respect to the inclusion of students with special education needs. This result probably indicates that during their studies in pedagogical sciences, the teachers had to take courses with subjects related to individual differences and schoolchildren characteristics, in contrast to those teachers who studied natural sciences, who did not have to take such courses [2]. Nevertheless, it is noted that this variable has not been yet examined in detail by relevant research [6].

Another interesting finding is that previous participation in special education seminars affects teachers' attitudes toward inclusion, as it is verified by other studies [7,11,19,43]. Teachers who have attended special education courses appeared to be more willing to accept students with disabilities in regular classroom [58].

Teaching experience is found to be an affecting variable of teachers' attitudes toward inclusion, a result that is in agreement with other studies [10,16,23,31,44,58,68,67]. Furthermore, teachers with greater teaching experience are more comfortable in teaching students with special educational needs.

The awareness of the Special Education Act influenced teachers' attitudes and reinforced their feelings and sense of capacities in order to support the inclusion of students with disabilities in mainstream classrooms, finding that is in accordance with a similar study [58].

The knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers has affected the respondents' attitudes towards the provision of inclusion for students with behavioral problems. Moreover, if a teacher has the option to seek help from a specialist on schoolchildren with mild or more severe

behavioral problems in classroom, then she has a positive view on the inclusion of these schoolchildren.

It appears that younger teachers tend to adopt more favorable views towards the inclusion of students with special educational needs. This finding is consistent with results of relevant surveys [7,11,25,40,58].

Secondary education teachers developed negative attitudes regarding the inclusion of students with special educational needs in mainstream school, which was also observed in other study [68].

Teachers who possess a master degree and those who are highly educated are less concerned about the inclusion of students with disabilities, as it was found in prior study [23].

Principals seemed to support the coexistence and co-education of special educational needs students in regular classroom, under the appropriate conditions (appropriate material and technical facilities, support provided by special education personnel, e.g. school psychologists). According to their opinions, the mainstreaming procedure demands the consideration of the number of children in regular classroom, the kind of disability and the difficulty level of students.

Regarding the readiness of each school to accommodate students with special educational needs, it was reported that teachers of regular schools lack the knowledge and training on the education of special educational needs students and that they rely on their experience and love for these students.

8.2. Teachers' Self-Efficacy Beliefs

Regarding the gender, it seemed that male respondents report a higher degree of self-efficacy belief than female respondents, a result consistent with previous studies [33,52]. Women seem to experience higher level of stress arising from workload and difficulties in managing classroom problems, when they have to affront students with behavioral disorders, a deep sense of concern associated with the profession of teaching, which tends to remain, thus reducing the feeling of job satisfaction [4,33].

The age of teachers affects their self-efficacy beliefs in educational activity, a finding that also agrees with similar results [21,33]. It seems that younger teachers manage to bridge the gap between their aspirations and the accomplishment of their goals. However, they have difficulty in adopting the appropriate coping strategies [4].

Prior teaching experience offers to teachers a greater sense of overall effectiveness, a sense of efficacy in classroom management and effectiveness in the use of educational strategies [60]. In addition, participation in special education training improve teachers' sense of self-efficacy [45,61].

Knowledge of the legal framework of special education influences teachers' efficacy in educational process. According to a study [1], when teachers are aware of the

educational reality, then they consider their role adequate and thus they develop a sufficient sense of self-efficacy.

Additionally, the knowledge of the purpose and the functioning of Greek Public Diagnostic and Assessment Centers have a significant impact on teachers' self-efficacy beliefs. Knowing that they can seek help from a public institution that provides support and guidance to them and to the students they feel encouraged and they develop a greater belief in the effective performance of their work.

8.3. Inclusive Education and Teachers' Self-Efficacy Beliefs

The level of perceived self-efficacy was higher for all the inclusive education factors: physical disabilities, behavior problems, social difficulties, academic difficulties, compared to teachers' attitudes toward inclusion of special educational needs students, a finding that corresponds with the results of prior studies [38,48].

Teachers' self-efficacy presents a weak correlation with teachers' perceptions toward the inclusion of students with physical disabilities. Also, it was noticed a weak, but statistically significant correlation of participants' attitudes towards the mainstreaming of students with behavioural problems, academic and social difficulties, a result that is in accordance with other study [48].

9. Conclusions

Teachers who participated in the present study expressed generally neutral attitudes toward the practice of inclusion, except for students with social difficulties, for whom it seemed to adopt a more favorable attitude, as illustrated by relevant research [20].

These attitudes seem to derive from absence of qualified special education personnel, problems concerning the organisation and function of Greek Public Diagnostic and Assessment Centers [32], shortage of materials and technical infrastructure [62,32] and inadequate support services in order to meet the demands of the process of integration of students with special educational needs [42].

School principals expressed their willingness to implement inclusive education for special educational needs students. However, it was clear that the school system had a real difficulty in fully accommodating the needs of these students.

Methods of solving the problems of mainstreaming should be adopted and they are related to financial resources, qualified specialists in general schools and their cooperation with the mainstream educators, specialists meetings, effective action of parents in the educational route of the student, parents' guiding support and guidance from school psychologists and teachers' participation in training focused on special educational needs [27].

Additionally, it was noted that teachers' self-efficacy belief is influenced by a variety of variables, including gender, age. However, the demographic variables do not constitute predictors of teachers' self-efficacy beliefs [60].

10. Limitations of the Study

The information gathered was limited to the responses recorded by the teachers and the questionnaire used is a self-reported scale. There was no observation of teachers' behavior in the classroom. It is therefore possible that teachers' responses do not correspond to their actual behavior in the classroom [11] and it is also possible that they answered in a socially desirable way [20].

The self-efficacy scale which was used in this study, although it is a construct made to assess teachers' self-efficacy beliefs concerning their capacity to handle effectively tasks, responsibilities and challenges related to their professional role in different school environments and in cooperation with other individuals, as a part of school system [15], it is not a tool of measuring self-efficacy beliefs in combination to attitudes toward inclusive education. Thus, the instructions for completing the scale should be adapted to self-efficacy in relation to the inclusion of special educational needs students.

The interpretation of the results has a limited range, because teachers' positive experiences derived from teaching the special educational needs students weren't assessed. Such examination would probably contribute to a complete evaluation of the results and to the development of training in teaching students with special needs, in order to reassure the context where favorable experiences may occur [30].

11. Recommendations for Future Research

Various studies showed that there is an urgent need of organising training programs [2,14,43] in order to increase the possibilities of implementing the inclusive education. Furthermore, school psychologists and other specialists should work with teachers and parents in order to provide training and specialized knowledge on strengthening their relations with the students and promote a positive way of communication [51].

In order teachers' efficiency to be improved, educators should be actively involved in decision making processes related to the educational policy of the school in curriculum planning and even in organising training programs [14].

Teachers' abilities to handle relationships with their colleagues and to deal effectively with parents' demands represent different dimensions of teachers' self-efficacy beliefs and they constitute aspects that should be examined in future research [5].

Longitudinal studies should be focused on the evaluation of teachers' motivation, which is developed during their educative task [39], and they should be given opportunities for professional improvement [33].

Studies based in the analysis of qualitative data related to the changing and shaping of new self-efficacy beliefs and attitudes toward the inclusion are also required [33]. Furthermore, studies including the presence of the researcher in the classroom, as observer, provides information concerning teacher's and student's actual behaviour in the classroom and whether the teacher develops a feedback training for the student [17].

Cross-cultural studies should consider the impact of specialized programs in forming teachers' attitudes,

beliefs and skills, who are invited to teach in different learning environments [44].

Ensuring appropriate educational assessment tools that would enable teachers to meet the needs of students with special difficulties is a prerequisite for the successful outcome of the project of inclusive education [48].

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