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Inclusion in the Greek Secondary School: Students' Attitudes Concerning Their Peers With Special Educational Needs in the General Education.

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Abstract

The present research is aimed to assess secondary general education students' attitudes concerning the inclusion of their peers with special educational needs and to reveal the determinants that are associated to their attitudes. The survey involved 1348 secondary students, who attend the Greek general school and completed the Chedoke - McMaster Attitudes Toward Children with Handicaps Scale, (CATCH), (Rosenbaum, et al., 1986). The results showed that students adopt generally neutral attitudes concerning their classmates with a special need. A complex of variables, like gender, school grade, year of birth, age, place of residence, contact with a friend with special needs, disability type, disability grade and having a member with disability in the family or in the extended family environmenthave a differentiating effect on students' attitudes on their peers with disability. The research underlined the importance of reinforcing children' s attitudes concerning their special needs peers, in order for the policy of inclusive education to be implemented successfully.

Keywords: attitudes, secondary students, special educational needs, inclusion

1. Introduction

As pupils with special educational needs often experience exclusionary feelings from the peer group, the positive attitude of their peers towards them is important for the development of social participation in inclusive education classrooms (Hellmich&Loeper, 2019).Measuring students' attitudes towards their peers with special needs can be an important step for social participation and inclusive education of pupils with disabilities in general education schools (Bossaert et. al., 2011).

2. General secondary education students' attitudes toward the students with special educational needs.

In general, students adopt a positive attitude toward the mainstreaming of their peers with disabilities (Rosenbaum et al., 1986; Bossaert, et. al., 2011). Students present the highest score in subscales concerning the affective and behavior aspect of attitudes and the lowest score in the cognitive component of attitude (Vignes et al., 2009), a result that was confirmed by another study (Tirosh, Schanin, & Reiter, 1997).Research has showed that there are different variables that influence children's beliefs, feelings and behavior toward their schoolmates with special educational needs, and their inclusion in the typical education settings. According to gender, girls tend to express more favorable attitudes than boys (Rosenbaum et al., 1986; Armstrong, Rosenbaum & King, 1988; Vignes et al., 2009), which was remarked in the three subscales of attitudes: affective, cognitive, behavioral (Rosenbaum, et al., 1986), in the two subscales: affective and cognitive (Gonçalves&Lemos, 2014). Other study didn't confirm the differentiated function of gender (Thomson & Lilly 1995).

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Contact and friendship with a school mate with disability emerge as a positive influence in students' attitudes toward their peers with special educational needs (Rosenbaum et al., 1986; Tirosh, Schanin, & Reiter, 1997; Vignes et al., 2009). There are congruent result about the variable of a family member. A close family member with disability contribute to a positive attitude (Vignes et al., 2009), but in other studies (Rosenbaum, Armstrong & King, 1986; Gonçalves, & Lemos, 2014) the same variable didn't reveal a differentiated influence. Furthermore, The place of residence affects the formation of pupils' attitudes towards pupils with special needs, especially for those who live in urban areas (Gash & Coffey, 1995). Age plays in important role in children' s attitudes, as children in early adolescent age express a high level of social interest toward their special needs peers didn't (Gash & Coffey, 1995), a fact that influence their attitudes in a positive way. In other studies (Rosenbaum, Armstrong, & King, 1988; Vignes, et al., 2008), age didn't reveal any differentiating effect, but in the research of Blackman (2016) secondary students adopt negative attitudes toward their classmates with disabilities. Students who attended a school, where they wherecoeducated with a pupil with intellectual disabilities, adopted a positive attitude (Alnahdi, 2019). In another study (Vignes et al., 2009), students scored higher in a scale concerning attitudes towards physical disabilities, as it was also found in a similar studies (Gottlieb & Gottlieb, 1977; Tang et al., 2000).

3. **Method**

3.1 Sample

The participants of the present study were 1348 secondary students, where 557 are boys and 702 are girls. Table 1 and table 2 presents the demographic characteristics of the participants.

Table 1. Demographic characteristics of the participants

Demographic variables	Participants N = 1348	Total (f)	Relative frequencies (%)
Disability type	Physical disability	77	5.7
	Intellectual disability	155	11.5
	Learning difficulties	70	5.2
	Multiple disabilities	67	5.0
Disability grade	Mild disability	97	7.2
	Severe disability	114	8.5
Contact / shared activity with a special needs classmate	No	899	66.7
	Yes	205	15.2
Special needs family member	No	1077	79.9
	Yes	146	10.8
Identifying the member with disability in the family	Family (mother, father, brother, sister)	42	3.1
	Relatives (grandfather, grandmother, uncle, aunt)	107	7.9

Missing values: 369 for disability type (27.4%), 1137 for disability grade (84.3%), 244 for contact or shared activity with a special needs classmate (18.1%), 125 for special needs family member (9.3%), 1199 for identifying the member with disability in the family (88.9%).

Table 2. Demographic characteristics of the participants

Demographic variables	Participants N = 1348	Total (f)	Relative frequencies (%)
Gender	Boy	557	41.3
	Girl	702	52.1
Place of residence	Big city	618	45.8
	Provincial area	537	39.8
Age	12-14years old	149	11.1
	15-16 years old	321	23.8
	17-18 years old	111	8.2
School	Junior high school	586	43.5
	High school	734	54.5
Year of birth	1998-1999	72	5.3
	2000	191	14.2
	2001	282	20.9
	2002	313	23.2
	2003	211	15.7
	2004-2005	185	13.7
Students' special needs	No	1286	95.4
	Yes	18	1.3
Sector covered by the special needs	Learning disabilities (dysorthografia, dysgrafia)	4	0.3
	Speech difficulties	5	0.4
Friend with disability	No	936	69.4
	Yes	340	25.2
Place where the friend with disability was met	Primary school – integration classroom	244	18.1
	Free time activities	60	4.5
	Friend	74	5.5
Friend with special needs attendance in the same school	No	438	32.5
	Yes	157	11.6

Missing values: 89 for gender (6.6%), 29 for place residence (2.2%), 767 for age (56.9%), 28 for grade (2.1%), 94 for year of birth (7.0%), 44 for the participants' special need (3.3), 1339 for the sector special need is related to (99.3), 72 γιατοφίλομεειδικέςανάγκες (5.3), 970 for place where the friend with disability was met (7.2), 753 for friend with special needs attendance in the same school (55.9%).

3.2 Instrument

In order for the research to be contacted, it was used the Chedoke-McMaster Attitudes Towards Children with Handicaps questionnaire, (CATCH) (Rosenbaum, et al., 1986). The original scale was designed in Canada, for use with students aged 9 to 13 years old, and it consists of items that are related to the experiences of the children who are at the mentioned above (Beck & Dennis, 1996; Rosenbaum, et al., 1986). The scale has been used by many researchers, in order to evaluate children' s attitudes, covering a wide range of age: 10-15 years old (Bossaert&Petry, 2013), 11 to 20 years old (Bossaert et al., 2011). The scale showed a high level of reliability (a= .90) and the level of test-retest reliability (a= .74) offers the possibility to the researcher to examine group differences, concerning gender, friendship with a special needs person, voluntary participation in education programs that assess students' interactions and friendships (Rosenbaum, Armstrong, & King, 1988).It is based on the Triandis model of attitudes (1971). The psychometric tool is consisted of 36 items, where each dimension is represented by 12 questions, which is an equal number of statements, positively and negatively formatted (Godeau et al., 2010), organized in random order.

The negatively worded items are inversely coded (Thomson &Lilllie, 1995). The factor analysis showed good psychometric qualities for the three subscales of the questionnaire, affective, behavioral and cognitive which are a = 0. 81, a = 0.82, a = 0.76 respectively. The questionnaire is scored on a 5-item Likert scale (0 = totally disagree to 4 = totally agree) and the items are related to the affective dimension (I would be happy if I had a child with disabilities as a friend), the behavioral dimension (I would talk to a disabled child, even if I did not know it) and the cognitive dimension of the attitude (the children with disabilities feel sorry for themselves) (Rosenbaum, Armstrong, & King, 1986).

Each dimension total score is derived by the total sum of the items, dividing by the number of items and multiplying by 10. High score is identified as positive attitude. The scale has been used in many studies (De Boer et al., 2012; Bossaert&Petry, 2013; DeLaat et al., 2013; Godeau et al., 2010; Vignes et al., 2009), in its original structure (Rosenbaum et al., 1986). For the Greek version of the questionnaire, the items were translated in order to measure the attitudes of the secondary school pupils. For this reason, bilingual translators undertook the translation independently. After the completion of the procedure, items were tested, after being administered to a small sample of the study population (De Boer et al., 2012) (5 secondary students), where they were asked to complete the questionnaire and expressing comments on the wording and content of the questions to identify ambiguities and make improvements to the expression. Then the translation was given to two teachers to check the wording of the items, understand the meaning of the items and other issues. Then, a "reverse translation" followed and the original questionnaire was translated into English by two researchers specializing in the design of attitudes psychometric tools to verify the validity of content through structured content analysis (Weber, 1990). In the current survey, there were used the phrases "children with disabilities and / or special educational needs" (Blackman, 2016; Holtz &Tessman, 2007), in order for the negative load of disability concept to be confined (Holtz &Tessman, 2007) and for the situation affronted by the person with special needs to be identified (Fiedler & Simpson, 1987) αnd by extension, attribute the behavior it manifests, thus avoiding the characterization of a person with special needs or disability. Changes in the wording of the items (Thomson &Lilllie, 1995) were made in order for adjusting the scale in Greek language.

There are also included questions related to demographic characteristics, such as school grade, year of birth, age, place of residence, gender (Rosenbaum, Armstrong, & King, 1986b), participant's special need (King et al., 1989), sector covered by the special needs participant (Beck & Dennis, 1996; King et al., 1989), having a friend with disability (Beck & Dennis, 1996; King, et al., 1989; Tirosh, Schanin& Reiter, 1997), place where the student met the special needs classmate, attending the same school (Blockberger et al., 1993), type of disability, grade of disability contact or shared activity with the classmate with disability (Tirosh, Schanin& Reiter, 1997), family member with disability (Beck & Dennis, 1996; Blockberger et al., 1993; King, et al., 1989; Gonçalves&Lemos, 2014), if the member belongs to the immediate family or the relatives environment.

3.3 Procedure

In the current study, participated secondary education students, who attended general education schools, located in big city and urban areas. For the survey to be conducted, it was used the stratified sampling based on the population of departments in Greece. Data collection was carried out with the participation of 10 secondary schools (5 schools are located in provincial cities and 5 schools in a big city). During the school year 2016-2017, the survey was completed in 6 schools (4 junior high schools and 2 high schools), from April 2017 to June 2017, and in the school year 2017-2018 in 4 schools (1 junior high school and 3 high schools) from October 2017 to December 2017.

For the participation of pupils in the survey, the procedures for permitting the research to be conducted according to the instructions of the Greek Ministry of Education were adhered to. The official license from the Greek Ministry of Education, Research and Religious Affairs was issued for the year 2016-2017 and a re-approval was requested for the school year 2017-2018. Then, the researchers contacted the Departments of Secondary Education of each Prefecture to inform Secondary Education Directors about the research and School Directors were informed about the research. Once the parental consent forms were completed (Holtz &Tessman, 2007), was set a day of visit to school, for the distribution of questionnaires to pupils. After the teachers were briefed on the conduct of the survey by the Director of the school, the researchers accompanied by the Director, entered the classrooms.

Completion of the questionnaires took place in the classrooms, during the courses, with the presence of the classroom teacher (Gonçalves&Lemos, 2014).No specific stimulation was presented to frame the disability concept (Rosenbaum et al., 1986). The instructions given weren' t grouped in specific special needs categories (Vignes et al., 2009). Further explanations were provided to students about the method to follow in order to respond to the questionnaire and additional time to complete the questionnaire, when requested.

Also, students were given an explanation of the fact that they did not have to devote time to answer each question but to record the first answer they were thinking when they read each question and the researchers ensured that each student completed the scale independently (Thomson & Lilllie, 1995).

Information was also provided to students that on the third page of the questionnaire, some demographics were mentioned, which were then asked to fill in. It was clarified that for this research, the parents' agreement was taken into account. Finally, it was pointed out that the participation in the survey is voluntary, that the questionnaire completion is anonymous and that the data collected will be used for educational and research purposes. Also, students were informed that they can leave the process at any time they wish, without being obligated to complete the questionnaire (Blackman, 2016).

3.4 Statistical analysis

Data analysis was performed using the Statistical Package of Social Analysis (SPSS 20). Specifically, it was used Factor analysis, Cronbach' s a reliability analysis, Pearson correlation analysis, Independent Samples T-test and Univariate ANOVA, to detect possible differences among variables.

4. Results

4.1 Factor Analysis of the Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

The new scale consists of twenty one (21) themes and the factorial analysis performed for the Greek version of the scale, using the principal component analysis with varimax rotation, confirmed the three factors of the original scale. The remaining proposals (question 22 to question 36) were not included in the new questionnaire and therefore rejected. Consequently, some items were not included in the final form of the questionnaire, either because they presented a low factor loading or because they did not show any load on any subscale (Thomson, & Lillie, 1995). In another study (Rosenbaum, Armstrong, & King, 1986), was tested the stability of the factor analysis scale, implementing a buddy intervention program, which assessed the impact of a friendship with a classmate with disability in the general education school, on typically developing students. In the same survey, the results confirmed the three (3) factors, while the degree of reliability for the overall scale and sub-scales showed a small decrease. Following the study, it was reported that the items were attributed to factors where they showed the highest load, pointing out that some items were attributed to more than one factor if the charge level is equally similar (approximately .05) for each of the factors. Additionally, Items with the same loading were allocated to more than one factor, according to another survey as well (Thomson & Lillie, 1995), including items with a load rating greater than .03.Theinternal validity of the scale has been proved to dispose a strong power for various groups and an acceptable degree of test – retest reliability (Hunsaker, 2014).

The results confirmed the three subscales (KMO = .801, Bartlett's Test of Sphericity, $x^2 = 9308.498$, df = 210, p = 0.000, p < 0.001), which explains the 57,457% of the total variance. Each of the three dimensions that have emerged include a different number of questions than those listed on the original scale. The same items contained in each subscale, are also contained in the subscales of the original questionnaire. In the present study, the first subscale comprises seven (7) items, the "emotional dimension " (a = 0.785) and explains the 25,169% of the variance (Table 3). The second subscale includes seven (7) items, it is called the "behavioral dimension" (a = 0.783) and explains the 19.696% of the variance (Table 4). The third subscale consists of seven (7) proposals, it is called the "cognitive dimension" (a = 0.874) and explains the 12.591% of the variance. (Table 5). The alpha coefficient for the total sample and the and the subscales coefficient dispose an appropriate and acceptable degree of reliability (DeVellis, 2003). The same research indicates that care should be taken when using the dimensions scores for comparisons between the studied populations. Low loadings in the cognitive factor were also observed in the original scale factorial analysis (Rosenbaum et al., 1986). Some items showed a high loading and some other low loading. Also, the questionnaire items are alternated, presenting a positive and negative wording.

The wording of the questions affects the psychometric properties of a tool, the validity and reliability, and in particular negatively worded items affect the credibility degree of internal consistency (Eys, Carron, Bray, & Brawley, 2007) and structural validity (Schriesheim, & Hill, 1981). Similar results in the factorial analysis of the questionnaire for the three dimensions of attitudes were found in the Thosmon& Lillie (1995) research. In their research, they show that the three dimensions, emotional, behavioral, cognitive, explain the 19.6%, 14.9% and 11.2% of the variance respectively, while they account for 45.7% of the of the total variance, for students attending school with a policy of inclusion. In the same survey, the scale for students attending school, where the policy of inclusion is not foreseen, the three dimensions explain the following rates of variance in scale values: 18.4% for the emotional sub-scale, 14.9% for behavior subscale and 11.4% for the cognitive subscale, while 44.6% explains the total variance.

Similarities in factorial analysis of the scale were also observed in other studies (Alnahdi, 2019), which resulted in the creation of three dimensions: emotional (α = .842), behavioral (a = .817) and cognitive (a = .773), with a total Cronbach' s a (a = .854), which explains 31% of the variance. Differences related to the total number of proposals included in each dimension, as each dimension includes 12 items, equally distributed. In a similar survey (Blackman, 2016), the results showed the corresponding confidence indicators for the three dimensions of attitudes as following: emotional (a = .72), behavior (a = .72), cognitive (a = .60). In another survey (Thomson & Lillie, 1995), factorial analysis led to the exclusion of some questions from the final form of the scale, as they did not show a certain degree of loading, resulting in a school with regular inclusion, the scale to include a total of 26 questions of the 36 questions contained in the initial scale, and for the school without the provision of inclusion the scale included 32 questions.

Similarly, the three dimensions were confirmed by Olaleye et al. (2012). Another research (Thomson &Lilllie, 1995) resulted in the creation of three dimensions of attitudes, with fewer than 36 proposals, a result consistent with the present study, where each dimension included more or less of 12 proposals, whereas in the current research, issues are equally divided for each dimension. According to Gonçalves&Lemos survey (2014), factorial analysis led to the creation of two factors: behavioral-emotional factor (a = .875) that explains the 25% of the variance and cognitive factor (a = .607), that explains the 11% of variance. Based on the authors' estimation about the validity of internal consistency, the results of the subscale measuring the cognitive dimension of attitude should be interpreted with caution. In a survey (Tirosh, Schanin& Reiter, 1997) involving students from Canada and Israel, the averages of the scale attitudes were equal to 26.8 and 32.4 respectively, differences that emerged due to cultural factors.

Table 2. Subscales Alpha Coefficients (Cronbach's a) for the Greek version of Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

Dimensions	Cronbach' s a N = 1348
Affective	0.785
Behavioral	0.783
Cognitive	0.874

Table 3. Factor analysis for the Greek version of the Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

Items	Dimension Affective	M.	S. D.
I would not like a friend with disabilities and / or special educational needs as much as my other friends. (18)	0.876	1.81	1.53
I would not worry if a child with disabilities and / or special educational needs sat next to me in class. (1)	0.870	1.57	1.56
I would like having a child with disabilities and / or special educational needs live next door to me. (13)	0.792	1.72	1.34
I would be pleased if a child with disabilities and / or special educational needs invited me to his house.(21)	0.727	3.02	0.94
I feel sorry for children with disabilities and / or special educational needs. (6)	0.705	0.91	1.01
I would be happy to have a child with disabilities and / or special educational needs for a special friend. (15)	0.571	2.14	1.13
I would be afraid of a child with disabilities and / or special educational needs. (10)	0.357	2.96	1.11

Table 4. Factor analysis for the Greek version of the Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

Items	Dimension Behavioral	M.	S. D.
I would not introduce a child with disabilities and / or special educational needs to my friends. (2)	0.864	1.79	1.54
In class, I would not sit next to a child with disabilities and / or special educational needs. (20)	0.833	1.79	1.45
I would invite a child with disabilities and / or special educational needs to my birthday party (9)	0.702	2.78	1.05
I would try to stay away from a child with disabilities and / or special educational needs. (16)	0.690	3.30	0.89
I would talk to a child with disabilities and / or special educational needs, in case I didn't know. (11)	0.686	2.89	1.02
I would not know what to say to a child with disabilities and / or special educational needs. (4)	0.549	2.03	1.19
I would stick up for a child with disabilities and / or special educational needs, who was being teased. (7)	0.377	3.62	0.73

Table 5. Factor analysis for the Greek version of the Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

Items	Dimension Cognitive	M.	S. D.
Children with disabilities and / or special educational needs like to play. (5)	0.820	1.64	1.53
Children with disabilities and / or special educational needs feel sorry for themselves. (14)	0.580	1.83	0.89
Children with disabilities and / or special educational needs want lots of attention from adults. (8)	0.579	0.77	0.92
Children with disabilities and / or special educational needs know to behave properly. (19)	0.487	2.58	1.01
Children with disabilities and / or special educational needs are as happy as I am. (17)	0.459	2.91	1.12
Children with disabilities and / or special educational needs can do lots of things for themselves. (3)	0.404	3.11	0.94
Children with disabilities and / or special educational needs don't like to make friends. (12)	0.369	3.23	1.08

Table 6 presents Pearson correlationsforthethreedimensions. It is observed a moderate correlation of the dimensions. The moderate degree of correlation indicates that the subscales are characterized as independent, in a reasonable level(Wilczenski, 1992).

Table 6. Pearson r correlations for the Greek version of the Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

Dimensions	1	2	3
Affective	1	.652**	.573**
Behavioral	.652**	1	.487**
Cognitive	.573**	.487**	1

Note: $p < 0.01$

Table 7. Means and standard deviationsof the subscales for the Greek version of the Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire (CATCH) (Rosenbaum, et al., 1986).

Dimensions	M.	S. D.
Affective	2.29	0.52
Behavioral	2.34	0.49
Cognitive	2.28	0.43
Total	2.30	0.41

Table 7 presents the means and standard deviations for the three dimensions and the total attitude, as resulted from the responses of the students. In other study (Olaleye, 2012), the higher mean resulted for the cognitive dimension and the lower mean for the dehavioral dimension. Other study (Rosenbaum, Armstrong & King, 1988) revealed that, the total mean was ranged from 25.0 to 29.1. According to Thomson's & Lillie' s research (1995), means resulted as following: 29.00 (for the school where the inclusion was implemented) and 26.62 (for the school where the inclusion was not foreseen). Similar study (Olaleye et al., 2012) concluded to a total mean equal to 22.55, and the dimensions' scores where calculated as 21.26 for the affective dimension, 19.26 for the behavioral dimension and 26.23 for the cognitive dimension. In a same study (Gonçalves&Lemos, 2014), it is noticed that attitude consists of two dimensions, which are affective / behavioral and cognitive, with a mean 3.7 and 2.79 respectively and total mean equals to 3.47. In a corresponding research (King, Rosenbaum, Armstrong, & Milner, 1989), total mean resulted equal to 26.8. In the same survey, students who attended a school with inclusion provision presented a score ranged from 22.6 to 29.7 and those who attended a school with special classes scored 26.2. In a recent study (Alnahdi, 2019), the total mean corresponds to 24.5, and the score separately was resulted equal to 25.1 for the affective dimension, 24.3 for the behavioral dimension and 23.8 for the cognitive scale.

4.2 The correlation between demographic variables and secondary education students' attitudes toward children with special educational needs.

With regard to gender, statistically significant differences were observed in the two dimensions of attitudes: Affective and behavioral. The attitudes of boys ($M = 2.22$, $SD= 0.48$) for students with disabilities differ from girls' attitudes ($M = 2.36$, $SD= 0.53$) for the emotional dimension ($t = 4.780$, $df = 1125.129$, $p < 0.001$). Still, boys 'dispositions for a person with a disability ($MG = 2.31$, $TA = 0.47$) differ from girls' attitudes ($M = 2.38$, $SD= 0.5$) for the behavioral dimension ($t = 2.629$, $df = 116.028$, $p <0.01$) (Table 8).

The attitudes of junior high school students ($M. = 2.2$, $S. D. = 0.5$) differ significantly from the attitudes of high school students ($M = 2.39$, $SD= 0.46$) for the emotional dimension of the attitudes ($t = 7.877$, $df = 1118.096$, $p < 0.001$). Furthermore, The attitudes of junior high school students ($M = 2.21$, $SD= 0.43$) differ from the attitudes of high school students ($M = 2.45$, $SD= 0.51$) ($t= 8,712$, $df = 1212,027$, $p < 0.001$) for the behavioral dimension of the attitudes. The attitudes of junior high school students ($M = 2.16$, $SD= 0.46$) differ from the attitudes of high school students ($M = 2.39$, $SD= 0.42$) ($t= 9,795$, $df = 1247$, $p < 0.001$) for the cognitive dimension of attitudes (Table 8 and Table 9).

Concerning the year of birth there were statistically significant differences for the three dimensions of the attitudes: affective (F 5, 1142 = 6.494, p = 0.000, p < 0.001), behavioral (F 5, 1160 = 10.354, p = 0.000, p < 0.001) and cognitive (F 5, 1182 = 12.035, p = 0.000, p < 0.001). According to LSD test, differences emerged across the groups of participants (Table 10). According to the age, statistical significant differences were observed for the cognitive dimension of the adolescents' attitudes (F 2, 549 = 16.774, p = .000, p < 0.001). The result based on LSD test showed differences for the behavioral dimension among the students aged from 12-14 years old (M = 2.56, SD= 0.52) and 17-18 years old (M = 2.71, SD= 0.48). Differences also resulted for the cognitive subscale among students aged 12-14 years old (M. = 2.27, S. D. = 0.48) and 15-16 years old (M = 2.48, SD= 0.42), students aged 12-14 years old (M = 2.27, SD= 0.48) and 17-18 years old (M = 2.56, SD= 0.42), students aged 15-16 years old (M = 2.48, SD= 0.42) and 12-14 years old (M = 2.27, SD= 0.48) (Table 10).

Students' attitudes who live in big cities (M = 2.55, SD= 0.54) are different in a significant way from students' attitudes who live in provincial cities (M = 2.08, SD= 0.37) for affective dimension (t = 16.546, df = 1008.338, p = .000, p < 0.001). Furthermore, students' attitudes who live in big cities (M = 2.61, SD = 0.52) are not similar to those who live in provincial cities (M = 2.09, SD= 0.30) for the behavioral dimension (t = 20.704, df = 968.768, p = .000, p < 0.001). Students live in big cities (M = 2.61, SD= 0.52) are different from those of students who live in provincial cities (M = 2.16, SD= 0.35) for the cognitive dimension of attitudes (Table 8 and Table 9).

At the same time, statistically significant differences were observed among pupils with a friend with special needs and pupils who did not have a friend with disabilities for all dimensions of attitudes: emotional, behavioral and cognitive.The emotional dimension of the attitudes for pupils who do not have a friend with special needs (M = 2.26, SD= 0.50) differs from that of pupils with a friend with special needs (M = 2.40, SD= 0.53) (t = 4.094, df = 522.219, p = .000, p < 0.001). Attitudes towards disabled peers differ for students who do not have a friend with disabilities (M = 2.32, SD= 0.47) compared to those developed by pupils with a friend with disabilities (M. = 2.40, S. D. = 0.53) for the behavioral dimension (t = 2.546, df = 502.5229, p = .011, p <0.05). Also, pupils' attitudes towards classmates with disabilities differ between pupils who have no friend with special needs (M = 2.23, SD = 0.43) and those with a friend with special needs (M = 2.36, SD= 0.42) for the cognitive dimension (t = 3.215, df = 1.207, p = .001, p < 0.01) (Table 8 and Table 9).

The disability type differentiated adolescents' attitudes concerning the affective dimension (F 3, 332 = 3.786, p = .011, p < 0.05). The LSD test presented statistically significant differencesfor physical disability (M = 2.58, SD= 0.53) and intellectual disability (M = 2.33, SD= 0.53), physical disability (M = 2.58, SD= 0.53) and learning difficulties (M = 2.35, SD= 0.55), physical disability (M = 2.58, SD= 0.53) and multiple disabilities (M = 2.35, SD= 0.52).

Students with a friend with a mild disability (M = 2.67, SD= 0.53) are different from those of the students who have a friend with severe disability (M = 2.49, SD= 0.57) for the affective dimension of the attitude. Students with a friend who dispose a mild disability (M = 2.72, SD= 0.51) are not the same to those who have a friend with a severe disability (M = 2.56, SD= 0.54) for the behavioral dimension of the attitude (t = 2.118, df = 196, p = .035, p < 0.05) (Table 10).

A family member with disabilities exercise a differentiating role in students' attitudes for all the subscales. Specifically, students who have not any disabled family member (M = 2.29, SD= 0.49) express different attitudes from those who have a relative with special needs (M = 2.46, SD= 0.56) for the affective dimension (t = 3.293, df = 159.647, p = .001, p < 0.01). Pupils who have not any family member with special needs (M. = 2.28, S. D. = 0.42) tend to adopt different attitudes (M = 2.53, SD= 0.59) for the behavioral dimension (t = 3.907, df = 156.791, p = .000, p < 0.001). Students' attitudes who have no member with disability in the family environment (M = 2.28, SD = 0.42) are not similar to those attitudes that tend to express students who have a member with a disability (M = 2.40, SD = 0.45) for the cognitive dimension (t = 3.095, df= 171.844, p = .002, p < 0.01) (Table 8 and Table 9).

In particular, students' attitudes who have a member with disability in their direct family environment (mother, father, brother, sister) (M = 2.28, SD= 0.50) are different from those whose the member with disability belongs to the relative environment (grand-father, grand – mother, uncle, aunt, cousin) (M = 2.51, SD= 0.56) for the affective dimension of the attitude (t = 2.125, df =134, p = .035, p < 0.05) (Table 8). No statistically significant differences were observed for the "special needs of the participant" variable because at one of the two values the number of people was not comparable. The same case was also for the sector covered by the special needs variable, where the number of people was not comparable in both values of the variable.

The attendance of a friend with disabilities in the same school does not seem to affect students' attitudes. The attitudes of the pupils in the sample did not differ in any dimension regarding the pupil's conversation or activity with a special needs classmate in the last week.

Table 8. Means and standard deviations for statisticallysignificantdifferencesamongthevariablesconcerning the dimensions of the attitudes regarding to Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire, (CATCH) (Rosenbaum, et al., 1986), according to t-test

Dimension	Students groups		N	M	SD
Affective	Gender	Boys	504	2.22	0.48***
		Girls	648	2.36	0.53***
	School grade	Junior high School	525	2.16	0.46***
		High school	682	2.39	0.53***
	Place of residence	Big city	570	2.55	0.54***
		Provincial city	488	2.08	0.37***
	Having a friend with special needs	No	861	2.26	0.50***
		Yes	311	2.40	0.53***
	Disability grade	Mild	92	2.67	0.53*
		Severe	103	2.49	0.57*
	Family member with special needs	No	986	2.29	0.49**
		Yes	132	2.46	0.56**
	Identifying the member with disability in the family	Direct family environment	36	2.28	0.50*
		Relative environment	100	2.51	0.56*
Behavioral	Gender	Boys	508	2.31	0.47**
		Girls	664	2.38	0.50**
	School grade	Junior high School	534	2.21	0.43***
		High school	692	2.45	0.51***
	Place of residence	Big city	584	2.61	0.52***
		Provincial city	495	2.09	0.30***
	Having a friend with special needs	No	875	2.32	0.47*
		Yes	313	2.40	0.53*
	Disability grade	Mild	93	2.72	0.51*
		Severe	105	2.56	0.54*
	Family member with special needs	No	1003	2.33	0.47***
		Yes	134	2.53	0.59***

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

Table 9. Means and standard deviations for statisticallysignificantdifferencesamongthevariablesconcerning the dimensions of the attitudes regarding to Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire, (CATCH) (Rosenbaum, et al., 1986), according to t-test

Dimension	Students groups		N	M	SD
Cognitive	School grade	Junior high school	542	2.16	0.40***
		High school	707	2.39	0.42***
	Place of residence	Big city	587	2.61	0.52***
		Provincial city	512	2.16	0.35***
	Having a friend with special needs	No	887	2.23	0.43**
		Yes	322	2.36	0.42**
	Family member with special needs	No	1020	2.28	0.42**
		Yes	139	2.40	0.45**

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

Table 10. Means and standard deviations for statisticallysignificantdifferencesamongthevariablesconcerning the dimensions of the attitudes regarding to Chedoke-McMaster Attitudes Toward Children with Handicaps questionnaire, (CATCH) (Rosenbaum, et al., 1986), according to LSD

Dimension	Students groups		N	M	S. D.
Affective	Year of birth	1998-1999	68	2.22	0.34***
		2000	263	2.33	0.55***
		2001	181	2.40	0.53***
		2002	281	2.32	0.53***
		2003	191	2.15	0.48***
		2004-2005	164	2.24	0.54***
	Disability type	Physical disability	72	2.58	0.53*
		Intellectual disability	147	2.33	0.53*
		Learning difficulties	59	2.35	0.55*
		Multiple difficulties	58	2.35	0.52*
Behavioral	Year of Birth	1998-1999	65	2.08	0.27***
		2000	185	2.44	0.51***
		2001	268	2.44	0.49***
		2002	288	2.34	0.49***
		2003	193	2.21	0.45***
		2004-2005	167	2.34	0.48***
	Age	12-14	138	2.56	0.52
		17-18	107	2.71	0.48
Cognitive	Year of birth	1998-1999	71	2.24	0.33***
		2000	183	2.36	0.45***
		2001	275	2.38	0.41***
		2002	291	2.31	0.40***
		2003	200	2.13	0.40***
		2004-2005	168	2.20	0.43***
	Age	12-14	137	2.27	0.48***
		15-16	309	2.48	0.42***
		17-18	106	2.58	0.42***

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

Note: Differences for age, concerning behavioral dimension were resulted according to LSD test only.

5. **Discussion**

Students expressed natural attitudes toward their classmates with disabilities, a result that is in agreement with other studies (Vignes et al., 2009). According to related surveys (Holtz &Tessman, 2007; Rosenbaum, Armstrong & King, 1988), students presented higher attitudes scores, but they still fall within a neutral attitude. Gender differences emerged as an important element (Rosenbaum, Armstrong & King, 1988). Girls expressed more favorable attitudes than boys, concerning the affective and behavioral dimensions, a finding that is in accordance with other studies (Blockberger et al., 1993; Tirosh, Schanin& Reiter, 1997; Gonçalves & Lemos, 2014). High school students adopted higher scores of attitudes in comparison to junior high school students. It seems that Junior high school students, attend schools where integration classes are included and think of their peers who attend these classes as having severe learning difficulties (Vignes et al., 2009), a belief that is originated from primary education.

Year of birth affects students' attitudes in terms of affective and behavioral dimensions of the attitudes, a result that was found in another study as well (Van der Merwe, Bornman, Donohue, & Harty, 2017). The researchers report that students during their early adolescence, express a higher level of affective attitude in comparison to the emotions they experience while interacting with a person with disabilities (behavioral dimension) and the cognition they form, respecting to the relationship they develop with the special needs person.

With regard to age, late years adolescents presented higher levels of behavioral attitudes in comparison to the early years adolescents, a difference that it is not significant. It seems that this dimension follows a stable course through time (Gonçalves&Lemos, 2014). The current study showed a significant difference in the cognitive dimension, where students in their late adolescence express a higher mean (King, Rosenbaum, Armstrong, & Milner, 1989), reveal that they recognize the concept of disability, which derives from the contact with sources that create a familiarity with the disability (Blockberger et al., 1993) but they choose to interact in a typical level with their peers with special educational needs. It seems that the adolescent, trying to form his personality, is oriented to create interpersonal relationships with emotional matching, according to social stereotypes, where he can experience emotions of safety and trust, as relationships that decline from the ideal stereotypical image, engender stress and anxiety feelings (Paraskevopoulos, 1991). Place of residence affects students' attitudes, concerning the three dimensions, a result that was found in a similar study (Gash &Coffey, 1995).

It is probable that students who live in small cities are dominated by discomfort feelings, which derives by a sense of fear for the unknown (Gash, 1993), in a way that they shape interpretations in a negative meaning. Having a friend with disability contribute to the formation of positive attitudes, related to the three dimensions of the attitude, a result that was emerged in other studies as well (Rosenbaum, Armostrong& King, 1988; Thomson & Lilllie, 1995; Beck & Dennis, 1996; Olaleye et al., 2012). Students adopt a more favor attitude toward students with physical disabilities, in comparison to students who dispose a cognitive disability, learning difficulties or multiple disabilities, a conclusion that is aligned with other surveys (King, Rosenbaum, Armstrong & Milner, 1989; Beck & Dennis, 1996; Tang, Davis, Wu, & Oliver, 2000).Disability grade influence students' attitudes in the way that children who have a friend who presents a mild disability form more positive attitudes for the affective and behavioral dimension in comparison to students who have a friend who dispose a severe disability(Gash, 1996; Gannon & McGilloway, 2009). It seems that students with a low level of disability express a behavior close to the one that is desirable by the typical developing adolescents, a fact that helps them to experience positive feelings concerning the students with mild disabilities and adopt positive behavior.

A family member with disabilities affects students' attitudes in a positive way (King, Rosenbaum, Armstrong & Milner, 1989; Van der Merwe et al., 2017) regarding to the three dimensions of the attitudes. For the students of the current research, a member that belongs to the relative environment influence their attitudes, concerning the affective dimension. Contact and disability presence (Parasuram, 2006) seem to determine children's attitudes, irrelevant to the environment, a fact that declares the emotional engagement while interacting with a relative with disability, which extends to the classmate with special educational needs. Contact or a shared activity with a disabled student and attending a school with a student with disability, didn't influence children' s attitudes, a result that comes in disagreement with other study (King, Rosenbaum, Armstrong & Milner, 1989). It seems that students interact with their peers with special educational needs in a typical way, or they have available a limited number of opportunities for interaction. Variables as regard to the participant student special need and the participant type of disability didn't reveal any result. It seems that the difficulties these students affront do not impede the learning of others pupils in the classroom or that teachers have managed to meet their needs in a successful way. Beside, these variables are represented by a small portion of the total sample. Another assumption is the participants' acceptance of their difficulties and the fact that they cope with the situation successfully, in the social domain and in the learning process.

6. Conclusions

The psychometric tool used for conducting the research is oriented to assess children's attitudes, as the attitude consists of the three dimensions: affective, behavioral and cognitive (Tavares, 2011). This scale of attitudes is appropriate to distinguish differences between different groups of children and to be used in intercultural studies (Tirosh, Schanin & Reiter, 1997).

7. Limitations of the study

The use of a self-reported measure raises some questions about the accuracy of attitudes' measurement, since, while being a reliable and valid measuring tool, it should be empirically determined if the results could be generalized in respective populations (Fiedler & Simpson, 1987) and if the attitudes presented are expressed through actual behavior towards the conversation (Fiedler & Simpson, 1987; Rosenbaum et al., 1986; Thomson &Lilllie, 1995).

8. Implications for further research

In the frames of the school curriculum it should be implemented the provision of teaching a lesson on special education as part of an intervention program to enable students to express their thoughts and perceptions about peers with disabilities (Blackman, 2016). Finally, actions with an official endeavor to effectuate full inclusion of people with disabilities in society may, in the long run, improve citizens' attitudes towards people with disabilities, resulting in the disappearance of the rigid negative stereotypes that characterize the present society (Furnham& Gibbs, 1984).

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