



Article

# Teachers' Attitudes towards Inclusive Education at Greek Secondary Education Schools

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Abstract: Advocates of inclusive education believe in the right of all learners to education and the many benefits it delivers. Teachers' attitudes and beliefs toward inclusive education are instantly reflected in their classroom activities and practices. This research will concentrate on special and general education teachers in Greek secondary schools. It will investigate their attitudes toward inclusive education and how these attitudes alter as a consequence of variables such as age, gender, teaching experience, and inclusive education training. Quantitative, main, and correlational research was obtained between groups using a non-experimental technique. The sample was taken from 307 educators, who were almost equally divided between general and special education. The SACIE-R questionnaire was used to assess teachers' attitudes toward inclusive education. The outcomes of the research demonstrated that attitudes toward inclusive education were impacted by the kind of special education received, as well as age and general education teaching experience. Furthermore, positive attitudes were impacted by gender, but negative sentiments and concerns were influenced by general education and special education teaching experience. Finally, the study revealed low levels of negative sentiments, medium levels of concerns, and high levels of favourable attitudes toward inclusive education.

**Keywords:** attitudes; inclusive education; Greek secondary schools; general education; special education

## 1. Introduction

Inclusive Education is a new development dynamic of the current school system, and an implemented policy or philosophy of a pioneering change in all its functions [1–5]. Ainscow [6] defines inclusive education as a process whose main goal is the participation of all students with disabilities and/or special educational needs at school, to have learning results and conditions for their further social development. In practice, inclusion means teaching in heterogeneous classes in which there are students with diverse individual needs [7–9].

Inclusive practices are about the presence, active, essential participation, and acceptance of students with disabilities in a general education class or activity [10]. Proper functioning of inclusion practices requires the acceptance of diversity and the end of exclusion at all levels (social, economic, academic, racial, gender, etc.) [11], an adaptation of teaching style (pedagogical and teaching methods) and curriculum, cooperation of teachers, and support from the principal of the school unit [9].

In short, the term "inclusion" does not refer only to the placement of a child with special educational needs within the regular school, but also to the conditions under which all children can be educated [12]. Inclusion is not only a personal matter of the special education teacher in the mainstream school, thus relieving the general education teacher from responsibility for its implementation. Inclusion can only be achieved when all stakeholders assist and for this reason, teachers are required to create learning environments



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that will encourage the use of practices to reinforce all students, for this, the cooperation of teachers is considered necessary [13]. Hughes and Murawski [14] argue that collaboration means interaction between at least two teachers with different specializations and includes dialogue, programming, shared and creative decisions, and feedback to provide appropriate services to students.

Teachers' attitudes towards children with special educational needs (SEN) have been studied in many countries [1,15–20]. Research has found that beliefs and teachers' attitudes towards children's inclusion have an enormous impact on the education of these children [21]. Alkahtani's work [22] supported the concept that the concerns of teachers for the education of children with SEN are influenced by their attitudes towards children/people with disabilities. According to Foreman [23], the attitude of teachers is an important element that determines the success in the education of children with SEN. Teachers' interactions with children in inclusive schools are influenced by the way they think about their students. Having a positive attitude towards students with disabilities is an important condition for the development of effective strategies. The success of inclusion is only possible when teachers show that they are receptive to children with SEN [21].

Research has shown that teachers in many parts of the world agree that the coeducation of all children in mainstream schools will help the development of an inclusive society, although concerns are expressed about the effective implementation of inclusive practices [21,24]. For example, a study by Scruggs et al. [25] found that teachers from the United States, South Korea, Italy, and Serbia had mixed views on the inclusion of students with SEN and inclusion has not changed much in the last 50 years. Although the majority of teachers believed that students with SEN would benefit from inclusion, they also reported that most teachers were comfortable when students with SEN were placed in special classrooms. Thus, integration depends to a large extent on the attitude of teachers and their willingness to include students with SEN.

In several studies, attitudes of teachers toward the education of students with SEN have been proposed as a decisive factor in increasing the participation of these children in school [26–29]. Another study by Hull [30] showed that the attitude of teachers is a critical element to promote integration and especially the academic success of students with SEN. Teachers' attitudes are the basis for their intention to support students with SEN. When teachers have a positive attitude towards integration, then the children are in the right place for learning. In addition, the willingness of teachers to accept students with SEN gives them confidence in the ability to support students in the classroom [31]. Many teachers also believe that teaching children with special educational needs is beyond the scope of their expertise and therefore they should not be expected to teach the students without help [32,33]. Finally, teachers mention several obstacles that hinder the successful inclusion of all students such as class size, lack of resources, and teacher training [34].

According to the literature, teachers have either positive [35] or negative feelings towards inclusion [36,37]. AlMahdi and Bukamal [38] indicated that pre-service teachers exhibited favourable attitudes toward students with special educational needs. In a study by Hastings and Oakford [39], researchers found that the attitudes of teachers about children with SEN are affected by the severity of their disability. This phenomenon is further supported by Campbell et al. [31], who reported that teachers present special treatment and certain attitudes towards specific students in their class. The teachers strongly preferred to integrate students with mild physical disabilities and not with moderate and severe disabilities [40–43].

Furthermore, when general education instructors lack the information, support, and direction to fulfil all of their students' needs, unfavourable attitudes toward special needs students and inclusion may develop [44]. According to Galaterou and Antoniou [45], less favourable attitudes about inclusivity are related to high levels of stress. Teachers were more amenable to integrating students with learning difficulties who did not need extra skills [46]. Finally, Sakellariou et al. [47] discovered that instructors are unaware of whether formal development pupils are prepared to accept their impaired peers.

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Padeliadou and Lambropoulou [41] revealed that general education instructors were more supportive of inclusion. Karakoidas and Dimas [48] discovered that general education instructors were less likely to include deaf, blind, severely behavioural, and mentally retarded kids. Although they realised inclusion may boost children's social abilities, they opposed its broad deployment before sufficient resources are available to give effective instruction. Another survey of Attica teachers indicated similar concerns [49].

Avramidis and Norwich [50] investigated a variety of characteristics that may impact teachers' attitudes towards inclusive education in their literature review. These variables are related to the gender, age, training, and years of teaching experience of the educators. Specifically, no relationship was found between teacher age and inclusive education attitudes [51]. Other studies indicated that teachers aged 20-30 had more favourable attitudes towards inclusion [16,52]. This might be due to the expansion of globalisation, technology, and the Internet [52]. Various studies have shown that women are more accepting of those with special educational needs and/or impairments [20,50,52].

Furthermore, teachers with 5–10 years of experience felt more favourably towards inclusion than those with 10–12 years [16,52]. Teachers' incapacity to adjust instructional strategies may contribute to stress and negative attitudes towards inclusive education [53]. According to Avramidis and Norwich [50,53], years of contact with students with special needs are crucial. Teachers with more support material experience favoured inclusive education [54], while Avramindis and Norwich [50] found that teachers with more impaired student experience were more confident about access. Studies also reveal that inclusive education professional development courses/seminars reduce teachers' resistance to inclusive practices and stress levels [55,56]. Educators with inclusive education experience from general education and in-service training favoured participatory education [16,51,57]. Finally, Forlin et al. [46] suggested teachers should be trained to handle emotional and behavioural issues.

## **Objectives**

The research objective of the current study is to examine the special and general education teachers' attitudes towards inclusive education at Greek secondary education schools, as well as the effect of teachers' age, gender, teaching experience, and training in implementing inclusive practices on these attitudes. The recording of special and general education teachers' attitudes toward inclusion, as well as the identification of variables influencing their creation, would help us to know and comprehend the present situation surrounding inclusion in the Greek context. Teachers' attitudes toward inclusive education in Greece have been studied, although not adequately. There is a need for further research on the topic, particularly in secondary schools since most studies have been undertaken at kindergartens and primary schools.

The research questions of the study are formulated as follows:

- (1) What are special and general education teachers' attitudes towards inclusive education at Greek secondary education schools?
- (2) How do teachers' age, gender, teaching experience, and training affect their attitudes towards inclusive education?

## 2. Method

## 2.1. Research Design

A quantitative, primary, correlational group survey with a non-experimental design was accomplished to examine the research objectives. Quantitative primary research is considered appropriate to examine the direct opinions of teachers because the concepts of attitudes towards inclusive education are measurable [58]. The correlational research between groups is appropriate because according to the research questions, differences between groups need to be examined which is accomplished in quantitative research, using statistical methods in numerical data [59]. The great advantage of quantitative research is that results can be generalized to the population of the study [60]. The non-experimental

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design is chosen because the researcher simply examines differences between groups, without considering the effect of external factors [61].

# 2.2. Questionnaire

The questionnaire of the present research includes 22 questions and two sections, which are the demographic characteristics and the attitudes toward inclusive education.

The 1st section of demographic characteristics involves seven questions, considering gender, age, the education population they teach (special, general), the years of teaching experience in general and special education, and if they have attended, as part of their undergraduate studies, a course or seminar on the education of students with special educational needs.

The 2nd section involves 15 questions from the questionnaire "The Sentiments, Attitudes and Concerns about Inclusive Education Scale-Revised" (SACIE-R) [46]. The questionnaire involves three factors (sentiments, attitudes, and concerns) and 15 questions related to them. Answers are given on a 4-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree).

Data were collected using Google forms via random sampling in general administrations of primary and secondary education in Greece. The time of completion for each questionnaire was approximately 10 min.

The link to the questionnaire and the repository where the data collected can be retrieved, is: https://osf.io/4jctb/ (accessed on 28 May 2022).

## 2.3. Subjects

The subjects of the present study were 307 teachers who teach at Greek secondary education schools. According to Table 1, teachers are almost equally distributed in general (54.1%, n = 166) or special education (45.9%, n = 141). The majority of teachers are females (75.9%, n = 233) over 35 years old (84.4%, n = 259). Regarding teachers' experience, almost half of them have up to 10 years of teaching experience in general education (55.8%, n = 158), while most of them have 0–5 years of teaching experience in special education (78.2%, n = 161). In addition, 41.0% of teachers (n = 126) attended a seminar on students with special education needs in their undergraduate studies, 40.4% (n = 124) have a master's degree in special education, 31.6% (n = 97) have attended seminars amounting to at least 300 h in special education, 36.2% (n = 111) have attended other seminars and 40.1% (n = 123) have participated in a conference.

Table 1. Demographic	ioh and	training	characteristics	of participating teacher	c
Table 1. Demographic	. ion. and	Training	characteristics	of participating feacher	S.

Variable	Category	N	f%
Gender	Male	74	24.1
Gender	Female	233	75.9
	22–30	13	4.2
	31–35	35	11.4
Ασο	36–40	85	27.7
Age	41–45	66	21.5
	46–50	30	9.8
	51 plus	78	25.4

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Table 1. Cont.

Variable	Category	N	f%
	0–1	78	27.6
	2–5	53	18.7
Years of teaching experience in	6–10	27	9.5
General Education	11–15	42	14.8
	16–20	20	7.1
	Over 20 years	63	22.3
	0–1	83	40.3
	2–5	78	37.9
Years of teaching experience in Special Education (Parallel Support, Integration	6–10	32	15.5
classes, Special schools, KESY)	11–15	11	5.3
	16–20	1	0.5
	Over 20 years	1	0.5
Seminar on students with special educational needs in	Yes	126	41.0
undergraduate studies	No	181	59.0
	Doctorate in Special Education	3	1.00
	Doctorate in Educational Sciences	1	0.30
	Doctorate in another scientific field	11	3.60
	Master's degree in Special Education	124	40.4
Training	Master's degree in Educational Sciences	44	14.3
Training	Master's degree in another scientific field	78	25.4
	Seminar at least 300 h in Special Education	97	31.6
	Seminar at least 300 h in Educational Sciences	49	16.0
	Seminar at least 300 h in another scientific field	55	17.9
	Other Seminar-Training	111	36.2
	Participation in a conference	123	40.1
	No Training	9	3.00

# 2.4. Data Analysis

IBM SPSS 24 was used to analyse the data. Scale variables and Likert-type questions were analysed using mean (M) and standard deviation (SD). Percentages and frequencies were used for nominal variables. The significance of the tests was set at 5%. Independent samples t-test was used to compare means between two large ( $n \ge 30$ ) independent samples. A Mann–Whitney test was used to compare distributions between two independent samples, where at least one is small (n < 30) and not normally distributed. One-way ANOVA was used to compare means between 3 or more independent samples which are large ( $n \ge 30$ ) or normally distributed. Post hoc analysis LSD was used to test multiple

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comparisons, in cases where there were statistically significant results in ANOVA tests with equal variances. Kruskal–Wallis test was used to compare distributions between 3 or more independent samples, where at least one is small (n < 30) and not normally distributed. Post hoc Bonferonni analysis was used to test multiple comparisons, in cases where there were statistically significant results in Kruskal–Wallis tests.

## 2.5. Reliability

The reliability of factors was calculated with the coefficient of internal consistency Cronbach Alpha, where acceptable values are those greater than 0.6 [62]. Table 2 presents that all factors had acceptable reliability (a  $\geq$  0.696).

**Table 2.** Reliability Analysis.

Factor	Questions	Cronbach's Alpha
Negative Sentiments	2, 5, 9, 11, 13	0.696
Positive Attitudes	3, 6, 8, 12, 15	0.828
Concerns	1, 4, 7, 10, 14	0.698

## 2.6. Validity

The validity of questionnaire SACIE-R questionnaire was tested using principal component analysis, to examine the concept validity [63]. Fixed 3 factors were selected to be extracted with the Varimax method. KMO value was 0.845 > 0.8, indicating that data are appropriate for principal component analysis [64]. According to Table 3, 12 from 15 questions (80.0%) are classified in the correct component, presenting high concept validity. Only two questions of the factor "Negative Sentiments" are wrongly classified in the 2nd component which corresponds to the "Concerns" while one question of the factor "Concerns" is wrongly classified in the 3rd component which corresponds to the factor "Negative Sentiments".

**Table 3.** Principal component analysis for attitudes, using the varimax method and three factors for the SACIE-R questionnaire.

Questions	C	component (KMO = 0.84	<b>45</b> )
Questions	1	2	3
Positive Attitudes–2	0.807		
Positive Attitudes-1	0.801		
Positive Attitudes–5	0.777		
Positive Attitudes–3	0.735		
Positive Attitudes-4	0.618		
Negative Sentiments-1		0.743	
Concerns-3		0.652	
Negative Sentiments-3		0.630	
Concerns-2		0.570	
Concerns-4		0.554	0.441
Concerns-5		0.412	0.302
Negative Sentiments-4			0.767
Negative Sentiments-2			0.729
Negative Sentiments-5			0.658
Concerns-1			0.408
Variance	22.65%	16.27%	14.80%

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## 2.7. Ethics

The necessary ethical issues that are related to the psychology of teachers and the nature of research were observed [65]. The current project was accepted by the university of the researcher, while the professor supervised the research procedure. Teachers were informed about the research aims, that their participation is anonymous, and voluntary, that their responses will be used only for the needs of the current research and that data will be destroyed after the results were published. The right to withdraw during the procedure or 1 week after the completion of the questionnaires was clarified. Teachers agreed to participate in current research by signing a consent form. The researcher informed teachers about her details as well as the personal details of her supervisor in case they wanted to communicate for any reason.

#### 3. Results

## 3.1. Attitudes towards Inclusive Education

According to Table 4, on the one hand, teachers did not appear to have negative sentiments toward people with disabilities (M = 1.97). In particular, they disagreed that they tend to make contact with people with disabilities brief (M = 1.72), find it difficult to overcome their initial shock, when meeting them (M = 1.69) and that they are afraid to look directly at a person with a disability (M = 1.46). On the other hand, teachers presented a positive attitude about including students with different kinds of problems in the regular classes (M = 2.92). In particular, they agreed that students who frequently fail exams (M = 3.06) are inattentive (M = 3.00), students who have difficulty expressing their thoughts verbally (M = 2.96), and students who need an individualized academic program (M = 2.82), should be in regular classes. Finally, in relation to the concerns about inclusive education, teachers presented concerns to a moderate degree (M = 2.38), regarding their ability to give appropriate attention to all students in an inclusive classroom (M = 2.54), having the knowledge and skills required to teach students with disabilities (M = 2.40), that students with disabilities will be accepted by the rest of the class (M = 2.35), that their workload will increase (M =  $2.34 \pm 0.79$ ) and that they will be more stressed if they have people with disabilities in their class. (M = 2.25).

Table 4. Negative Sentiments.

Attitude	Statements	M	SD
	I dread the thought that I could eventually end up with a disability.	2.54	0.81
	I would feel terrible if I had a disability.		0.74
Negative Sentiments	I tend to make contact with people with disabilities brief and I finish them as quickly as possible.	1.72	0.65
C	I find it difficult to overcome my initial shock when meeting people with severe physical disabilities.		0.66
	I am afraid to look directly at a person with a disability.	1.46	0.59
	Negative Sentiments	1.97	0.47
	Students who frequently fail exams should be in regular classes.	3.06	0.69
	Inattentive students should be in regular classes.	3.00	0.65
Positive attitudes	Students who have difficulty expressing their thoughts verbally should be in regular classes.	2.96	0.73
1 com re attraction	Students who need an individualized academic program should be in regular classes.	2.82	0.74
	Students who require communicative technologies (e.g., Braille Braille/sign) should be in regular classes.	2.78	0.86
	Positive attitudes	2.92	0.57

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13	n	Δ	/	Cor	1†

Attitude	Statements	M	SD
	It will be difficult to give appropriate attention to all students in an inclusive classroom.	2.54	0.78
	I do not have the knowledge and skills required to teach students with disabilities.	2.40	0.90
Concerns	Students with disabilities will not be accepted by the rest of the class.	2.35	0.65
Concerns	My workload will increase if I have students with disabilities in my class.	2.34	0.79
	I will be more stressed if I have students with disabilities in my class.	2.25	0.79
	Concerns	2.38	0.53

Comparing the results of attitudes towards inclusive education between general education teachers and special education teachers, Table 5 shows that in the factor "Negative Sentiments" the mean value of teachers of general education (M = 2.08) is statistically significant higher (t (304.8) = 4.997, p < 0.001) than the mean value of teachers of special education (M = 1.83). In the factor "Positive Attitudes" mean value of teachers of general education (M = 2.75) is statistically significant lower (t (305) = -6.240, p < 0.001) than the mean value of teachers of special education (M = 3.13).

**Table 5.** Independent samples *t*-test for the factors of attitudes towards inclusive education between teachers of general and special education.

Factor	General (N = 166)	Special (N = 141)	t	df	р
Nagativa Cantinanta	2.08	1.83	4.997	304.8	<0.001
Negative Sentiments	(0.49)	(0.40)			
P ::: 1::: 1	2.75	3.13	-6.240	305	<0.001
Positive Attitudes	(0.55)	(0.51)			
	2.61	2.10	9.550	305	<0.001
Concerns	(0.50)	(0.42)			

Finally, in relation to the factor "Concerns" the mean value of teachers of general education (M = 2.61) is statistically significant higher (t (305) = 9.550, p < 0.001) than the mean value of teachers of special education (M = 2.10).

In conclusion, our study, according to the first research question and the teachers' attitudes towards inclusive education, underlines the fact that teachers do not seem to have negative attitudes towards persons with impairments. On the other hand, we revealed that teachers had a positive attitude towards including students with all types of issues in normal classrooms. Nevertheless, teachers seem to be indifferent about their concerns about inclusive education, including their capacity to offer sufficient attention to all children in an inclusive classroom and having the knowledge and skills necessary to educate students with disabilities. Furthermore, our findings indicate that teachers are divided on whether or not students with impairments would be welcomed by the rest of the class.

## 3.2. Effect of Age on Attitudes towards Inclusive Education

According to Table 6, the effect of age was statistically significant on the factor "Negative Sentiments" (H (5) = 27.203, p < 0.001). In particular, the mean rank of teachers with age 36–40 (M.R. = 118.09) was statistically significantly lower than the mean rank of teachers with age 22–30 (M.R. = 181.38, p = 0.016), 41–45 (M.R. = 166.23, adj. p = 0.013) and 51 plus (M.R. = 185.35, adj. p < 0.001). In addition, the mean rank of teachers with age 51 plus (M.R. = 185.35) was statistically significantly higher than the mean rank of teachers with age 31–35 (M.R. = 144.73, p = 0.023) and 46–50 (M.R. = 146.30, p = 0.039).

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Factor	22-30 (N = 13)	31-35 (N = 35)	36-40 (N = 85)	41–45 (N = 66)	46-50 (N = 30)	51 Plus (N = 78)	<i>p</i> -Value
Negative Sentiments	181.38	144.73	118.09	166.23	146.30	185.35	<0.001 **
Desir Auto Le	3.06	2.81	3.19	2.97	2.59	2.75	<0.001 *
Positive Attitudes	(0.58)	(0.45)	(0.55)	(0.56)	(0.46)	(0.55)	
	2.09	2.19	2.22	2.40	2.37	2.66	<0.001 *
Concerns	(0.47)	(0.42)	(0.51)	(0.54)	(0.37)	(0.54)	

Table 6. ANOVA and Kruskal-Wallis test for factors of attitudes towards inclusive education with age.

On the factor "Positive Attitudes" the effect of age was statistically significant too (F (5301) = 8.567, p < 0.001). Mean value of teachers with age 36–40 (M = 3.19) was statistically significantly higher than the mean value of teachers with age 31–35 (M = 2.81, p < 0.001), 41–45 (M = 2.97, p = 0.016), 46–50 (M = 2.59, p < 0.001) and 51 plus (M = 2.75, p < 0.001). In addition, the mean value of the teachers with age 41–45 (M = 2.97) was statistically significantly higher than the mean value of participants with age 46–50 (M = 2.59, p = 0.001) and 51 plus (M = 2.75, p = 0.015). Furthermore, the mean value of teachers with age 22–30 (M = 3.06) was statistically significantly higher than the mean value of those with age 46–50 (M = 2.59, p = 0.009).

Regarding the factor "Concerns", effect of age was statistically significant (F (5301) = 8.331, p < 0.001). The mean value of teachers with age 51 plus (M = 2.66) was statistically significantly higher than the mean value of teachers with age 22–30 (M = 2.09, p < 0.001), 31–35 (M = 2.19, p < 0.001), 36–40 (M = 2.22, p < 0.001), 41–45 (M = 2.40, p = 0.003) and 46–50 (M = 2.37, p = 0.009). Additionally, the mean value of teachers with age 41–45 (M = 2.40) was statistically significantly higher than the mean value of teachers with age 22–30 (M = 2.09, p = 0.041), 31–35 (M = 2.19, p = 0.047) and 36–40 (M = 2.22, p = 0.027).

# 3.3. Effect of Gender on Attitudes towards Inclusive Education

According to Table 7, effect of gender was not statistically significant on factors "Negative Sentiments" (t (305) = -0.470, p = 0.639) and "Concerns" (t (305) = 0.828, p = 0.408). However, in the factor "Positive Attitudes" mean value of males was statistically significantly lower (t (305) = -2.457, p = 0.015) than the mean value of females (M = 2.97).

Factor	Male (N = 74)	Female ( $N = 233$ )	t	df	<i>p</i> -Value
Nagativa Cantimonto	1.94	1.97	-0.470	305	0.639
Negative Sentiments -	(0.47)	(0.47)			
Destruction Authorities	2.78	2.97	-2.457	305	0.015
Positive Attitudes -	(0.60)	(0.55)			

2.36

(0.53)

0.828

305

0.408

**Table 7.** Independent samples *t*-test for factors of attitudes towards inclusive education with gender.

## 3.4. Effect of Teaching Experience on Attitudes towards Inclusive Education

2.42

(0.53)

Concerns

According to Table 8, the effect of teaching experience in general education was statistically significant on the factor "Negative Sentiments" (H (5) = 29.355, p < 0.001). The mean rank of teachers with 2–5 years of teaching experience in general education (M.R. = 98.97) was statistically significantly lower than the mean rank of teachers with 0–1 (M.R. = 145.88, adj. p = 0.017), 11–15 (M.R. = 169.44, adj. p < 0.001), 16–20 (M.R. = 151.35, p = 0.014) and over 20 years of experience (M.R. = 165.43, adj. p < 0.001). In addition, the mean rank of teachers with 6–10 years of teaching experience in general education

<sup>\*</sup> Based on ANOVA test the using M (SD); \*\* Based on Kruskal–Wallis test using mean rank.

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(M.R. = 110.96) was statistically significantly lower than the mean rank of teachers with 11–15 (M.R. = 169.44, p = 0.003), and over 20 years of experience in general education (M.R. = 165.43, p = 0.004).

Table 8. ANOVA and Kruskal–Wallis test for factors of attitudes towards inclusive education with
teaching experience in general education.

Factor	0–1 (N = 78)	2-5 (N = 53)	6–10 (N = 27)	11-15 (N = 42)	16-20 (N = 20)	Over 20 (N = 63)	<i>p</i> -Value
Negative Sentiments	145.88	98.97	110.96	169.44	151.35	165.43	<0.001 **
Positive Attitudes	157.27	169.26	151.11	148.82	64.18	116.41	<0.001 **
C	2.36	2.12	2.19	2.50	2.62	2.58	<0.001 *
Concerns	0.53	0.51	0.46	0.51	0.57	0.51	

<sup>\*</sup> Based on ANOVA test using M(SD); \*\* Based on Kruskal-Wallis test using mean rank.

Table 8 shows that the effect of teaching experience in general education was statistically significant on the factor "Positive Attitudes" (H (5) = 33.948, p < 0.001). The mean rank of teachers with 16–20 years of teaching experience in general Education (M.R. = 64.18) was statistically significantly lower than the mean rank of teachers with 0–1 (M.R. = 157.27, adj. p < 0.001), 2–5 (M.R. = 169.26, adj. p < 0.001), 6–10 (M.R. = 151.11, adj. p = 0.004), 11–15 (M.R. = 148.82, adj. p = 0.002) and over 20 years of experience (M.R. = 116.41, p = 0.012). In addition, the mean rank of teachers with over 20 years of teaching experience in general education was statistically significantly lower than the mean rank of those with 0–1 (M.R. = 157.27, adj. p = 0.045) and 2–5 years of experience (M.R. = 169.26, adj. p = 0.007).

Lastly, the effect of teaching experience in general education was statistically significant on the factor "Concerns" (F (5277) = 6.493, p < 0.001). The mean value of teachers with over 20 years of teaching experience in general education (M = 2.58) was statistically significantly higher than the mean value of teachers with 0–1 (M = 2.36, p = 0.014), 2–5 (M = 2.12, p < 0.001) and 6–10 (M = 2.19, p = 0.001) years of teaching experience in general education. In addition, the mean value of the participants with 16–20 years of teaching experience in general education (M = 2.62) was statistically significantly higher than the mean of those with 0–1 (M = 2.36, p = 0.047), 2–5 (M = 2.12, p < 0.001) and 6–10 (M = 2.19, p = 0.005) years of teaching experience in general education. In addition, the mean of teachers with 11–15 years of teaching experience in general education (M = 2.62) was statistically significantly greater than the mean of teachers with 2–5 (M = 2.12, p < 0.001) and 6–10 (M = 2.19, p = 0.015) years of teaching experience in general education. Furthermore, the mean value of teachers with 0–1 years of teaching experience in general education (M = 2.36) was statistically significantly higher than the mean of teachers with 2–5 (M = 2.12, p < 0.011) years of teaching experience in general education.

According to Table 9, the effect of teaching experience in special education was statistically significant on the factor "Negative Sentiments" (F (3202) = 4.986, p = 0.002). The mean value of teachers with 0–1 years of teaching experience in special education (M = 2.03) was statistically significantly higher than the mean value of teachers with 2–5 (M = 1.84, p = 0.004) and over 10 years of teaching experience in special education (M = 1.63, p = 0.002). In addition, the mean value of teachers with 6–10 years of teaching experience in special education (M = 1.93) was statistically significantly higher than the mean of those with over 10 years of teaching experience in special education (M = 1.63, p = 0.031).

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Table 9. ANOVA test for factors of attitudes towards inclusive education with teaching experience in	ı
special education.	

Factor	0-1 (N = 83)	2-5 (N = 78)	6–10 (N = 32)	Over 10 (N = 13)	<i>p-</i> Value
Negative Sentiments	2.03	1.84	1.93	1.63	0.002
	0.45	0.38	0.45	0.37	
Positive Attitudes	2.96	3.15	2.93	3.17	0.074
	0.59	0.52	0.54	0.42	
Concerns	2.40	2.09	2.34	2.09	<0.001
	0.53	0.46	0.34	0.49	

According to Table 9, the effect of teaching experience in special education was not statistically significant on the factor "Positive Attitudes" (F (3202) =2.348, p = 0.074). On the other hand, the effect of teaching experience in special education was statistically significant on the factor "Concerns" (F (3202) = 6.375, p < 0.001). The mean value of teachers with 0–1 years of teaching experience in special education (M = 2.40) was statistically significantly higher than the mean value of teachers with 2–5 (M = 2.09, p < 0.001) and over 10 years of teaching experience in special education (M = 2.09, p = 0.029). Additionally, the mean value of teachers with 6–10 years of teaching experience in special education (M = 2.34) was statistically significantly higher than the mean of teachers with 2–5 years of teaching experience in special education (M = 2.09, p = 0.012).

## 3.5. Effect of Training on Attitudes towards Inclusive Education

Table 10 shows the differences in teachers' sentiments according to the training received. In the case of special education training, with the factor "Negative Sentiments" the mean value of teachers (M = 1.85) was statistically significantly lower (t (305) = -5.063, p < 0.001) than the mean value of teachers who are not trained (M = 2.11). In addition, with the factor "Positive Attitudes" the mean value of teachers trained in special education (M = 3.13) was statistically significantly higher (t (305) = 7.440 p < 0.001) than the mean value of teachers who are not trained (M = 2.68). Furthermore, with the factor "Concerns" the mean value of teachers who are trained in special education (M = 2.15) was statistically significantly lower (t (305) = -9.180 p < 0.001) than the mean value of teachers who are not trained (M = 2.65).

**Table 10.** Independent samples *t*-test for factors of attitudes towards inclusive education according to type of training received.

<b>Training Attended</b>	Factor	Yes	No	t	df	<i>p</i> -Value
	Negative Sentiments	<b>N = 167</b> 1.85	N = 140 2.11	-5.063	305	<0.001
	-	(0.42)	(0.48)			
Special education	Positive Attitudes -	3.13	2.68	7.440	305	<0.001
	1 OSHIVE THURUGS -	(0.52)	(0.52)			
	Concerns -	2.15	2.65	-9.180	305	<0.001
	Concerns -	(0.44)	(0.50)			

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Table 10. Cont.

Training Attended	Factor	Yes	No	t	df	<i>p-</i> Value
	Negative Sentiments	N = 86	N = 221			
		1.93	1.98	-0.715	134.583	0.476
		(0.52)	(0.44)			
<b>Educational Sciences</b>	Positive Attitudes	2.98	2.90	1.085	137.187	0.280
		(0.63)	(0.54)			
	Concerns	2.42	2.36	0.771	128.216	0.442
	Concerns	(0.62)	(0.49)			
	Negative Sentiments	<b>N = 111</b> 1.99	<b>N = 196</b> 1.95	0.771	305	0.441
	-	(0.42)	(0.49)			
Training in another scientific field	Positive Attitudes -	2.84	2.97	-1.965	305	0.050
		(0.54)	(0.58)			
	Concerns -	2.38	2.37	0.119	305	0.905
		(0.49)	(0.55)			
	Negative Sentiments	<b>N = 111</b> 1.98	<b>N = 196</b> 1.96	0.466	305	0.642
		(0.45)	(0.48)			
Training in another seminar	Positive Attitudes	2.92	2.93	-0.155	305	0.877
		(0.55)	(0.58)			
	Concerns -	2.42	2.35	1.064	260.222	0.288
	Concerns -	(0.47)	(0.56)			
	Negative Sentiments	N = 123 2.00	N = 184 1.94	1.160	305	0.247
		(0.48)	(0.45)			
Participation in a conference		2.93	2.92	0.241	305	0.810
•	Positive Attitudes -	(0.55)	(0.58)			
	Camarana	2.43	2.34	1.500	305	0.135
	Concerns -	(0.56)	(0.50)			

However, according to Table 10, training received in educational sciences, other seminar fields, and participation in conferences did not have a statistically significant effect on teachers' "Negative feelings", "Positive attitudes" and "Concerns".

Analysing the effect of training as a totality, the results in Table 11 indicate that the effect of training was not statistically significant on factors "Negative Sentiments" (U = 1178, p = 0.531) and "Concerns" (U = 1123.5, p = 0.404). However, in the factor "Positive Attitudes" the mean value of teachers who have at least one kind of training (M = 2.94), was statistically significantly higher (t (305) = 2.108, p = 0.036) than the mean value of teachers who have not (M = 2.53).

As a result, according to the second research question and the effect of age, gender, teaching experience, and training on teachers' attitudes towards inclusive education, our study reveals that age is an important factor since older teachers seem to have more negative feelings and fewer positive attitudes towards inclusion. Furthermore, the research found that males and females had equal negative attitudes about individuals with impairments and concerns about inclusive education. Females, on the other hand, had much greater levels of favourable sentiments about inclusive education than males. In general education, teachers with less teaching experience had lower levels of negative sentiments and concerns

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about individuals with disabilities, whereas teachers with more years of experience had greater levels. More experienced special education instructors expressed less unfavourable sentiments towards disabled people. Less-experienced special education teachers were more concerned about inclusive education. Finally, special education training affected teachers' attitudes toward inclusive education. Special education teachers had fewer negative feelings towards persons with disabilities, fewer anxieties, and more favourable attitudes about inclusive education. Teachers with some training are more positive towards inclusive education.

**Table 11.** Independent samples *t*-test and Mann–Whitney for factors of attitudes towards inclusive education with training.

Factor	Training Yes (N = 298)	Training No (N = 9)	<i>p</i> -Value
Negative Sentiments	154.55	135.89	0.531 **
Positive Attitudes	2.94	2.53	0.036 *
	(0.56)	(0.73)	
Concerns	154.73	129.83	0.404 **

<sup>\*</sup>Based on independent samples t-test; \*\* Based on Mann–Whitney test.

## 4. Discussion

The present study aimed to examine the special and general education teachers' attitudes towards inclusive education at Greek secondary education schools, as well as the effect of teachers' age, gender, teaching experience, and training in implementing inclusive practices on these attitudes. Current research is quantitative, primary, and correlational between groups in a non-experimental design. The sample of the current study was conducted among 307 teachers who teach at Greek secondary education schools, almost equally distributed to general or special education. Based on the first research question and teachers' attitudes towards inclusive education, our study reveals instructors do not hold negative attitudes toward people with disabilities. Teachers preferred integrating difficult pupils into regular classrooms. Teachers are ambivalent about inclusive education, especially in teaching students with impairments.

According to the second research question and the effect of age, gender, teaching experience, and training on teachers' attitudes towards inclusive education, our study shows that age is an important factor since older teachers have more negative feelings and fewer positive attitudes towards inclusion. The study indicated that both men and women were negative towards handicapped people and inclusive education. Women supported inclusive education more than males. Less-experienced general education instructors concern less about impaired pupils. Experienced teachers are less biased. Less-experienced teachers emphasised inclusivity. Special education training affected instructors' inclusive education perspectives. Special education instructors were less antagonistic toward disabled students and more supportive of inclusive education. The Sentiments, Attitudes and Concerns about Inclusive Education Scale-Revised (SACIE-R) questionnaire was used to measure teachers' attitudes towards inclusive education, presenting acceptable reliability (a  $\geq 0.696$ ) and concept validity. Independent samples t-test, ANOVA, Mann–Whitney, and Kruskal–Wallis tests were used with a significance of 5%. The necessary ethical issues were considered.

Our study underlines the fact that teachers do not appear to have negative sentiments toward people with disabilities. In particular, they disagreed that they tend to make contact with people with disabilities brief, find it difficult to overcome their initial shock when meeting them and that they are afraid to look directly at a person with a disability. Similarly, Yada and Savolainen [35] found that in-service teachers' sentiments about interacting with persons with disabilities are significantly positive. In contrast to our findings, pre-service teachers seem to have negative sentiments about inclusion [36,37].

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On the other hand, our survey showed that teachers presented a positive attitude to include students with different kinds of problems in the regular classes. They all agreed that students who frequently fail exams are inattentive and have difficulty expressing their thoughts verbally and students who need an individualized academic program should be in regular classes. Our results share similarities with a recent study by AlMahdi and Bukamal [38] in which pre-service teachers developed positive attitudes towards students who have learning difficulties, tend to become distracted, fail exams, need adaptations to the curriculum, or need assistance with personal care in general classes.

Our results are a little different from those of Campbell et al. [31]. Their results showed that teachers strongly preferred to include students with mild physical disabilities but not students with moderate or severe disabilities, and that they were reluctant to include students with more serious physical disabilities or mental disabilities. Additionally, several studies argued that the category of special educational needs and its severity is a factor that differentiates teachers' attitudes towards the inclusion of students [40–43].

The study revealed that teachers seem to be neutral about their concerns towards inclusive education, regarding their ability to give appropriate attention to all students in an inclusive classroom and having the knowledge and skills required to teach students with disabilities. In contrast to previous research, negative attitudes might exist towards students with special educational needs and inclusion because general education teachers lack the appropriate knowledge, support, and assistance needed to effectively meet all the needs of their students [44]. In addition, Galaterou and Antoniou [45] discovered that teachers' unfavourable attitudes are partly associated with work-related stress, as less positive attitudes towards inclusion are associated with high-stress levels. Similarly, teachers were considered more positive about the inclusion of learners with learning disabilities that do not require additional educational or managerial skills on the part of the teacher [46].

In addition, our results showed that teachers neither agree nor disagree that students with disabilities will be accepted by the rest of the class. This confirms previous findings by Sakellariou et al. [47] who revealed that teachers do not know if formal development students are ready to accept their disabled classmates.

The comparison between teachers of special and general education indicated that teachers of special education have lower negative sentiments towards people with disabilities, lower levels of concern about inclusive education, and higher positive attitudes about including students with different kinds of problems in the regular classroom. On the other hand, an older study by Padeliadou and Lambropoulou [41] showed that general class teachers had a neutral attitude towards inclusion but were more positive than special education teachers. Our findings correlate favourably with Karakoidas and Dimas [48] who found that general education teachers had more negative attitudes than special education teachers towards the inclusion of children with deafness, blindness, severe behavioural problems, and mild mental retardation. Additionally, although they acknowledged that inclusion could enhance children's social skills, they disagreed with the extensive implementation of the policy until sufficient resources are created to provide appropriate training. Similar concerns were reported in another large survey of teachers in the Attica region [49].

Regarding the effect of age, researchers reported that teachers aged 36 to 40 presented lower negative sentiments towards people with disabilities and higher positive attitudes towards including students with problems in regular classes. The results highlighted high levels of positive attitudes for teachers aged 22–30 as well. On the other hand, teachers over 51 years old had higher levels of negative sentiments towards people with disabilities and a higher level of concern towards inclusive education. Furthermore, teachers aged 41–45 indicated a mixed approach, presenting high levels of positive attitudes and concerns towards inclusive education.

Nevertheless, a survey conducted in South Africa did not produce a significant relationship between teacher age and attitudes towards inclusive education [51]. In contrast, Parasuram [52] reported that teachers aged 20–30 had more positive attitudes towards

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inclusion [16] compared to people aged 40–50. This could be due to the new generation being exposed to changes such as globalization, information technology, and Internet development [52].

Considering gender, the study revealed similar levels of negative sentiments towards people with disabilities and concerns toward inclusive education between males and females. However, significantly, females presented higher levels of positive attitudes towards inclusive education than males. Several studies are in complete agreement with our findings that women tend to have a more positive attitude towards people with special educational needs and/or disabilities [20,50,52].

Regarding teaching experience in general education, lower levels of negative sentiments and concerns towards people with disabilities appeared for teachers with 2–5 years of teaching experience, while higher levels for teachers with over 10 years of experience. In addition, high levels of concern towards inclusive education were indicated for teachers with minimum experience of 0–1 years in general education while lower levels of positive attitudes towards inclusive education were presented for teachers with extensive teaching experience in general education over 15 years.

Our findings are in line with previous results regarding the relationship between the number of years of teaching experience and teachers' views on inclusive education [16,52,66], which reported that teachers with 5–10 years of experience were more favourable or showed positive perceptions compared to those with 10 to 12 years of experience. Another study showed that teachers who taught for 12 years or more, really struggled to change their perceptions about effective teaching methods [53]. Furthermore, Lambe and Bones [53] highlighted that the inability to adapt the methods of teaching can lead to increased stress for teachers, which could potentially lead to negative perceptions about inclusive education. Our results share similarities with Avramidis and Norwich [50] and Lambe and Bones [53] findings that the years that teachers have been in contact with students with special educational needs is an important factor to be examined.

As far as teaching experience in special education is concerned, lower levels of negative sentiments towards people with disabilities were presented for teachers with over 10 years of teaching experience in special education. Higher levels of concern towards inclusive education were indicated for teachers with 0–5 years of teaching experience in special education. Our results support a recent study in Portugal, which indicated that special education teachers with more experience to use the support material, had more positive attitudes toward inclusive education [54]. Avramindis and Norwich [50] also found that teachers who had more experience with students with disabilities had a more favourable attitude towards accession and were more confident about themselves.

Interestingly, training in special education affected the attitudes of teachers towards inclusive education. In particular, teachers who are trained in special education indicated lower levels of negative sentiments towards people with disabilities, lower levels of concern, and higher positive attitudes towards inclusive education. In addition, teachers who have at least one kind of training presented more positive attitudes towards inclusive education.

This is inconsistent with studies that have shown that professional development courses/seminars on inclusive education have led to less resistance to practices without exclusions from teachers and in reducing the stress levels of teachers when facing inclusion [55,56]. Furthermore, teachers with prior knowledge of inclusive education in general education and in-service training were shown to have a more favourable attitude toward participatory education than teachers who did not obtain this knowledge. [16,51,56]. Similarly, Forlin et al. [46] stated that teachers should have extensive training in the management of students' emotional and behavioural problems in the classroom, trying to overcome barriers in the classroom.

# 4.1. Limitations-Future Research

The results of the current study can be generalized to teachers who are female, over 35 years old, with 0–5 years of teaching experience in special education. Furthermore,

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results refer to teachers where 4 out of 10, have attended a seminar on students with special education needs in their undergraduate studies or a seminar of at least 300 h in special education, or another seminar, have a master's degree in special education, and have participated in a conference. The sample size is another limitation of the study, which led to the usage of non-parametric tests. New research is recommended using stratified sampling to generalize the results for the population of the study. Furthermore, the sample size should be calculated according to the population size, using mathematical formulas [60].

#### 4.2. Conclusions

The present study has shown low levels of negative sentiments, medium levels of concern, and high levels of positive attitudes towards inclusive education. Trained teachers of special education that have more than 10 years of experience in special education, as well as teachers of 36–40 years 516 old and teachers with 2–5 years of teaching experience in general education, presented a more positive stance on inclusive education. On the other hand, teachers over 51 years old, with more than 10 years in general education presented a more negative stance on inclusive education. Females and teachers with at least one kind of training presented higher levels of positive attitudes towards inclusive education. The evidence from this study indicates that training in special education is a vital factor to shape positive attitudes toward inclusion. It is important to take measures for teachers to have Special Education training, since it improves their teaching of students with special educational needs in general school classes, renders more positive attitudes towards co-education, and contributes to teachers having positive emotions towards these students [55]. Future research with a larger and more representative sample is needed to generalize the results.

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