Parents' engagement in the education of lower secondary school students with and without special educational needs – which strategies bring expected results?

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This article presents an analysis of approaches to the engagement of parents in the education of lower secondary school students with and without special educational needs (SEN), as well as its effect on school achievement. The analysis of the results from almost 1500 Polish lower secondary school students, including almost 300 students assessed as SEN, showed that parents in both groups varied in their strategies to help their children. Parents of students with SEN more often directly helped their children with homework, although this strategy negatively correlated with school achievement for both groups. The results opposed a widely held claim that students with SEN require alternative types of parental support. These findings may, therefore, have a practical role for shaping parental and teacher' beliefs about the most effective ways to improve the achievement of lower secondary school students.

Keywords: special educational needs; parental engagement; academic achievement; lower secondary school.

In the contemporary world, parental involvement in children's education is treated as a right of the parents as well as a social necessity (Domina, 2005). Poland is not the only country where public school systems are unable to effectively fulfil their educational tasks without school–parent cooperation and without engaging parents in working on their children's development and supporting their school education (Castro et al., 2014).

As a result, intensive educational studies of various aspects of this phenomenon need to be performed. This article focuses on a comparative analysis of the relation between methods of parental involvement and the school achievement of Polish lower secondary school students with or without special educational needs (SEN). Due to the different ways children with SEN function and their specific educational problems, we assume that their parents use different methods of supporting their education than parents of children without disabilities. Concurrently, we also assume that the same types of educational support are as effective as for children with and without SEN.

Parental involvement in educating children – the concept and conditions

In the broadest sense, engagement of parents in supporting their children may be

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understood as any proactive activity aimed at supporting children's emotional, social and academic development (school achievement). Certainly, activities of this type consist of various parental undertakings that can be described with the help of different ideas and theoretical concepts. One must, however, agree with researchers' claims that studies of parental involvement in educating their children and the effects of this process are far more developed than the theoretical reflection on this issue, particularly the theoretical models of impact and scientifically validated classifications or typologies of the different kinds of support (Fan and Chen, 2001). This does not mean that the literature on the subject lacks valuable theoretical work. The problem is that the authors of subsequent proposals fail to establish logical associations with the recommendations presented in earlier work, making it that much harder to cumulate knowledge and to present a new hypothesis. Kathleen Hoover-Dempsey and Howard Sandler (1995) proposed a concept of parental involvement in the education of children that researchers refer to on a frequent basis. It includes both an analysis of the conditions of this type of engagement and the mechanisms behind the impact it has on the educational achievement of children. In terms of the former issue, the authors primarily emphasised the fact that replacing parental involvement by controlling for their socioeconomic status (SES) is a large analytical simplification. They believe it often happens in educational research (Sirin, 2005). Although SES is a relatively stable predictor of school achievement and is significantly associated with parental involvement, it does not determine this engagement. This idea has also found empirical justification in Poland (Szumski and Karwowski, 2012). Hoover-Dempsey and Sandler (2005) are of the opinion that parental involvement in children's education is influenced by the three following factors: personal construct of parental role, belief in one's effectiveness in helping children to be successful at school, and expected engagement on the part of children and the school.

Parental identity, which includes such elements as the belief in obligations towards children and optimal methods of regulating relations with children, is a phenomenon that changes in cultural and historic terms. The way parents understand their role and the place in this role they assign to engagement in their children's education depend on quite a number of factors. They definitely include the family role models passed from one generation to another, the observation of friends' engagement, media broadcasts, and many other factors. The structure of parental role is important as it influences parental ideas, expectations and actions that may be significant in the educational career of a child.

Being confident about one's self-efficacy is one of the most popular psychological constructs (Bandura, 1994). This term refers to the belief that a person possesses the resources and skills enabling him/her to act effectively and to cope with new situations. For as many as 20 years, this construct has been used intensively with reference to playing parental roles, including helping children to learn (Eccles and Harold, 1993). The process of convincing parents about being effective in helping children to learn includes the parent's belief that they either have suitable knowledge and skills or are able to obtain them if needed, and also that the child is capable of learning what is being transmitted by parents (Hoover-Dempsey and Sandler, 1995).

The feeling of self-efficacy depends on both an assessment of parents' personal resources and a perception of the child's potential. The former factor may be stronger in differentiating the level of parental involvement in supporting children with and without special educational needs. This is because special needs, by definition, implicate distinct limitations or at least obstacles in mastering school knowledge and skills. Parental involvement

in the education of their children may also be conditioned by the expectations of the children and teachers themselves, and the number of situations favouring this activity. The process of creating such situations is, to a large degree, influenced by the methods schools and parents use in cooperating with each other (Mendel, 1998). These methods include both those that favour parental activation and those that stop the process. In the group of educationally desirable solutions, Joan Walker and Kathleen Hoover-Dempsey (2008) selected actions that improve parental involvement, including the effectiveness level of this process, and performed a systematic review of these methods. Giving homework requiring parental involvement (e.g. listening to statements made by the child), informing parents about children's progress resulting from parental involvement, and suggesting systematic ideas that do not burden mutual activities (e.g. analogous ideas to the well-known "All of Poland reads to children" campaign) seem to be particularly promising.

Forms of parental involvement in educating children

Due to the results of the research presented in this article, the methods of parental involvement in children's education and the effectiveness of such activities have become more important than factors initiating the process of support. Hoover-Dempsey and Sandler (1995) maintain that there are three fundamental mechanisms of parental influence on the school achievement of children. Parents may show their attitude towards school and the child's learning in many various ways. A parent frequently asking the child about what is going on at school, what the child has learned or what grades were received, gives the child a message that school is important. However, the positive attitude of parents towards school may also be expressed in a more direct way, for example, through parent's active participation in events organised by the school, the Parents' Council or being involved in voluntary activities for the school.

Typically, parents are very important figures in their children's lives. For this reason, children may copy parental attitudes towards school. The effective functioning of children at school requires a very high level of understanding the child's role and the skills required to fulfil that role. Numerous educational analyses have shown that none of these tasks is easy (e.g. Barnes, 1988; Konarzewski, 1991; 2004). Parents may make it easier for their child to perform these tasks by explaining the logic behind school reality, helping them to give meaning to school knowledge and learning, and by strengthening the child's adaptive behaviours and habits. Finally, parents may support their children's school education by direct teaching, i.e. devoting the time needed to engage in helping children do homework and learn. Also in this case, there is a wide repertoire of parental behaviours that, as recommended by Hoover-Dempsey and Sandler (1995), should be broken down into two classes: actions oriented at immediate effects and those directed towards deferred effects. The former type of support is chiefly designed for learning factual knowledge and consists of explaining how to solve a problem, correct erroneous answers or ask the child about which solution will be chosen. The latter type of support consists of discussing a plan to solve a problem, ways of understanding a problem and in stimulating children to search for alternative solutions and complementary information, as well as to improve the remembrance of facts. It seems that these strategies are only partially associated with the same character of tasks and knowledge obtained by a pupil. This character may be narrowed down to the learning of facts, concepts and principles or to solving problems (Kruszewski, 2004) and it is partially associated with the skills of parents, beliefs concerning their children's

abilities and ways of understanding the knowledge. Although both of these parental strategies may improve the effects of children's learning, only the second strategy leads to the development of abstract thinking and the attainment of competences that can be transferred to a wider range of problems and knowledge areas.

The proposals of other authors do not stray too far away from this division, although, as already discussed, specific authors rarely establish logical dependencies between their concepts. Wendy Grolnik and Maria Slowiaczek (1994) also recommended a typology of parental involvement methods that distinguished three general strategies of activity: behavioural, personal and cognitive participation. The first refers to parents' cooperation with the school and helping children do homework – therefore, these are manifestations of direct parental involvement in their children's school education. The second one refers to parents' emotional attitude towards school and education that may, to a certain extent, be expressed by the first type of activities. The third type of activity includes creating an environment that will stimulate children towards cognitive development, e.g. by providing the household with books and educational games and by stimulating children towards developing their minds.

A conceptually close, although, in the case of some specific issues, quite different division was proposed by Nancy Hill and Diane Tyson (2009) in their meta-analysis of the impact of parental involvement on the school achievement of upper secondary school students. These authors also distinguished three types of parental activity: home-based, school-based and academic socialisation-based. The first strategy includes such activities as talking about school with children, helping children do homework, providing home with materials that stimulate cognitive activity and participating with children in cultural events. The second strategy includes all forms of parental activity in school (attending parent–teacher conferences, maintaining contacts with teachers, participating in school events (e.g. open days) and parents' council activities. Finally, the school socialisation type of strategy includes activities aimed at building appropriate attitudes of children towards school and learning (develop school and occupational aspirations, communicate knowledge--related values and learning strategies, etc.). Evidently, this strategy features similar traits compared to what Grolnick and Slowiaczek (1994) refer to as personal participation. However, the other two types differ to a large extent. The division suggested by Hill and Tyson (2009) seems less logical in this case. Particularly, the category of school-based activities is of less importance if it fails to include efforts to support children's learning. By engaging in cooperation with teachers, parents acquire better knowledge about the school's expectations, which may improve their engagement in helping children learn, as well as the effectiveness of this help (Grolnick and Slowiaczek, 1994). On the contrary, activities classified by the authors as "home--based" include an activity repertoire which is too extensive. The majority of researchers are inclined to break them down into at least two categories of activity: direct support for learning (aimed at improving current achievement) and stimulating activities and the intellectual interests of children. This type of division is in line with the accomplishments of the critical sociology of education which – by attempting to explain the paradox of democratic education systems' participation in the process of reproducing social strata – has developed numerous, productive theoretical categories (e.g. the hidden programme, cultural capital, language codes) that help uncover and describe the synergy between school education and home environment of the middle class (e.g. Bernstein, 1990; Bourdieu and Passeron, 1990).

The effectiveness of parental involvement reported by previous studies

The high level of researchers' interest in parental involvement in children's education and, more broadly, in intellectual and social development, is due to the strong belief in the causative power of parental practices (Ecless and Harold, 1996; Englund, Luckner, Whaley and Egeland, 2004). Although, Judith Harris (1995) proposed the well-known thesis that the peer environment, not the family environment, affects children's development, this did not decrease the level of researchers' interest in the significance of socialisation in the family. The view that parents play an extremely important role in the process of developing school careers and educational achievement of children is supported by numerous ecosystemic theories of the development of children and young people (Comer and Haynes, 1991). In general, they believe that the family is a subsystem playing an important role in developing the cognitive skills of children and that school is unable to effectively develop students' competences without considering its impact. The significance of the family environment is most evident when a large discrepancy exists between the culture of the school and the family.

Well-known educational reforms, such as the "Comer school development program" have shown that the process of building partnerships between schools and parents is an integral element of the improved operation of schools and better school achievement of children (Lunenburg, 2011). Numerous empirical studies, however, failed to unequivocally confirm this deeply rooted view, which many people treat as an axiom. Moreover, even meta-analyses do not provide a fully consistent picture. Admittedly, all studies of this type conducted so far indicate a positive relation between parental involvement and children's school achievement, but the extent of the studied effect varies. According to the latest meta-analysis of 37 studies published between 2000 and 2013, the global effect value was $r = 0.124$, but its significance was low (Castro et al., 2015). This result is somewhat lower than the one obtained by Xitao Fan and Michael Chen (2001) in a meta-analysis of 25 studies published in the 1990s ($r = 0.25$) and lower than the result of recent meta-analysis of studies on upper secondary school students ($r = 0.18$; Hill and Tyson, 2009). However, the literature also shows slightly higher effects, for example $r = 0.35$, obtained in a meta-analysis of studies involving elementary school pupils (Jeynes, 2005).

In order to clarify the differences just presented, specifically the importance of the relation between children's school achievement and parental involvement in their children's education, it is important to take into account the significance of potential moderators of the observed relation. Due to the subject of our study, the influence of the age of the studied children, level of their capacity, and ways their parents are engaged is of great importance. Studies conducted so far allow us to build a relatively clear picture of the effective types of engagement. The results quite consistently indicate the higher significance of indirect factors relating to a family's cultural capital than of direct parental involvement in a child's education. In the meta-analyses described above, such variables as communication of educational aspirations to children by parents (Fan and Chen, 2001; Jeynes, 2005; 2007) or expectations relating to children's education (Castro et al., 2015) turned out to have the strongest associations with achievement, as opposed to parental supervision of homework or level of engagement in cooperating with the school, which were less associated with school achievement. The meta-analysis of studies involving adolescents (Hill and Tyson, 2009) even found a negative effect of helping children with homework ($r = -0.11$). A similarly clear picture is provided by studies that take into account the moderating role of the child's

age. A stronger effect of parental involvement is seen for upper secondary school students, compared to elementary school pupils, and it is of marginal value among pre-schoolers. This is probably due to the greater complexity of the material that the students must learn, and hence the higher demand for support. Concurrently, the teaching methods used by school personnel assume an ever greater level of young people's independence in planning and organising the process of learning and an increasingly higher level of responsibility for the results of this process. Such circumstances tend to generate a higher level of parental involvement.

Parental involvement in educating children with SEN

The number of studies on the relation between parental involvement and school achievement of children with special educational needs (SEN) is so low that this variable has not been used as a moderator in any of the meta-analyses published to date. The surprisingly meagre knowledge on this issue generates the premises for building hypotheses whose probability level is hard to estimate. The issue receiving the most attention is the level of parental involvement in educating children with SEN. The vast majority of such studies indicate that parents of children with disabilities tend to face greater obstacles in supporting the education of their children and are less involved than parents of children without disabilities (Coots, 1998; Dyson, 1997).

Parents of SEN children experience a lower effectiveness of their own involvement in supporting their children than parents of children without disabilities, and they also tend to be more dissatisfied with the school's cooperation (Rogers, Wiener, Marton and Tannock, 2009). Moreover, they have less time and energy to support their children in learning than parents of children without disabilities (Rogers, Wiener, Marton and Tannock, 2009). In comparison to parents of children without disabilities , the socioeconomic status of families with SEN children is also very significant (Fishman and Nickerson, 2015; Szumski and Karwowski, 2012).

Several studies concern – directly or indirectly – the forms of engagement. Many of these reports support the thesis that pupils with SEN need intensive, direct support in learning provided by their parents. For example, Spencer J. Salend and Janet Schliff (1989) concluded that, according to teachers, pupils with learning difficulties frequently do not have enough motivation for doing their homework and because of this, require the constant supervision of their parents. Similar conclusions were reached in a study comparing the opinions of teachers teaching children with and without SEN (Epstein, Polioway, Foley and Patton, 1992). The former were indeed reporting more frequent cases of their pupils having extensive problems with learning at home and needing parental support to improve their motivation and concentration, as well as the ability to overcome cognitive barriers. Many parents seem to share the opinion that their involvement should consist of stimulating children to do their homework more carefully and to practice required skills in a somewhat mechanical way. The majority of mothers of disabled children studied by Yuan Lai and F. Ishu Ishiyam (2004) claimed they had made sure that their children did homework and concentrated on the skills included in the programme. Even in cases when mothers were giving their children extra tasks to solve, they stayed within the framework of the school programme. It should, however, be pointed out that this study included immigrant Chinese families in Canada, and no information was provided on how much the observed level of parental involvement resulted from beliefs about the needs of children with disabilities and how much resulted from culturally-rooted opinions on appropriate methods of learning

(Park, Byun and Kim, 2011). This issue has not been empirically resolved to date.

Research shows, however, that – in relation to children with special educational needs – the same strategies of parental involvement are equally effective as children without disability (Zhang, Hsu, Kwok, Benz and Bowman-Perrott, 2011). In the United States, on the basis of a large systemic dataset, it was shown that parental aspirations of children's education and parent-child conversations about school – i.e. indirect forms of involvement – tend to influence test-measured achievement, while the impact of school activity-related involvement on the same achievement is barely discernible (Zhang et al., 2011). However, another dependence was observed in studies of children with visual impairment. Although, the level of parental involvement at home allowed mathematical achievement to be predicted, the direction of the dependence was the opposite in the case of children with average and low intelligence levels. In the first case, the higher level of involvement was related to the lower level of achievement, as opposed to the second case, where it was related to a higher level of achievement (McDonnall, Cavenaugh and Giesen, 2012).

To summarise, we can be state that persons involved in educating children with disabilities – both parents and teachers – are generally convinced of the need to directly support such children, for example, by being engaged in helping with homework. However, research results indicate that indirect involvement is more effective, as in the case of pupils without disabilities.

Our own study of parental involvement in educating children

On the basis of previous studies, we decided in our own study to distinguish two measures of parental involvement in their children's education. The first is a measure of the methods of parental involvement, which

distinguishes two types, called "mechanical involvement" and "reflective involvement"[1] (Table 2). Mechanical involvement consists of providing direct help to a child with homework and learning. It is similar to what Grolnik and Slowiaczek (1994) referred to as "behavioural participation", and what Hoover-Dempsey and Sandler (1995) referred to as "direct effect-oriented activity" with the effect found in school grades or test results. Reflective involvement, however, consists of forming the appropriate attitudes of a child towards school, learning and knowledge, which encompass a child's educational aspirations, level of reflection towards one's own progress, or level of interest in learning. This measure then relates to the nature of motivation towards learning that parents try to instil in their children.

According to classic theories of motivation, we have distinguished intrinsic (internal) and extrinsic (external) motivation (Table 3; Ryan and Deci, 2000). Parents tend to develop intrinsic motivation when they more strongly emphasise the value of the learning process rather than its results. Such parents encourage their children to analyse their mistakes and emphasise the value of involvement in tasks. The intrinsic motivation development process is also facilitated by stimulating children to reflect on their own interests and to learn material that is not limited to the school programme. These types of messages serve to develop a child's conviction that knowledge and learning are valuable, and not school grades. In developing extrinsic motivation towards school learning, the formal role of achievements is emphasised and comparisons to the peer group are used in the process of motivating children to learn. Research conducted so far shows that the practices promoting child development undertaken by

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[1] The recommended names refer to the nature of the impact on children and not to the parent's level of reflection. We will try to describe both forms without judging them.

both teachers and parents greatly influence the formation of both types of motivation in pupils (Ryan and Stiller, 1991). Even more, the nature of this impact – i.e. development of intrinsic or extrinsic motivation – is of great significance in the process of learning and the school achievement of children. Because there is much to school work that is tedious, adults cannot rely on children's natural, inborn curiosity and sense of satisfaction to engage them in carrying out such tasks. However, by applying child development practices, parents may stimulate children's intrinsic motivation and hence, improve their chances to be successful in school (Ryan and Deci, 2000).

In our study, we expected that the parents of children with SEN would use education support strategies other than those of parents of children without SEN. However, the strategies they choose tend to be ineffective, i.e. they fail to influence the school achievement of children with SEN. General knowledge of the psychosocial functioning of young people with developmental disorders (see Szumski and Karwowski, 2014) and pressure from teachers induce parents of children with SEN to more frequently use direct support in learning and stimulate the development of extrinsic motivation, while parents of children without disabilities are more apt to use indirect support strategies and stimulate intrinsic motivation. However, there are many indications that the support strategies used with children with SEN are inadequate and that school achievement of children from both groups are better served by the reflective involvement of parents and their efforts in strengthening intrinsic motivation.

Methodology

Participants

The data used for the analyses presented in this article are from a survey of 1648 first year lower secondary school students and their parents. The students attended 108 general and integration classes in the lower secondary schools of numerous large cities across Poland. The schools and their branches were selected for the survey using the quota-based method to ensure the representativeness of students from the integration classes. As a result, 1302 of the surveyed students were considered not disabled (they had not been certified as having special education needs) and 346 students were determined to have special educational needs. Although the Polish system for assessing special educational needs makes a clear distinction between students with learning disabilities and students with other types of special educational needs, we decided to treat the two groups together, which complies with the practices of most developed countries (e.g. Turnbull, Turnbull and Wehmeyer, 2010). 175 of 346 students with SEN had specific learning problems and 171 had other types of SEN (Table 1). The study was conducted in October and November 2013.

Table 1

Distribution of the types of special educational needs in the tested sample

Type of special educational needs	N	%
Mild intellectual disability	43	25
Physical disability	22	13
Social maladjustment and non-adjustment risk	18	10
Deaf and hearing impaired	18	10
Autism	15	9
Asperger syndrome	12	7
Blind or vision impaired	8	5
Chronic diseases	8	5
Multiple disabilities	7	4
Behavioural disorders	7	4
Physical disability with aphasia	6	4
Moderate intellectual disability	5	3
Severe intellectual disability	1	0
Emotional disorders	1	0

Tools

The tools used were a school achievement test to be taken by students and a questionnaire on parental practices to be completed by parents. The achievement test included 27 tasks designed to analyse language and mathematical skills. The tasks were taken from the data bank prepared specifically for the school achievement test (TOS6), but the test used was an original compilation of tasks, different than any existing TOS6. The tasks were intended to verify skills from various parts of the teaching programme in mathematics and the Polish language. The level of reliability of the entire test was high (α = 0.93).

Parents were asked to fill out a comprehensive questionnaire from which two scales testing parental involvement in children's education and information on the family's socioeconomic status of families were used in this study. A well-known American questionnaire entitled "Parents involvement in children's schooling" (Watkins, 1997) served as the basis for the parental involvement scale we constructed. The theoretically based, original version of this questionnaire had four scales: mastery-oriented scale, experience-oriented scale, parental involvement scale, and a scale on parents' perception of the intensity of their communication with the teacher. The reliability coefficients of the first two scales were average: 0.67 and 0.78 (Watkins, 1997). Moreover, the questionnaire has more serious psychometric drawbacks (see Scott, 2011) that called into question the probability of recreating its original structure in the Polish adaptation. For this reason, on the basis of factor analysis, we proposed a different questionnaire structure and scales. Extrinsic and intrinsic motivation scales obtained this way include 5 items and feature an acceptable reliability level (α = 0.70).

A short scale with 8 items was used for the study of mechanical or reflective involvement of parents in children's education. The levels of reliability for mechanical and reflective involvement scales were 0.82 and 0.68 respectively.

Results

Table 1 provides the characteristics of the sample population, including children with special educational needs. Let us begin the presentation with some information on the

Table 2

Mechanical and reflective engagement of parents – results of the explorative factor analysis (rectangular rotation)

Name of test item	Mechanical engagement[a]	Reflective engagement[b]
How much time do you (or a household member) spend on studying with your child each day?	0.83	
How much time do you (or a household member) spend on checking or correcting your child's homework?	0.80	
How often do you help your child learn Polish?	0.78	
How often do you help your child learn math?	0.73	
How often do you talk with your child about your expectations related to doing homework?	0.51	0.32
How often do you talk with your child about the things learned in school?		0.87
How often do you review and discuss with your child the grades brought home?		0.80

[a] Eigenvalue: 3.45; percentage of explained variance: 40.39%.
[b] Eigenvalue: 1.03; percentage of explained variance: 23.63%.

Table 3

Motivational orientations of parents – results of explorative factor analysis (rectangular rotation)

Name of test item	Intrinsic motivation[a]	Extrinsic motivation[b]
I keep asking my child about his or her learning expectations.	0.76	
I stimulate my child towards finding the reasons behind the mistakes made.	0.71	
I encourage my child to develop his or her knowledge above the level required by school.	0.70	
I teach my child that doing homework well is in itself something to be proud of.	0.64	
When my child makes many mistakes in a task, I encourage him/her to do a different task.	0.47	
I often tell my child that if more effort was put into it, he/she would do better than any other child.		0.79
I often tell my child that if he/she learned more, he/she would get better grades.		0.79
I pay special attention to the grades that my child gets.		0.67
When my child brings home a test or a different school assignment, I first ask about the grade gotten for this test or assignment.		0.62
I praise my child whenever he/she does something better than the other students.		0.37

[a] Eigenvalue: 2.89; percentage of explained variance: 23.59%.
[b] Eigenvalue: 1.79; percentage of explained variance: 23.25%.

Table 4

Intensification of motivational orientations and types of involvement among parents of lower secondary school children with or without special educational needs

	Motives		Engagement	
	Intrinsic	Extrinsic	Mechanical	Reflective
Category of parents	M (SD; N)	M (SD; N)	M (SD; N)	M (SD; N)
Parents of children without SEN	0.020 (1.00; 1 123)	-0.020 (1.00; 1 123)	-0.090 (0.98; 1 144)	0.004 (1.011; 1 144)
Parents of children with SEN	-0.084 (0.98; 280)	0.080 (0.99; 280)	0.34 (1.00; 300)	-0.015 (0.96; 300)
ANOVA	$F_{(1.1\ 402)} = 2.46$ $p = 0.12$	$F_{(1.1\ 402)} = 2.26$ $p = 0.13$	$F_{(1.1\ 443)} = 45.75$ $p < 0.001$	$F_{(1.1\ 443)} = 0.08$ $p = 0.77$

tools used to measure parental child support strategies. Table 2 includes the results of the factor analysis carried out for statements intended to measure parental involvement and Table 3 – for statements intended to measure motivation orientations.

Table 4 provides a comparison of the intensification of specific strategies of parental involvement in the education of children with and without SEN. Next, we present the results of the multi-level analysis of regression indicating the significance of SES and specific parental strategies for children's achievement in both analysed groups.

No significant difference was found for the level of intensity in the use of three of

Table 5

Motivational orientations; types of total involvement and SES in school achievement estimations of lower secondary school students with and without special educational needs – results of two-level regression analysis

Effects	All		Without SEN		With SEN	
	B	(*SE*)	*B*	(*SE*)	*B*	(*SE*)
Constant effects						
Constant	7.11***	(0.17)	7.40***	(0.18)	6.23***	(0.18)
Intrinsic motives	0.25**	(0.09)	0.13	(0.10)	0.38*	(0.18)
Extrinsic motives	-0.22**	(0.07)	-0.35***	(0.08)	-0.03	(0.15)
Mechanical engagement	-0.68***	(0.07)	-0.43***	(0.09)	-1.19***	(0.15)
Reflective engagement	-0.05	(0.08)	0.04	(0.09)	-0.21	(0.19)
SES	0.29***	(0.08)	0.27**	(0.09)	0.45**	(0.16)
Random effects						
Student-level variance	4.28***	(0.21)	4.13***	(0.23)	3.77***	(0.47)
Class-level variance	2.38***	(0.43)	2.50***	(0.48)	0.59***	(0.39)

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

the four analysed parental involvement strategies in the education of children with and without SEN. The tendency to differentiate parental practices of the analysed groups was observed only in the case of mechanical involvement in children's education for the purpose of fulfilling the direct expectations of school. Parents of children with SEN tend to use this strategy more intensively than parents of children without SEN. The analyses carried out on data relating to families' socioeconomic status and methods of parental involvement in supporting children's school achievement helped explain 22% of result variances of all students, 20% of result variances of students without SEN and 27% of results of students with SEN (see Table 5).

These models are important to understand the influence of family conditions on the school achievement of lower secondary school students. At the same time, it is also important to note that controlling the reflective involvement of parents fails to explain the variability of school achievement for either of the analysed groups of students. Moreover, a significant percentage of achievement variance is explained in a negative

way by the mechanical involvement of parents. Therefore, the more intensive use of this strategy by parents, the worse the results of their children – although the correlative scheme of the study does not allow us to exclude the possibility that this relation is actually the opposite. Most important, however, is the result of the comparison of models of the relation between parents' socioeconomic status and the educational practices they use with children's school achievement in both groups. It is easy to see that these models are similar, but not the same. In both groups, we can observe a positive relation between parents' SES and the achievement of children, and a negative relation between achievement and mechanical involvement. The inter-group differences are observed in relation to the effects of developing children's motivation. It seems that attempts aimed to develop the intrinsic motivation of children with special educational needs may be positively linked to their school achievement. But this effect was not detected in the case of children without disabilities. However, a negative relation appeared between using extrinsic motivation as

well as mechanisms that compare children with their peers and the school achievement of this group of students.

Discussion

The research conducted is quite a unique study of the relationships between parental involvement in children's education and children's school achievement. Due to the versatility expressed by our control of the types of educational practices and socioeconomic status of parents, as well as school achievement of two groups of children – with and without special educational needs – our study allows us to integrate the theses and partial suppositions presented in various research-based assertions (Hoover-Dempsey et al., 2001) and hence – to create a more universal model of the analysed issue.

First and foremost, our study confirmed the strongly held belief in the literature that methods of involving parents of children with or without SEN in their children's education differ significantly in terms of some important aspects (Hauser-Cram and Howell, 2003). Parents of children with developmental disorders tend to focus more on supporting their children in continuous learning and in solving tasks assigned by school. Simply put, they devote much time in directly supporting their children with homework and preparing for all types of tests. Certainly, the trend in applying this strategy is the result of the observed difficulties in learning, low school results, and a constant need to fulfil the expectations of school. Each positive grade, next class promotion, etc., absorbs parental attention and maps out the perspective of their activities.

Apparently, the escalation of this strategy is probably due to the observed low effectiveness of self-learning of children with SEN, extensive problems relating to concentration, the inclination to pause in their work due to problems, inadequate intrinsic motivation, external

placement of control, etc. (Shogren, Bovaird, Palmer and Wehmeyer, 2010). The suggestions of teachers, who – as shown by numerous studies (e.g. Epstein et al., 1992, Rodriguez, Blatz and Elbaum, 2014) – are convinced that children with SEN require intensive parental help in doing their homework, should not be overlooked. However, the results we obtained clearly show these views to be incorrect, as higher levels of parental involvement in supporting children's education at home results in lower school achievement of both children with or without SEN. Hence, potentially significant recommendations concerning school education, teacher training and parent education practices emerge from our study. Academic lecturers and trainers conducting workshops for teachers and parents should pay attention to the fact that providing lower secondary school students with intensive and direct help in learning often fails to improve their school achievement. Naturally, our findings should not be transferred to the education of younger children without the prior collection of evidence relating to specific age groups.

Another interesting finding is the positive relation between efforts leading to the development of extrinsic motivation of children with SEN with their school achievement. This strategy improves children's awareness of the sense of knowledge and reflection on effective ways of learning. It leads to strengthening a child in his/her role, improves the feeling of the sense of learning and the level of a child's empowerment in the learning process, as well as the level of satisfaction from learning in school. It is quite possible that the process of obtaining such an image of oneself and the world may be transferrable to out-of-school activities and improve their functioning as adults in the future.

The results we obtained contradict the findings of the meta-analysis indicating the high significance of the engagement of parents in the education of upper secondary school students (Hill and Tyson, 2009). In terms of

children without disabilities, parental SES is the only factor that allows school achievement to be predicted in a positive way. Efforts regarded as effective in developing intrinsic motivation fail to improve the achievement of this group of children and analogous efforts to strengthen extrinsic motivation are simply detrimental. A hypothetical explanation of this result may be the moderately low level of sensitivity of adolescents to the persuasive influences of adults (Harris, 1995), combined with a motivation for learning that is relatively stabilised and internalised (Gottfried, Fleming and Gottfried, 2001), a developed image of personal abilities (Schaffer, 2006) and school learning habits. However, due to the observed discrepancies with other authors' results, this issue should be recognised as open, indicating the need for more in-depth studies to better explore the circumstances determining the level of effectiveness of parents' involvement in the education of lower secondary school students. Overall relations with parents may be one of these circumstances. Certainly, efforts must be made to verify if the level of intensity of relations between parents and lower secondary school students moderates the relation between parental involvement and students' school achievement.

Perhaps, students feeling a greater bond with their parents are more sensitive to the efforts of their parents in helping them to develop, resulting in a higher level of effectiveness. However, we were unable to verify this in our research. Finally, we should consider the proposed model of forms of parental involvement in the education of children, particularly the component on developing intrinsic or extrinsic motivation that we introduced. It turns out that intensifying these types of practices enables children's achievement to be predicted (at least to a certain extent). Therefore, the absence of this dimension in the most popular models of the methods of parental engagement can be viewed as a deficiency. It is evident that the categories we proposed and

their methods of measurement clearly require additional empirical tests.

Our research has at least two fundamental methodological limitations. The first one is cross-sectional design of the study, which prevents a final determination to be made of the direction of the relation between the methods of parental involvement in education and the school achievement of children. In our analyses, we attempted to explain achievement through parental practices. However, one cannot rule out the fact that parents adapt their forms of support to the level of their children's achievement. Low level achievement may stimulate parents in adopting direct forms of supporting their children, which fail to yield the desired effects. The second limitation results from the high level of heterogeneity of the group of students with SEN , even though this group was selected on the basis of a very significant common trait influencing school education – having special educational needs. However, differences in the functioning of children with special educational needs should not be overlooked. These differences are worth considering in future studies.

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