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### Title

Attitudes of students towards peers with special educational needs in mainstream Portuguese schools

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**Predictors of adolescents' attitudes towards the inclusion of peers with special educational needs**

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Manuscripts

## **Predictors of adolescents' attitudes towards the inclusion of peers with special educational needs**

### **Abstract**

The purpose of this study was to examine the factors associated with adolescents' attitudes towards peers identified as having Special Educational Needs (SEN) in Portuguese mainstream schools. A sample of 813 students (5<sup>th</sup> to 9<sup>th</sup> grades) participated in this study. Data was collected using the Chedoke-McMaster Attitudes towards Children with Special Needs Scale, the KIDSCREEN 10 Quality of Life Scale, the Social Support Scale and through a brief sociodemographic questionnaire. The results indicate that perceiving social support from family and teachers, and having a friend or a family member with SEN is associated to more positive affective and behavioral attitudes towards peers with designated SEN. Perceiving social support from the family and having a classmate or a family member with SEN was associated to more positive cognitive attitudes. The perceived quality of life was not uniquely related to attitudes towards SEN, after controlling the remaining variables. The importance of these findings for research and practice is discussed.

**Keywords:** Attitudes, Inclusion, Quality of Life, Social Support.

## Introduction

Since the 1960s, and especially during the last two decades, there has been a wider recognition with regards to the inclusion of students with special educational needs (SEN) in all levels of society. The role of education systems and, in particular, schools, has been critical towards the promotion of inclusion. Particularly since the UNESCO World Conference on Special Needs Education in Salamanca (1994), there has been a significant leap in promoting favorable policies and practices towards inclusion. The basic principle that children with designated SEN should attend regular schools and receive special education services to promote their educational success while at the same time combating discrimination and inequality was supported by many countries' policies. Additionally, research about inclusion has been conducted, directed to schools, parents', teachers' and children's' attitudes and behaviors (to a broad review, consider Kauffman, 2020).

This study is focused on peers' attitudes toward the inclusion of students identified as having SEN in mainstream settings, a group that received less attention from researchers but, in our view, has a significant role to play when implementing inclusion. The seminal works of Rosenbaum, Armstrong and King (1986, 1988), that included the development of a measure to evaluate children's attitudes toward the inclusion of their peers with SEN, the evaluation of intervention programs and the review of empirical evidence, provided important insights on this issue and inspired research projects in the last decades (e.g., Alnahdi, 2020; Dias et al., 2016; Vignes et al., 2008). These authors argued that children's attitudes towards disability and special educational needs depend on what children know and perceive about SEN. In that context, children's attitudes, as well as children's perceptions about the expectations of parents and teachers, predict the behavioral intentions of children interacting positively or not with their peers with SEN.

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3           Research points out that children tend to present a negative or neutral attitude  
4 toward inclusion (de Boer et al., 2012; Rosenbaum et al., 1986) and that children with  
5 SEN face difficulties to be accepted by their peers (DeVries et al., 2018; Mamas et al.,  
6 2019; Petry, 2018; Schwab, 2017), and are being frequently rejected and neglected  
7 (Kuhne et al., 2012). One of the factors that appears to mitigate this effect is proximity  
8 and contact with peers with SEN, that have been consistently associated with more  
9 favorable attitudes (e.g., Diamond, & Tu, 2009; Hong et al., 2014; McGregor, & Forlin,  
10 2005; Reina et al., 2019; Vignes et al., 2009).

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13           More recent research has been directed to social participation, social networks  
14 (Mamas, et al., 2019; Schwab et al., 2018), and social relations and friendships (Fulford  
15 & Cobigo, 2017; Mamas et al., 2019; Rossetti & Keena, 2018) of students with SEN in  
16 mainstream settings. Social support is considered an important factor for health and  
17 wellbeing, both in children with a designated disability (Mamas et al., 2019; Tough et al.,  
18 2017) as in population in general (Antunes, & Fontaine, 1995; Uchino, 2006; Wang et  
19 al., 2017). Although studies about the relationship between social support and attitudes  
20 toward inclusion are scarce, the importance of this variable in this study holds up, not  
21 only because a large number of studies emphasize the importance of social support for  
22 development in adolescence, but also for facilitating each individual's adaptation to  
23 change (Antunes, & Fontaine, 1995), namely to change attitudes. Some recent literature  
24 suggests the role of social support in the intention to establish close relationships with  
25 children and young people with SEN (Lund & Seekins, 2014; Mamas, Daly, & Schaelli,  
26 2019). Therefore, it becomes relevant to explore whether the social relationships and  
27 social support impact attitudes toward the inclusion of peers with SEN.

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29           It is well known that for students with SEN, inclusion and involvement in  
30 activities is determinant to improve their quality of life (e.g., Brown et al., 2015; Kober,  
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2010; Townsend-White, Pham, & Vassos, 2012). However, research on students' quality of life without SEN in the promotion of inclusion is scarce (Rathmann, Vockert, Bilz, Gebhardt, Hurrelmann, 2018; Ruijs & Peetsma, 2009). A study from Vignes and colleagues (2009) suggested that students with better quality of their life present more positive attitudes toward their peers with SEN. However, more data is needed to acknowledge this relationship.

The main aim of this study was to explore the predictors of attitudes towards inclusion, considering particularly the role of quality of life, social support and proximity of people with SEN. Since attitudes are shaped in interaction with the environment, the role of these variables might contribute to the knowledge and design of educational measures to promote inclusive education.

## Method

### Participants

The sample consisted of 813 students from the 5<sup>th</sup> to 9<sup>th</sup> grade of basic education, aged between 10 and 16 years ( $M = 12.27$ ,  $SD = 1.525$ ). Students identified as having SEN were not included in the study, to avoid possible bias. Table 1 presents the sociodemographic characteristics of the participants. There was a greater proportion of female (57.5%) to male students (42.5%). The majority reported to have at least one friend with special educational needs and disability (62.4%), a colleague with SEN in the same class (56.1%). Only a small percentage (17.1%) reported having a family member with SEN. The educational level of the students' parents was varied (see Table 1).

--- INSERT TABLE 1 ABOUT HERE ---

## Measures

### *Sociodemographic questionnaire*

A questionnaire was developed to collect sociodemographic information, such as gender, age and parental qualifications, but also the proximity of students with peers with SEN (if they have any familiar, friend or colleague at the school with SEN).

### *Chedoke-McMaster Attitudes Towards Children with Special Needs Scale (CATCH)*

CATCH was developed by Rosenbaum, Armstrong and King (1986), and adapted for the Portuguese context by Dias, Sousa, Gonçalves, Flores and Díaz-Pérez (2016), to evaluate children's attitudes in relation to their peers with SEN. The Portuguese version of the scale is composed of 17 items that should be scored using a 5-point Likert scale (from 1=totally disagree, to 5=totally agree). These items evaluate three components of attitudes: affective, behavioral and cognitive. The affective component addresses emotional feelings and reactions in relation to children and adolescents with SEN; the behavioral dimension refers to the actual or predicted behavior, that is, the behavioral intention to relate to children and adolescents with SEN; and the cognitive component reflects beliefs and knowledge that peers have regarding children and adolescents with SEN. The adaptation studies confirmed the three-factor structure and Cronbach alpha values of .82 in the total scale, ranging from .72 to .84 in cognitive to affective dimensions (Dias et al., 2016).

### *Quality of Life Scale*

The KIDSCREEN-10 © instrument is a reduced version of KIDSCREEN-52 (Detmar, Bruil, Ravens-Sieberer, Gosch, Bisegger, & European KIDSCREEN Group, 2006). It is

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3 composed of 10 items to evaluate quality of life. Each item [e.g., “(1) Have you felt fit  
4 and well?” or “(5) Have you had enough time for yourself?” or “(8) Have you had fun  
5 with your friends?”] is answered using a five-point Likert scale, ranging from "1=never",  
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10 “2= seldom”, “3= quite often”, “4= very often” to "5= always". Integrating the sense of  
11 energy, moods, opportunity to explore leisure time and participation in social activities,  
12 interactions and relationships with their perception of capacity and satisfaction with  
13 school performance, a higher score indicates higher quality of life of adolescents. This  
14 measure has been adapted to Portuguese with good psychometric properties, confirming  
15 its unidimensional structure and Cronbach alpha of .78 (Gaspar & Matos, 2008).  
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#### 26 *Social Support Appraisal Scale (SSA)*

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28 The SSA was developed by Vaux, Philips, Holly, Thompson, Williams and Stewart  
29 (1986) based on the belief that one is loved and respected and has an affiliation to  
30 significant groups. The scale evaluates the subjective perceptions of support from parents,  
31 friends and others in general. It was translated and adapted to the Portuguese population  
32 by Antunes and Fontaine (1995) who added the perception of social support from  
33 teachers. In its final form, the Portuguese version consists of 30 items divided into four  
34 subscales: the perception of social support of the family (SSA- fam); the perception of  
35 social support of friends (SSA- fr); the perception of social support from others in general  
36 (SSA- ger); and the perceived social support of teachers (SSA- teach). The format of the  
37 response corresponds to a Likert scale with alternatives ranging from "1=totally disagree"  
38 to "6=totally agree" (Antunes & Fontaine, 1995). The validity studies confirmed the four-  
39 factor structure and reliability of .91 in the total scale, ranging from .72 in the SSA-ger to  
40 .80 in the SSA-fam scale (Antunes & Fontaine, 1995)  
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## Procedure

To collect data, authors requested the authorization of the Regional Education Secretariat and Schools Boards, before sending Informed Consents to students' parents, to authorize their participation in the study. A non-probabilistic (convenience) sampling technique (Coe et al., 2017) was used across eight Portuguese schools. The researchers contacted schools and motivated teachers to the administration of the questionnaires in their classrooms, in the second period of the school year of 2016-2017, after collecting the Informed Consents from parents. Measures were administered in the classroom by a researcher in a schedule organized with teachers. The objectives of the study were explained by this researcher to the students, as well as the anonymous, confidential and voluntary character of their participation.

## Statistical analyses

Data were coded and analyzed using the IBM SPSS Statistics 25. Descriptive statistics were computed for each variable. Pearson correlation coefficient ( $r$ ) was computed to evaluate the association between attitudes, social support and quality of life. The guidelines proposed by Cohen (1992) were used to evaluate the correlations magnitude: .10 represents a small effect, .30 a medium effect, and .50 a large effect. Multiple linear regression models were also performed to explore the unique contribution of social support, quality of life and proximity (having a friend, colleague or family member with SEN) on each type of attitudes towards peers with SEN. Significance level was 5% for all analyses.

## Results

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3 Descriptive statistics are presented in Table 2. Regarding attitudes, high positive  
4 scores were found for the behavioral and cognitive dimensions. A slightly lower score  
5 was found in the affective dimension. High levels of quality of life and social support  
6 were also reported, particularly social support from family (see Table 2).  
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19 Table 3 presents the correlation among attitudes towards peers with SEN, social  
20 support and quality of life. All correlation coefficients were positive and statistically  
21 significant. Medium sized correlations were found between attitudes towards peers and  
22 social support, as well as between attitudes and quality of life.  
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35 Table 4 presents the results of multiple linear regression analyses. The multiple  
36 linear regression model for predicting affective attitudes was statistically significant ( $F_{(8, 738)} = 12.96, p < .001$ ) and explained 12.3% of the variance. Regarding the model for  
37 behavioural attitudes, it was also statistically significant ( $F_{(8, 738)} = 14.94, p < .001$ ) and  
38 explained 13.9% of the variance. A similar result was found for the total score of attitudes  
39 ( $F_{(8, 738)} = 20.56, p < .001$ ). Regarding the individual predictors, perceiving social support  
40 from teachers and family, as well as having at least one friend and one family member  
41 with SEN are associated with more positive affective and behavioural attitudes and more  
42 positive general attitudes towards peers with SEN. The multiple linear regression model  
43 for predicting cognitive attitudes was statistically significant ( $F_{(8, 738)} = 11.65, p < .001$ )  
44 and explained 11.2% of the variance. Perceived social support from family, having a  
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3 classmate and having a family member with SEN were positively related to the cognitive  
4 dimension of attitudes towards peers with SEN. Quality of life, perceived social support  
5 from friends and from others in general were not significant predictors of any type of  
6 attitudes.  
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## 20 Discussion

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22 The main goal of this study was to explore the predictors of adolescents' attitudes  
23 toward inclusion, in particular, quality of life, social support and proximity of people with  
24 SEN. In general, research points out that children tend to present a negative or neutral  
25 attitude toward inclusion (de Boer et al., 2012; Rosenbaum et al., 1986). However,  
26 overall, our results suggested the existence of positive attitudes towards peers with SEN.  
27 This discrepancy between our findings and much of the literature can partly be accounted  
28 by the characteristics of the Portuguese context. Since 1991 that Portuguese legislation  
29 recommends the integration of children with SEN and progressively, particularly since  
30 2008, legislation but also material and human resources were put in place to promote the  
31 inclusion in mainstream schools. These efforts certainly contribute to a generally positive  
32 attitude toward inclusion. Nonetheless, some social desirability in the response to the  
33 attitudes' questionnaire may also be contributing to the overall positive scores of attitudes  
34 obtained.  
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52 Contrary to the study by Vignes and colleagues (2009), we did not find a  
53 significant effect of quality of life on attitudes towards the inclusion of peers with SEN.  
54 Despite the evidence about the relationship between social support and quality of life  
55 (Helgeson, 2003), and the role of interactions and relationships in quality of life (Detmar  
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3 et al., 2006), these are different constructs that deserve further researcher. Our results  
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5 result may be partially explained by the fact that our regression models controlled for the  
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7 effects of social support. Despite the lack of research about this quality of life and  
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9 attitudes toward inclusion, our data are more in line with previous studies that suggest the  
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11 role of social support in the intention to establish close relationships with children and  
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13 young people with SEN (Lund & Seekins, 2014). With the result of the study we  
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15 understand the role of perceived social support, particularly from teachers and family, as  
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17 one of the most powerful predictors of positive attitudes towards inclusion.  
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22 Having a friend or family member with SEN seems to be a fair predictor of  
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24 positive attitudes towards inclusion. This result is in line with previous research that  
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26 suggested that the proximity with people with SEN is determinant in developing more  
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28 positive and favorable attitudes relative to peers with SEN (e.g., Gill & Lemos, 2014;  
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30 Lewis & Lewis, 1987; McGregor & Forlin, 2005; Rosenbaum et al., 2008). One  
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32 important finding is that having a classmate with SEN does not contribute uniquely to  
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34 positive affective and behavioral attitudes. These types of attitudes seem to be more  
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36 dependent on having contact with SEN among significant ones (family and friends) and  
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38 not merely to have classmates with SEN. This finding reinforces, therefore, the  
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40 importance of promoting more positive interactions between students with and without  
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42 SEN inside the classrooms, in order to foster the proximity among them and, as a  
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44 consequence, more positive attitudes towards inclusion.  
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50 The present research has important implications for practice and future research.  
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52 It seems imperative to encourage the creation of intervention programs, as early as  
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54 possible, with the aim of promoting contact between children and adolescents with SEN  
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56 and their peers. Although this study focuses on peer attitudes, it is equally important for  
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58 the success of the system of relations, the involvement of all actors in the educational  
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3 community (teachers, teachers, management bodies, operational assistants, among  
4 others), since it is only with the joint articulation of all that it is possible to prevent  
5 discriminatory attitudes and behaviours and, in turn, fostering positive and inclusive  
6 attitudes. The involvement of family is also crucial, given that family social support,  
7 along with teachers' support, was one of the main predictors of positive attitudes towards  
8 inclusion.  
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12 For this reason, as future suggestions, it would be important to deepen the social  
13 support related to SEN, including the evaluation of verbalizations and messages shared  
14 by parents and teachers about the inclusion of children with SEN in regular schools in  
15 order to perceive their impact on the attitudes. Also, it would be important to explore, in  
16 a deeper way, the relationship between attitudes, social support and social networks.  
17 Using mixed-methods, more objective data would be important to promote the external  
18 validity of our findings and contribute to the inclusion of all students in mainstream  
19 schools.  
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### 40 **Conclusions**

41 This study aimed at exploring the attitudes of peers towards the inclusion of peers  
42 with SEN, as these can constitute barriers to social interaction and involvement among  
43 all students. The social support of family and teachers and the contact with people with  
44 SEN in diverse contexts (school, friends' group and family) were the main predictors of  
45 these attitudes.  
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51 Some limitations of our study should also be highlighted. On the one hand, data  
52 collection was performed by means of self-report measures. Therefore, the results may  
53 have been partially influenced by social desirability effects, that is, the students may have  
54 responded based on what is expected socially and not on the basis of what they actually  
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3 feel, think or act. On the other hand, it is important to note that although attitudes are  
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5 predictive of the actions, there is a gap between attitudes and actions. Therefore, future  
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7 studies should include effective behavior variables and study the relationship between  
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9 attitudes towards inclusion and effective inclusive behaviors.  
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**Table 1.**

Sociodemographic characteristics of the participants.

Variable	<i>M (SD) / % (n)</i>
Age	12.27 (1.525)
Gender (female)	57.5% (467)
Father education level	
Primary education	19.3% (140)
Basic 2	21.4% (155)
Basic 3	25.0% (181)
Secondary education	22.9% (166)
Higher education	11.4% (83)
Mother education level	
Primary education	11.2% (83)
Basic 2	16.6% (123)
Basic 3	20.5% (152)
Secondary education	31.4% (233)
Higher education	20.5% (152)
SEN-Fr	62.4% (507)
SEN-Class	56.1% (456)
SEN-Fam	17.1% (139)

*Note:* SEN-Fr: to a have a friend with special educational needs and disability; SEN-Class: to a have a children with special educational needs and disability in the same class; SEN-Fr: to a have a family member with special educational needs and disability.

**Table 2.**

Descriptive statistics of the scores in the attitudes, quality of life and social support measures.

	Minimum	Maximum	Mean	Standard Deviation
Affective attitudes	1.00	5.00	3.550	0.706
Behavioural attitudes	1.67	5.00	4.231	0.631
Cognitive attitudes	1.67	5.00	4.127	0.507
Total attitudes	2.43	5.00	3.969	0.491
QoL	1.80	5.00	3.945	0.598
SSA- fr	1.00	6.00	4.965	0.874
SSA- ger	1.00	6.00	4.760	0.824
SSA- fam	2.25	6.00	5.518	0.664
SSA-teach	1.00	6.00	4.438	0.966

*Note:* SSA-teach: and the perceived social support of teachers; SSA- fam: social support of the family; SSA- fr: social support of friends; SSA- ger: social support from others in general; QoL: Quality of Life.

**Table 3.**

Correlation among attitudes towards peers with SEN, social support and quality of life.

	Affective attitudes	Behavioural attitudes	Cognitive attitudes	Total attitudes	SSA-teach	SSA- fam	SSA- fr	SSA- ger	QoL
Affective attitudes	1	.585***	.357***	.853***	.276***	.240***	.178***	.212***	.175***
Behavioural attitudes		1	.375***	.838***	.266***	.246***	.202***	.222***	.195***
Cognitive attitudes			1	.676***	.210***	.229***	.190***	.259***	.201***
Total attitudes				1	.318***	.299***	.237***	.286***	.237***
SSA-teach					1	.474***	.337***	.516***	.460***
SSA- fam						1	.476***	.640***	.492***
SSA- fr							1	.683***	.512***
SSA- ger								1	.628***
QoL									1

*Note:* SSA-teach: and the perceived social support of teachers; SSA- fam: social support of the family; SSA- fr: social support of friends; SSA- ger: social support from others in general; QoL: Quality of Life. \*\*\* $p < .001$

**Table 4.**

Multiple regression analyses for attitudes towards peers with SEN.

Predictors	Total attitudes ( $\beta$ )	Cognitive attitudes ( $\beta$ )	Behavioural attitudes ( $\beta$ )	Affective attitudes ( $\beta$ )
	$R^2 = .182$	$R^2 = .112$	$R^2 = .139$	$R^2 = .123$
SSA-teach	.184***	.075	.163***	.186***
SSA- fam	.165***	.103*	.161**	.129**
SSA- fr	.076	.037	.084	.057
SSA- ger	.011	.105	-.059	-.001
QoL	.028	.050	.034	-.009
SEN-Fr	.130*	.008	.124**	.156***
SEN-Class	.048	.107*	.080	-.048
SEN-Fam	.134***	.124***	.110**	.093**

*Note:* SSA-teach: social support of teachers; SSA- fam: social support of the family; SSA-fr: social support of friends; SSA- ger: social support from others in general; QoL: Quality of Life; SEN-Fr: to a have a friend with special educational needs and disability; SEN-Class: to a have a children with special educational needs and disability in the same class; SEN-Fr: to a have a family member with special educational needs and disability.

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\* $p < .001$