European Journal of Special Education Research
ISSN: 2501 - 2428
ISSN-L: 2501 - 2428
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.3337604 Volume 4 | Issue 4 | 2019

# GENERAL PRESCHOOL AND PRIMARY UNIVERSITY STUDENTS IN GREECE AND THEIR ATTITUDES TOWARD INCLUSION

**Helen, Tsakiridou[1],**
**Konstantia, Polyzopoulou[2i]**
[1]Professor of Applied Statistics & Educational Research,
Vice Rector of Academic and Administrative Affairs,
University of Western Macedonia, Greece
[2]School Psychologist,
University of Western Macedonia,
Department of Primary Education,
Florina, Greece

**Abstract:**
University studies on teaching and pedagogy consists of great importance for the education of students during their school years. The different characteristics of the students' population demand the knowledge and abilities in order for the teachers to meet their needs and to successfully facilitate their adaptation in the academic and social school environment. Consequently, it is important to study pedagogy students' attitudes toward the students with special educational needs and their inclusion in the general education system. In the present study, participated 348 preschool and primary education students, who completed the "Attitudes toward Inclusive Education Scale" (Wilczenski, 1992; 1995). Results showed that the students hold neutral attitudes toward the inclusion of students with physical disabilities and academic difficulties, but they express favorable attitudes concerning the inclusion of students with behavior problems and social difficulties. Attitudes are compared to other variables that affect students' predispositions. It is important for the University departments to follow a continuous training on the special needs and inclusion, in order for the future teachers to be prepared to teach in diverse school context.

**Keywords:** university students, preschool studies, primary education, attitudes, inclusion, disability

## 1. Introduction

In every contemporary school community, where the values of democracy and equality are considered as dominant elements, variant types of teaching are focused on the

[i] Correspondence: email npolyzo@yahoo.gr

recognition of students' difficulties in a motor, cognitive, emotional, behavioral and social level, in order for them to be benefit in a less restrictive classroom environment (Hunsaker, 2018). In many countries, preschool and primary education universities offer courses that include thematic units for teaching diversity and inclusive education (Oswalt & Swart, 2011). Pupils with special educational needs are characterized as a group of developing persons, with diverse needs, where, in order for their needs to be satisfied successfully, future teachers should possess the appropriate knowledge and skills and adopt positive attitudes, as a necessary condition for the effective implementation of inclusive education (Forlin et al., 2009).

## 2. Literature Review

According to the research, in general, students of pedagogy departments tend to adopt a favorable attitude (Cardona, 2009) toward inclusion. They express positives attitudes toward the inclusion of students with learning difficulties, less positive about the inclusion of students with physical disabilities and but they are less willing to integrate in the general education system students with behavior problems and social difficulties (Sharma, Moore, & Sonawane, 2009). In the same study, it is noticed a negative attitude toward the inclusion of students with special educational needs.

There are different variables that affect university students' attitudes toward the teaching of special needs students in the mainstream setting. Teaching experience and contact with special needs students reinforces positive attitudes (Forlin, et al., 2009), but other study shows different results (Rakap, Cig, & Parlak-Rakap, 2017). Gender constitutes a differentiate variable (Tervo et al., 2002; Romi & Leyser, 2006) where women adopt more positive attitudes in comparison to men and younger students are expressing more favorable attitudes than older aged students (Forlin, et al., 2009). Preschool education students tend to be more acceptable to inclusion than primary education students (Gokdere, 2012; Çikili, & Karaca, 2019). Seminars on special education influence in positive way students' attitudes toward inclusion (Forlin, et al., 2010). Furthermore, university courses on special on special education affect university students' attitudes in an unambiguous way (Tait & Purdie, 2000; Stella et al., 2007) and a public supportive network predisposes them in a positive way (Gilor, & Katz, 2018).

## 3. Material and Methods

### 3.1 Sample

The survey involved 348 students, of whom 36 are men and 310 are women. From the total sample, 179 students are attending the general preschool university and 168 are attending the general primary university. As for the gender, 5 men and 173 women are attending preschool education studies and 31 men and 136 women are studying in primary education departments. A for education level, 178 students are attending preschool education university and 167 students will graduate as primary education

teachers. Furthermore, 343 participants are attending the fourth year of studies and 2 university students are attending the fifth year of studying. Regarding the age, 127 students are 21 years old, 153 students have 22 years old and the age range from 23 to 38 years old for 26 participants. Concerning the possession of a second degree, 9 students declared the have graduated another university department and 90 students have no second degree. A university course about disabilities and special needs have been taught 281 students and 59 responded that they have attended any similar course. Additionally, 55 persons have stated that there is a member with special needs in their family, but 291 stated that they have no family member with disability. Also, 93 participants have declared that they have a friend with special needs and 251 participants have known no person with disability. Concerning special needs seminars, 92 students have attended one, but 253 have not attended. As regard to the special needs seminars, 19 of them have been conducted by University institutions, 20 have been organized by other organizations and 1 has been implemented by the Greek Ministry of Education, Research and Religious Affairs. From the total sample, 42 students responded they had an experience with a special needs person and 299 responded negatively. The subject of experience of persons with special needs is referred to Practical training for 10 students, to voluntary occupation for 11 students, to creative occupation – full time employment for 8 students and Private lessons – parallel support coeducation, for 8 persons. A small part of the participants 39 students, declared that they were occupied during the research period and 308 students had no occupation.

A knowledge of Special Education Act is possessed by 152 students, while 192 are not aware of the Acts related to Special Education. A great part of the sample, 228 students, stated they possess the knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center, but 117 students have no relative knowledge (Table 1, Table 2, Table 3).

**Table 1:** Demographic characteristics of the participants

| **Demographic variables** | **Participants (N = 348)** | **Total (f)** | **Relative frequencies (%)** |
|---|---|---|---|
| **Gender** | | | |
| | Men | 36 | 10.3 |
| | Women | 310 | 89.1 |
| **University** | | | |
| | Preschool education students | 179 | 51.4 |
| | Primary education students | 168 | 48.3 |
| **Year of studying** | | | |
| | 4th | 343 | 98.6 |
| | 5th | 2 | 0.6 |
| **Age** | | | |
| | 21 | 127 | 36.5 |
| | 22 | 153 | 44.0 |
| | 23-38 | 26 | 7.5 |
| **Having a second degree** | | | |

| | | | |
|---|---|---|---|
| | Yes | 9 | 2.6 |
| | No | 90 | 25.9 |
| **University course about disability and special needs** | | | |
| | Yes | 281 | 80.7 |
| | No | 59 | 17.0 |

Note: missing values: 2 for gender (0.6%), 1 for University (0.3%), 3 for year of studying (0.9%), 42 for age (12.1%), 249 for having a second degree (71.6%), 8 for University course about disability and special needs (2.3%).

**Table 2:** Demographic characteristics of the participants

| **Demographic variables** | **Participants (N = 348)** | **Total (f)** | **Relative frequencies (%)** |
|---|---|---|---|
| **Having a family member with special needs** | | | |
| | Yes | 55 | 15.8 |
| | No | 291 | 83.6 |
| **Having a friend with special needs** | | | |
| | Yes | 93 | 26.7 |
| | No | 251 | 72.1 |
| **Special Education seminars** | | | |
| | Yes | 92 | 26.4 |
| | No | 253 | 72.7 |
| **Organization where the special education seminars were conducted** | | | |
| | University | 19 | 5.5 |
| | Other organizations | 20 | 5.7 |
| | Greek Ministry of Education, Research and Religious Affairs | 1 | 0.3 |
| **Experience of persons with special needs** | | | |
| | Yes | 42 | 12.1 |
| | No | 299 | 85.9 |
| **Subject of experience of persons with special needs** | | | |
| | Practical training | 10 | 2.9 |
| | Voluntary occupation | 11 | 3.2 |
| | Creative occupation – full time employment | 8 | 2.3 |
| | Private lessons – parallel support coeducation | 8 | 2.3 |

Note: Missing values: 2 family member with special needs (0.6%), 4 having a friend with special needs (1.1%), 3 for special education seminars (0.9%), 308 for organization where the special education seminars were conducted (88.5%), 7 for Experience of persons with special needs (2.0%), 311 subject of experience of persons with special needs (89.4%).

**Table 3:** Demographic characteristics of the participants

| **Demographic variables** | **Participants (N = 348)** | **Total (f)** | **Relative frequencies (%)** |
|---|---|---|---|
| **Current occupation** | | | |
| | Yes | 39 | 11.2 |
| | No | 308 | 8.5 |
| **Knowledge of Special Education Act** | | | |
| | Yes | 152 | 43.7 |

| | | | |
|---|---|---|---|
| | No | 192 | 55.2 |
| **Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center** | | | |
| | Yes | 228 | 65.5 |
| | No | 117 | 33.6 |

Note: Missing values: 1 for current occupation (0.3%), 4 για Knowledge of Special Education Act (1.1%), 3 for knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center (0.9%).

According to the gender, 173 women are attending the preschool education University and 136 are attending the primary education University. Additionally, 5 men are attending studies in the preschool University and 31 men are attending studies in primary education University. According to the type of University, 178 participants are studying in preschool University and 167 participants are studying in primary education University (Table 4).

**Table 4:** Distribution (total and relative frequencies) for the 348 university students' participants regarding to the gender and the University

| **University** | **Gender** | | | | **Total** | |
|---|---|---|---|---|---|---|
| | **Men** | | **Women** | | | |
| | **Total (f)** | **Relative frequencies (%)** | **Total (f)** | **Relative frequencies (%)** | **Total (f)** | **Relative frequencies (%)** |
| **Preschool education** | 5 | 13.9 | 173 | 56.0 | 178 | 51.6 |
| **Primary education** | 31 | 86.2 | 136 | 44.0 | 167 | 48.6 |
| **Total** | 36 | 100 | 309 | 100 | 345 | 100 |

### 3.2 Instrument

In order to collect the data of the research, it was used a questionnaire consisting of two sections: The first section includes the "Attitudes Toward Inclusive Education Scale" (Wilczenski, 1992; 1995). The second section includes questions related to the demographics characteristics of the participants, such as gender, university department, year of studies, age, having a second degree, family member with special needs in the family, having a friend with special needs, university course about disabilities and special needs, special needs seminars, Organization where the special education seminars were conducted, Experience of persons with special needs Subject of experience of persons with special needs, Knowledge of Special Education Act, Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center. These variables were examined in previous research as well (Tait & Purdue, 2000; Forlin, Jobling, & Carroll, 2001; Sharma, et al., 2006; Stella et al., 2007; Findler, Vilchinsky, &Werner, 2007; Sharma et al., 2008; Forlin, et al, 2009).

This scale was designed to measure attitudes related to the educational policy of inclusion, and in particular attitudes towards the education of students with physical, behavioral, social and learning difficulties within the normal classroom. In particular, this scale measures the participants' perceptions concerning the type of disability

disposed by the student the student in order for the student to be included in the ordinal classroom (Sharma et al., 2008).

The scale is consisted of 16 items, that are grouped and constitute four (4) factors, each one contains four statements equally, examining for dimensions of inclusive education: 1) First (1st) Factor: Physical disabilities (students with physical disabilities, that require special adjustments in the classroom), 2) Second (2nd) Factor: academic difficulties (having students with learning difficulties taking part in a general school curriculum until they have access in an individualized curriculum), 3) Third (3rd) Factor: Behavior problems (identifying children who present disruptive behavior and difficulties in the context of school adaptation), 4) Fourth (4th) Factor: Social Difficulties (students who are having difficulties in interacting socially with their schoolmates). Each item is scored on a 6-point Likert scale, rating from "strongly agree" to "strongly disagree". Score equal to 16 is a declaration of the least favorable attitude and score equal to 96 is identified as the most favorable attitude. According to the original research, the reliability scores are presented as following, for each factor: a = 0.83 for physical disabilities factor, a = 0.84 for academic difficulties factor, a = 0.87 for behavior problems factor and a = 0.82 for social difficulties factor and Cronbach's a = 0.92 for the total scale (Wilczenski, 1992). There are no negatively worded items in the scale (Seçer, 2010).

For the current study, two bilingual translators were responsible for the scale translation from English language into Greek language. Subsequently, the questionnaire was distributed to preschool and primary students, as a test administration, to examine the wording and the understanding of the items or other problems. Back translation was followed by two other researchers. At the end, the translations were checked by three researchers, who were specialized in the subject, in order to assess the content validity applying the method of content structure analysis (Weber, 1990). In the current research, the scale is scored by a 6-Likert scale, where 1 = strongly disagree and 6 = strongly agree. Also, it consists of 16 items for primary education students and 14 for preschool education students (Cologon, 2012; Tsakiridou, & Polyzopoulou, 2014).

### 3.3 Procedure

In order for the survey to be conducted, a permission was granted by the Greek Ministry of Education, Research and Religious Affairs and it was followed a contact with University rectors (Alnahdi, Saloviita, & Elhadi, 2019), who were given a text, where there were presented information about the purpose of the study and a copy of the psychometric tool. Then, the questionnaires were distributed, in the auditorium (Sharma, et al., 2009), during lesson sessions (Romi & Leyser, 2006) or before the start of the teaching, with the academic teacher permission (Sharma et al., 2003), who was present during the procedure (Gilor, & Katz, 2018). The students were asked to complete the questionnaire and to return it to the lecturer or the researcher (Sharma, et al., 2009). Completion procedure lasted 10-15 minutes (Romi & Leyser, 2006). Students

were informed about the anonymity of the research and that their participation is voluntary (Gilor, & Katz, 2018), that they can withdraw for the procedure, anytime they wanted, without having responded to all the questions, or delivering the paper with no answers (Sharma, Moore, & Sonawane, 2009).

Each of the participants completed the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995) and the demographics. Before starting the completion procedure, an introductory briefing was preceded and the students were given relevant instructions (Gilor, & Katz, 2018).

### 3.4 Research Questions

The present study aimed to answer the following questions:

- What attitudes are adopted by the preschool and primary education students toward special educational needs students and their inclusion?
- What attitudes express preschool and primary education students toward students with physical, academic, behavioral and social difficulties?

The study focused on the assessment of the variables, which are related to the pedagogy students' attitudes, according to previous surveys (Sharma, et al., 2009; Forlin, et al., 2010).

### 3.5 Statistical Analysis

In order for the data to be analyzed, it was used the Statistical Package of Social Analysis (SPSS 20). Particularly, it was used Factor analysis, Cronbach' s a reliability analysis, Pearson correlation analysis, Independent Samples T-test and Univariate ANOVA, to control eventual differences among variables.

## 4. Results

### 4.1 Factor analysis for the Attitudes Toward Inclusive Education Scale (Wilczenski, 1992; 1995)

The scale for the Greek students' participants consists of sixteen (16) themes and the factorial analysis performed for the Greek version of the scale, using the principal component analysis with varimax rotation, confirmed the four factors of the original scale: KMO = 0.897, Bartlett's test – $x^2$ = 1068.340, df = 120, p = 0.000, p < 0.001, where they explain the 65.204% of the total variance. The four factors contain the same number of items, as the original scale. Differences referred to the factor analysis were observed in another study (Kuyini & Desai, 2007), where the results showed five factors: (language difficulties, social difficulties, behavior problems, students with low learning abilities, intellectual difficulties). In a similar study, Cronbach's a was found equal to a = 0.89 (Sharma et al., 2008) and in another study the instrument showed to have a good reliability a = .79 (Stella, Forlin, & Lan, 2007). In a study, where preschool students participated, the total Cronbach's a presented a good grade of reliability, a = .867 (Seçer, 2010),

The 1st factor – physical disabilities (a = .846), contains four (4) items and explains the 21.814% of the total variance (table 5, table 11), the 2nd factor – academic difficulties (a = .765), contains four (4) items and explains the 20.251% of the variance (table 6, table 11), the 3rd factor – behavior problems (a = 863) is consisted of four items and explains the 12.665% of the variance (table 7, table 11) and the 4th factor – social difficulties (a = .725) explains the 10.747% of the variance (table 8, table 11).

In a relevant study (Brandes et al., 2012), Cronbach's a was formed as following: a = .94 for physical disabilities, a = .87 for academic difficulties, a = .93 for behavioral difficulties, a = .83 for social difficulties and a = .95 for total Cronbach' s a. Factor analysis of a similar study (Sharma, Moore, & Sonawane, 2009) showed four factors: physical disabilities (a = .40), academic disabilities (a = .45), behavior problems (a = .60) and a = .74 for the total Cronbach's a.

Pearson's' correlation for four factors is characterized as a moderate correlation (Table 9). The degree of correlation indicates between the factors is presented in a low, moderate and strong correlation. The correlation shows a positive direction and it is a statistical significant correlation, p = 0.01. The measures of mean and standard deviation where calculated as followed: for physical disabilities, mean is equal to 3.41 and standard deviation equal to 1.27, for academic difficulties, mean is equal to 3.46 and standard deviation equal to 0.76, for behavior problems, mean is equal to 4.83 and standard deviation equal to 1.60, and for social difficulties, mean is equal to 4.76 and standard deviation equal to 0.83 (Table 10).

**Table 5:** Factor analysis for the Greek version of the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| Items | 1st Factor | | |
|---|---|---|---|
| | **Physical Disabilities** | **M** | **SD** |
| Students who cannot hear conversational speech should be in regular classes. (14) | 0.790 | 3.12 | 1.55 |
| Students who use sign language or communication boards should be in regular classes. (11) | 0.746 | 3.46 | 1.56 |
| Students who cannot read standard print and need to use braille should be in regular classes. (7) | 0.706 | 3.21 | 1.53 |
| Students who cannot move with the help of others should be in regular classes. (3) | 0.505 | 3.86 | 1.53 |

**Table 6:** Factor analysis for the Greek version of the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| Items | 2nd Factor | | |
|---|---|---|---|
| | **Academic Difficulties** | **M** | **SD** |
| Students whose academic achievement is 2 or more years below the other students should be in regular classes. (1) | 0.881 | 3.34 | 1.46 |
| Students who need an individualized functional academic program in everyday reading and math skills should be in regular classes. (13) | 0.774 | 3.55 | 1.49 |
| Students who need training in self-help skill and activities of daily living should be in regular classes. (10) | 0.715 | 3.62 | 1.48 |

| | | | |
|---|---|---|---|
| Students whose academic achievement is 1 year below the other students in the grade should be in regular classes. (5) | 0.476 | 4.39 | 1.21 |

**Table 7:** Factor analysis for the Greek version of the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| | 3rd Factor | | |
|---|---|---|---|
| **Items** | **Behavior Problems** | **M** | **SD** |
| Students who are verbally aggressive toward their peers should be in regular classes. (8) | 0.844 | 3.90 | 1.54 |
| Students who are physically aggressive toward their peers should be in regular classes. (2) | 0.822 | 3.76 | 1.50 |
| Students who do not follow school rules for conduct should be in regular classes. (15) | 0.819 | 3.82 | 1.53 |
| Students who cannot control their behavior and disrupt activities should be in regular classes. (12) | 0.433 | 4.05 | 1.36 |

**Table 8:** Factor analysis for the Greek version of the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| | 4th Factor | | |
|---|---|---|---|
| **Items** | **Social Difficulties** | **M** | **SD** |
| Students who are shy and withdrawn should be in regular classes. (4) | 0.792 | 5.35 | 0.90 |
| Students whose speech is difficult to understand should be in regular classes. (6) | 0.720 | 4.64 | 1.12 |
| Students who have difficulty expressing their thoughts verbally should be in regular classes. (9) | 0.638 | 4.75 | 1.17 |
| Students who are frequently absent from school should be in regular classes. (16) | 0.421 | 4.24 | 1.28 |

**Table 9:** Pearson r correlations between the Factors for the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| **Factors** | **1** | **2** | **3** | **4** |
|---|---|---|---|---|
| Physical | 1 | .734** | .639** | .540** |
| Academic | .734** | 1 | .408** | .284** |
| Behavioral | .639** | .408** | 1 | .509** |
| Social | .540** | .284** | .509** | 1 |

Note: **p<0.01

**Table 10:** Factors' mean and standard deviation for the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| **Factors** | **M** | **SD** |
|---|---|---|
| Physical Disabilities | 3.41 | 1.27 |
| Academic Difficulties | 3.46 | 0.76 |
| Behavior Problems | 4.83 | 1.60 |
| Social Difficulties | 4.76 | 0.83 |

**Table 11:** Factors' Cronbach's a for the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995)

| **Factors** | **Cronbach's $\alpha$** |
|---|---|
| | N= 348 |
| Physical Disabilities | .846 |
| Academic Difficulties | .765 |
| Behavior Problems | .863 |
| Social Difficulties | .725 |

### 4.2 The correlation between demographics and preschool - primary education students' attitudes toward children with special educational needs and their inclusion

Gender emerged as a differentiated variable for two factors: behavior problems and social difficulties. Men attitudes (M = 4.38, SD = 1.17) are different from women attitudes (M = 4.89, SD = 1.63) for behavior problems factor (t = 2.305, df = 48.538, p = .026, p < 0.05). Also, men attitudes (M = 4.24, SD = 0.79) differ from women attitudes (M = 4.83, SD = 0.80) for social difficulties (t = 4.093, df = 327, p = .000, p < 0.001) (table 13, table 14).

Regarding university type, there are statistical significant differences for preschool students (M = 3.92, SD = 1.23) and primary education students (M = 2.87, SD = 1.08) for physical disabilities (t = 8.462, df = 340.552, p = .000, p < 0.001). Also, there are statistical significant differences between preschool university students (M = 5.54, SD = 1.34) and primary university students (M = 4.07, SD = 1.51) for behavior problems (t = 9.512, df = 339, p = .000, p < 0.001). Preschool students' attitudes (M = 5.02, SD = 0.79) are significant different from primary student's attitudes (M = 4.47, SD = 0.78) for social difficulties (t = 6.397, df = 328, p = .000, p < 0.001) (table 12, table 13, table 14).

Age influenced students' attitudes for physical disabilities (F 2, 300 = 4.498, p = 0.012, p < 0.05). LSD test showed statistical differences for students aged 22 years old (M = 3.28, SD = 1.26) and students age range from 28 to 38 years old (M = 4.01, SD = 0.98). Furthermore, there are statistical differences for behavior problems (F 2, 299 = 3.399, p = 0.035, p < 0.05). Analysis according to LSD the differences emerged between students of 22 years old (M = 4.74, SD = 1.56) and students of 28-38 years old (M = 5.53, SD = 1.31) (table 15)

Having or not a friend with disabilities differentiates students' attitudes for physical disabilities and behavior problems. Students who have a friend with special needs (M = 3.66, SD = 1.31) adopt different attitudes to those of students who have no friend with special needs (M = 3.30, SD = 1.25) for physical disabilities (t = 2.326, df = 339, p = .021, p< 0.05). In the same way, students' attitudes with a special needs friend (M = 5.2, SD = 1.36) are not similar to those who have not any disabled friend (M = 4.69, SD = 1.66) for behavior problems (t = 2.741, df = 194.430, p = .007, p< 0.01) (table 12, table 13)

Additionally, students who have attended special education seminars (M = 3.91, SD = 1.21) are expressing different attitudes to those who have not attended any

seminar (M = 3.24, SD = 1.26) for physical disabilities (t = 4.374, df = 340, p = .000, p< 0.001). Conjointly, students' attitudes who have participated in special education seminars (M = 5.3, SD = 1.40) are different to those attitudes that express students who have not participated in special education seminars (M = 4.67, SD = 1.63) for behavior problems (t = 3.267, df = 331, p = .001, p< 0.01) (table 12, table 13).

Supplementary, the University course about disability and special needs functions as a differentiated variable for physical disabilities and behavior problems factors. Students' attitudes who have attend a relevant course (M. O. = 3.33, T. A. = 1.27) present different attitudes from those who have not attend a special needs course (M = 3.75, SD = 1.27) for physical disabilities (t = 2.286, df = 336, p = .023, p< 0.05). Secondly, students who have participated in a disability course (M. O. = 4.69, T. A. = 1.60) and students who have not attend a similar course (M = 5.45, SD = 1.39) differed for behavior problems (t = 3.360, df = 332, p = 0.001, p < 0.01) (table12, table 13).

Comparatively to previous experience with disabled people or special needs students, it was observed that students who had a teaching or working experience with persons or students with special needs (M = 3.99, SD = 1.24) are different to those attitudes which are expressed by students who dispose no previous experience (M = 3.31, SD = 1.26) for physical disabilities (t = 3.302, df = 336, p = 0.001, p < 0.01). Attitudes differed also among those who had previous experience (M = 5.76, SD = 1.42) and those who haven't any previous experience (M = 4.68, SD = 1.58) for behavior problems (t = 4.146, df = 333, p = 0.000, p < 0.001). Students with previous teaching or working experience with persons or students with special needs (M. O. = 5.11, T. A. = 0.91) are adopting more favorable attitudes than those students who have no relevant experience (M = 4.69, SD = 0.81) for social difficulties (t = 3.032, df = 322, p = 0.003, p < 0.01) (table 12, table 14).

Students who dispose knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center (M. O. = 5.07, T. A. = 1.60) presented higher scores than those who have no relevant knowledge (M = 4.35, SD = 1.47) behavior problems (t = 4.043, df = 337, p = 0.000, p < 0.001). In addition to this, students who are acknowledged of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center (M = 4.86, SD = 0.84) develop different attitudes in comparison to students who haven't any relevant knowledge (M = 4.56, SD = 0.78) for social difficulties (t = 3.104, df = 362, p = 0.002, p < 0.01) (table 14).

There were no found statistically significant differences between students' attitudes according to having a family member with disability, oorganization where the special education seminars were conducted (University, other organizations, Greek Ministry of Education, Research and Religious Affairs), knowledge of Special Education Act, Subject of experience of persons with special needs (practical training, voluntary occupation, creative occupation – full time employment, private lessons – parallel support coeducation) and occupation during the process of the survey.

**Table 12:** Means and standard deviations for statistically significant differences among the factors for the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995), according to t-test

| Factors | Groups (N = 348) | N | M | SD |
|---|---|---|---|---|
| **Physical Disabilities** | | | | |
| **University type** | | | | |
| | Preschool education | 178 | 3.92 | 1.23*** |
| | Primary education | 166 | 2.87 | 1.08*** |
| **Having a friend with special needs** | | | | |
| | Yes | 93 | 3.66 | 1.31* |
| | No | 248 | 3.30 | 1.25* |
| **Special education seminars** | | | | |
| | Yes | 90 | 3.91 | 1.21*** |
| | No | 252 | 3.24 | 1.26*** |
| **University course about disability and special needs** | | | | |
| | Yes | 279 | 3.33 | 1.27* |
| | No | 59 | 3.75 | 1.27* |
| **Experience of persons with special needs** | | | | |
| | Yes | 42 | 3.99 | 1.24** |
| | No | 296 | 3.31 | 1.26** |

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

**Table 13:** Means and standard deviations for statistically significant differences among the factors for the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995), according to t-test

| Factors | Groups (N = 348) | N | M | SD |
|---|---|---|---|---|
| **Behavior Problems** | | | | |
| **Gender** | | | | |
| | Men | 34 | 4.38 | 1.17* |
| | Women | 306 | 4.89 | 1.63* |
| **University type** | | | | |
| | Preschool education | 178 | 5.02 | 0.79** |
| | Primary education | 163 | 4.47 | 0.78** |
| **Having a friend with special needs** | | | | |
| | Yes | 91 | 5.18 | 1.36** |
| | No | 247 | 4.69 | 1.66** |
| **Special education seminars** | | | | |
| | Yes | 90 | 5.29 | 1.40** |
| | No | 249 | 4.67 | 1.63** |
| **University course about disability and special needs** | | | | |
| | Yes | 276 | 4.69 | 1.60** |
| | No | 58 | 5.45 | 1.39** |

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

**Table 14:** Means and standard deviations for statistically significant differences among the factors for the Attitudes Toward Inclusive Education Scale (Wilczenski, 1992; 1995), according to t-test

| **Factors** | **Groups (N = 348)** | | **N** | **M** | **SD** |
|---|---|---|---|---|---|
| **Behavior Problems** | | | | | |
| | Experience with persons with special needs | | | | |
| | | Yes | 41 | 5.76 | 1.42*** |
| | | No | 294 | 4.68 | 1.58*** |
| | Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center | | | | |
| | | Yes | 224 | 5.07 | 1.60*** |
| | | No | 115 | 4.35 | 1.47*** |
| **Social Difficulties** | Gender | | | | |
| | | Men | 34 | 4.24 | 0.79*** |
| | | Women | 295 | 4.83 | 0.80*** |
| | University type | | | | |
| | | Preschool education | 174 | 5.02 | 0.79*** |
| | | Primary education | 156 | 4.47 | 0.78*** |
| | Experience with persons with special needs | | | | |
| | | Yes | 40 | 5.11 | 0.91** |
| | | No | 284 | 4.69 | 0.81** |
| | Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center | | | | |
| | | Yes | 214 | 4.86 | 0.84** |
| | | No | 114 | 4.56 | 0.78** |

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

**Table 15:** Means and standard deviations for statistically significant differences among the factors for the Attitudes toward Inclusive Education Scale (Wilczenski, 1992; 1995), according to LSD test

| **Factors** | **Groups (N = 348)** | | **N** | **M** | **SD** |
|---|---|---|---|---|---|
| **Physical Disabilities** | **University students age** | | | | |
| | | 22 years old | 150 | 3.28 | 1.26* |
| | | 28 – 38 years old | 26 | 4.01 | 0.98* |
| **Behavior Problems** | **University students age** | | | | |
| | | 22 years old | 151 | 4.74 | 1.56* |
| | | 28 – 38 years old | 26 | 5.53 | 1.31* |

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

## 5. Discussion

The students of the present research seem to develop moderate attitudes toward to students with physical disabilities and academic difficulties within the general class compared to students who have behavioral problems and social difficulties for whom they tend to accept and advocate for teaching them in the context of inclusive education, a result which shows that they are capable of effectively managing social relationships (Romi & Leyser, 2006). According to another study (Wilczenski, 1991),

students of pedagogy universities support the idea of integration and are willing to teach in the general education class students with difficulties that do not hinder their own learning process or the learning process of other students. In a later study (Wilczenski, 1992), students seemed more willing to integrate into classroom education, pupils with deficits in social behavior compared to students with physical disabilities, they expressed a higher degree of agreement to accept students with physical disabilities than students were they are experiencing learning difficulties and hence agreed with the adjustment of curriculum, and expressed a more favorable attitude towards students with academic difficulties, than toward students who have been experiencing behavioral problems.

Women express more favorable attitudes than men toward the inclusion of students with behavior problems and social difficulties, a result that comes in agreement with previous studies (Werner & Davidson, 2004; Romi, & Leyser, 2006; Stella et al., 2007). It seems that women express a higher level of self-efficacy during teaching process and possess the ability to manage effectively special educational needs students in the general classroom (Romi, & Leyser, 2006).

Additionally, concerning the University studies, preschool University students tend to express more favorable attitudes toward the inclusion of students with physical disabilities, behavior problems and social difficulties in comparison to primary education students. In general, preschool education students dispose positive attitudes toward inclusion (Rakap, Cig, & Parlak-Rakap 2017) but other study showed no difference between preschool education students and primary education students (Forlin, Cedillo, Romero-Contreras, Fletcher, & Rodriguez Hernández, 2010).

Younger students adopt less favorable attitudes toward students with physical disabilities and behavior problems. It seems that older students, kept under the age of youth period, acquire over age, an increasingly tolerant attitude as a result of the emphasis given to eliminating stereotypes (Goreczny et al., 2011).

Having a friend with disabilities affects university students' attitudes in a positive way, regarding the inclusion of students with physical disabilities and behavior problems, a result, that is observed in previous studies as well (Gething. 1993; Goreczny et al., 2011). It is pointed out that the environment where the contact takes place induces an important influence, as it is about a human context where there are developed and assessed social roles (Lyons, 1991).

Special education seminars affected positively university students' attitudes toward the inclusion of pupils with physical disabilities and behavioral problems. It seems that these programs contribute to the elimination of prejudices toward the persons with disabilities (Goreczny et al., 2011) and commitment that derives from participating in these seminars reinforce feelings of trust in order to acquire knowledge related to the appropriate behavior expression (Stella et al., 2007).

Students who have attended a university course about disability and special needs express less favorable attitudes toward the inclusion of students with physical disabilities and behavior problems than those who haven't attend similar courses, a

result that shows the possible incomplete planning of these courses (Tait & Purdie, 2000). Besides, in case this course includes theoretical knowledge only and it is not focused on training in classroom management, development of a psycho-emotional teacher-student relationship, seems that it affects students in a discouraging way (Garwood & Van Loan, 2018).

Teaching or working experience with special needs persons or students differentiate students' attitudes for physical disabilities, behavior problems and social difficulties, a result that comes in agreement with previous research (Tervo et al., 2002). In a relevant study, experience didn't present the same influence, as it seems that contact with a student with disabilities or inclusive practices didn't affect positively students' attitudes as it seems that type of contact, quality of contact and frequency affect in a positive way students' attitudes (Rakap, Cig, & Parlak-Rakap, 2017).

Knowledge of the purpose and the functioning of Greek Public Diagnostic, Differential Diagnosis and Support Center contributes to the positive attitude formation for the inclusion of students with behavior problems and social difficulties. Future teachers who can receive guidance and support by this public service experience low levels of concerns for the effective implementation of appropriate inclusive teaching method (individualized learning, cooperative learning, peer teaching) (Sharma et al., 2008).

Additionally, a family member with special needs didn't show a variance in students' attitudes (Cansiz, & Cansiz, 2018). The organization where the special education seminars were conducted, didn't reveal any influence, as the subgroups are represented in a low frequency. The object of previous experience seemed that it didn't offer adequate knowledge and the appropriate skills to form students' attitudes. The employment of the students during the current phase of the research is proved to be a typical occupation, where students choose to work in order to ensure an income. Knowledge of legal framework of special education did not differentiate University students' attitudes and it was observed as a neutral variable. It seems that students are not sufficiently prepared during their academic studies, that this kind of awareness helps them to perceive and assume their responsibilities to teach to students with disabilities, and enrich their perceptions about the available sources regarding their work (Sharma, Moore, & Sonawane, 2009).

In the current study, no differences were observed related to universities students' attitudes toward the inclusion of pupils with academic difficulties. It is assumed that the low level of belief in their abilities also influences their confidence to apply an appropriate teaching method that responds to the academic difficulties of students with problems in school performance and thus forms an indifferent attitude toward the students' population who affront these difficulties. It seems that students are worried about their own inadequacy to meet the needs of disabled students and whether the school they are going to occupy will be fully equipped to provide the necessary equipment for them (Stella, Forlin, & Lan, 2007).

## 6. Recommendations

Research data are useful to make sure that those responsible for organizing training programs understand to what extent future teachers maintain positive attitudes towards inclusive education (Alnahdi, Saloviita, & Elhadi, 2019). Also, it is very important for future teachers to approach pupils with special needs as a human personality and to engage in a relationship of interest and care, since otherwise the unpopular behaviors expressed by a student are interpreted to an excessive extent (Garwood & Van Loan, 2018).

Further research should be oriented on the motivation of male teachers' self-efficacy as they are hold the belief that they are unable to exercise the necessary control and management of pupils who express aggressive behaviors or have some form of disability (Stella et al., 2007). The fact that teachers and students in pedagogical departments experience low feelings of self-confidence for effective teaching to pupils with special educational needs is a subject to be investigated (Gokdere, 2012), as both attitudes and self-efficacy explain a large percentage of the willingness to teach in inclusive education classes (Gilor, & Katz, 2018).

Furthermore, all data was collected on the basis of a self-reporting scale and, as it is usually the case with surveys based on psychometric self-referencing tools, there is a likelihood that the answers are expressed in a random and less cautious manner. Additionally, it is generally accepted that the educational community is largely represented by the female gender, as women's professional preferences are highly directed towards the science of education.

## 7. Conclusion

Greek University students are willing to teach to special educational needs students and they express a quite positive attitude toward students with behavior problems and social difficulties. The current study contributed to the confirmation of the variables affecting role, that form future teachers' attitudes. Pre-service teachers should access a life-long training program, in order to gain, maintain, and assess the appropriate knowledge and experience which allow them to meet the needs of all the students in the general classroom.

## References

Alnahdi, G. H., Saloviita, T., & Elhadi, A. (2019). Inclusive education in Saudi Arabia and Finland: pre-service teachers' attitudes. *Support for Learning*, *34*(1), 71-85.

Brandes, J. A., McWhirter, P. T., Haring, K. A., Crowson, M. H., & Millsap, C. A. (2012). Development of the indicators of successful inclusion scale (isis): Addressing ecological concerns. *Teacher Development*, *16* (4), 463-488.

Cansiz, M., & Cansiz, N. (2018). Sentiments, Attitudes, and Concerns about Inclusion: Early Years in Teacher Education Programs. *Online Submission*, *20*(1), 167-183.

Cardona, C. M. (2009). Teacher education students' beliefs of inclusion and perceived competence to teach students with disabilities in Spain'. *Journal of the International Association of Special Education*, *10* (1), 33-41.

Çikili, Y., & Karaca, M. A. (2019). Examination of teacher candidates' attitudes, emotions, and anxieties regarding inclusive education by different variables. *European Journal of Special Education Research*, *4*(1), 115-130.

Findler, L., Vilchinsky, N., & Werner, S. (2007). The multidimensional attitudes scale toward persons with disabilities (MAS) construction and validation. *Rehabilitation Counseling Bulletin*, *50*(3), 166-176.

Forlin, C., Jobling, A., & Carroll, A. (2001). Preservice teachers' discomfort levels toward people with disabilities. *The Journal of International Special Needs Education*, *4*, 32-38.

Forlin, Chris, Loreman, Tim, Sharma, Umesh and Earle, Chris (2009). Demographic differences in changing preservice teachers' attitudes, sentiments and concerns about inclusive education. *International Journal of Inclusive Education,13*(2),195 – 209.

Forlin, C., Cedillo, I. G., Romero-Contreras, S., Fletcher, T., & Rodriguez Hernández, H. J. (2010). Inclusion in Mexico: Ensuring supportive attitudes by newly graduated teachers. *International Journal of inclusive education*, *14*(7), 723-739.

Garwood, J. D., & Van Loan, C. L. (2018). Pre-service educators' dispositions toward inclusive practices for students with emotional and behavioural difficulties. *International Journal of Inclusive Education*, 1-16.

Gething, L. (1993). Attitudes toward people with disabilities of physiotherapists and members of the general population. *Australian Journal of Physiotherapy*, *39*(4), 291-296.

Gilor, O., & Katz, M. (2018). Pre-service Teachers' Willingness to Engage in Inclusive Teaching: An Explanatory Model. *Journal of International Special Needs Education*, 21(2), 1-14.

Gokdere, M. (2012). A Comparative Study of the Attitude, Concern, and Interaction Levels of Elementary School Teachers and Teacher Candidates towards Inclusive Education. *Educational Sciences: Theory and Practice*, *12*(4), 2800-2806.

Goreczny, A. J., Bender, E. E., Caruso, G., & Feinstein, C. S. (2011). Attitudes toward individuals with disabilities: Results of a recent survey and implications of those results. *Research in developmental disabilities*, *32*(5), 1596-1609.

Hunsaker, M. R. (2018). Development, validation and implementation of a mainstreaming process to transition students form self-contained special education into general education placements. *European Journal of Special Education Research*, *3*(4), 20-81.

Kuyini, A. B., & Desai, I. (2007). Principals' and teachers' attitudes and knowledge of inclusive education as predictors of effective teaching practices in Ghana. *Journal of Research in Special Educational Needs*, *7*(2), 104-113.

Lyons, M. (1991). Enabling or disabling? Students' attitudes toward persons with disabilities. *The American Journal of Occupational Therapy*, *45*(4), 311-316.

Oswalt, M., & Swart, E. (2011). Addressing South-African preservice teachers' sentiments, attitudes, and concerns regarding inclusive education. *International Journal of Disability, Development and education, 58 (4),* 389-403.

Rakap, S., Cig, O., & Parlak-Rakap, A. (2017). Preparing preschool teacher candidates for inclusion: Impact of two special education courses on their perspectives. *Journal of Research in Special Educational Needs*, *17*(2), 98-109.

Romi, S., & Leyser, Y. (2006). Exploring inclusion preservice training needs: a study of variables associated with attitudes and self-efficacy beliefs. *European Journal of Special Needs Education*, *21*(1), 85-105.

Seçer, Z. (2010). An analysis of the effects of in-service teacher training on Turkish preschool teachers' attitudes towards inclusion. *International Journal of Early Years Education.* 18(1), 43-53.

Sharma, U., Ee, J., & Desai, I. (2003). A comparison of Australian and Singaporean pre-service teachers' attitudes and concerns about inclusive education. *Teaching and learning*, *24*(2), 207-217.

Sharma, U., Forlin, C., Loreman, T., & Earle, C. (2006). Pre-Service Teachers' Attitudes, Concerns and Sentiments about Inclusive Education: An International Comparison of Novice Pre-Service Teachers. *International journal of special education*, *21*(2), 80-93.

Sharma, U., Forlin, C., & Loreman, T. (2008). Impact of training on pre-service teachers' attitudes and concerns about inclusive education and sentiments about persons with disabilities. *Disability & Society, 3*(7), 773-785.

Sharma, U., Moore, D., & Sonawane, S. (2009). Attitudes and concerns of pre-service teachers regarding inclusion of students with disabilities into regular schools in Pune, India. *Asia-Pacific Journal of Teacher Education*, *37*(3), 319-331.

Stella, C. S. C., Forlin, C., & Lan, A. M. (2007). The influence of an inclusive education course on attitude change of pre-service secondary teachers in Hong Kong. *Asia-Pacific Journal of Teacher Education*, *35*(2), 161-179.

Tait, K., & Purdie, N. (2000). Attitudes toward disability: Teacher education for inclusive environments in an Australian university. *International Journal of Disability, Development and Education*, *47*(1), 25-38.

Tervo, R. C., Azuma, S., Palmer, G., & Redinius, P. (2002). Medical students' attitudes toward persons with disability: a comparative study. *Archives of physical medicine and rehabilitation*, *83*(11), 1537-1542.

Tsakiridou, H., & Polyzopoulou, K. (2014). Greek teachers' attitudes toward the inclusion of students with special educational needs. *American Journal of Educational Research*, *2*(4), 208-218.

Werner, P., & Davidson, M. (2004). Emotional reactions of lay persons to someone with Alzheimer's disease. *International Journal of Geriatric Psychiatry, 19*, 391–397.

Weber, R. P. (1990). *Basic content analysis* (Vol. 49). Sage Publications, Incorporated.

Wilczenski, F. L. (1991). Use of the" Attitudes toward Mainstreaming Scale" with Undergraduate Education Students. Paper presented at the *Annual Meeting of the New England Educational Research Organization*, April 1991, Portsmouth, NH. (ERIC Document Reproduction Service No. ED 332 992).

Wilczenski, F. L. (1992). Measuring attitudes towards inclusive education, *Psychology in the Schools, 29*(1), 306–312.

Wilczenski, F. L. (1995). Development of a scale to measure attitudes towards inclusive education. *Educational and Psychological Measurement, 55*(2), 291-299.