

Inclusion: a question of attitudes?

A study on those directly involved in the primary education of students with special educational needs and their social participation



ISBN: 978-90-5963-066-6

NUR: 848

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Website: www.stichting-kinderstudies.nl

Cover photo: www.istockphoto.com

Cover design: Ridderprint BV

Printed by: Ridderprint BV

RIJKSUNIVERSITEIT GRONINGEN

Inclusion: a question of attitudes?

A study on those directly involved in the primary education of students with special educational needs and their social participation

Proefschrift

ter verkrijging van het doctoraat in de
Gedrags- en Maatschappijwetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. E. Sterken,
in het openbaar te verdedigen op
donderdag 31 mei 2012
om 11.00 uur

door

Anke Aaltje de Boer
geboren op 25 juni 1982
te Leeuwarden

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Chapter 1

Introduction

1.1 An introduction in the development towards inclusive education

The belief that special schools could provide the best education for students with special educational needs (SEN)¹ has long been considered in many Western countries. However, this belief was questioned in the early '80s, resulting in a discussion to integrate students with SEN in regular education. There were several reasons leading to this decision. First, an increase in the number of students with SEN was apparent, which led to the growing belief that spending more time on students with SEN would ultimately save public money (Warnock Committee, 1978). Second, special education led to a segregation of students with SEN from society, which implies a violation of students' rights to be educated with typically developing peers (Fisher, Roach, & Frey, 2002). Third, it was no longer believed that special education provided a better education than regular education. This is underlined by a literature study of Gartner and Lipsky (1987), which showed that the academic achievement of students with relatively mild SEN in special and regular education did not differ significantly. In line with this, Kavale and Forness (2000) concluded that the effects of special education on academic as well as social development can be questioned.

The three reasons described above led to the development of (inter)national policies which strived for the inclusion of students with SEN in regular education. In the early '80s the Warnock report had an important influence on shaping the ideas about special educational. Later, in the early '90s, many countries across signed the Salamanca Statement (UNESCO, 1994), the basic assumption of its Framework of Action being the right of every person with a disability to express his/her wishes with respect to education. Furthermore, the Statement makes it clear that policymakers, school heads and teachers should promote positive attitudes towards students with SEN in regular education, since "regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all" (p. 8).

The term 'inclusive education' is often used to refer to educating students with or without SEN in regular schools (Rafferty, Boettcher, & Griffin, 2001). The definition of Farrell (2000, p. 154) includes a more student-oriented perspective and states that 'students with SEN should take a full and active part in school-life, are a valued member of the school community and are seen as an integral member'. Most recently, Article 24 of the UN Convention on the Rights of Persons with a Disability (United Nations, 2006) guarantees the right of persons with disabilities to an inclusive education system at all levels. By signing the Convention, countries commit to providing "effective individualized support measures in environments that maximize academic and social development, consistent with the goal of full inclusion". A total number of 153 states signed this convention, including the Netherlands.

¹ When applied to an educational context we use the term 'students with special educational needs (SEN)', while in the home-context we use the term 'children with disabilities' (with the exception of chapter 7).

The Netherlands has a long history of special education which led to highly differentiated schools segregated from regular education providing specialized knowledge, expertise and facilities for a wide range of SEN. This led to a growing number of students with SEN and a total of 15 types of special school (Meijer, 1994). Since the early '90s, segregating students with SEN from typically developing peers has no longer been perceived as acceptable (Meijer, Pijl, & Hegarty, 1997), resulting in more inclusive schools in the Netherlands. Changes in education policy in this period were aimed at stabilizing both the number of students with SEN and the corresponding costs of special education. A major step towards inclusive education was the so-called 'Together to School Again' policy which focused on the inclusion of students with relatively mild SEN in regular education. This was followed in 2003 by the Centres of Expertise Act aimed at stimulating the inclusion of students with more complex SEN. This legislation resulted in a new classification of special education and defined four clusters of schools for students with SEN. Those for visual impairment, communication problems (i.e. speech and language problems or deafness), physical or cognitive disability or psychiatric and behavioural disorders. When a child is referred to one of the four clusters, his/her parents have the right to choose between regular and special education. If parents choose the former school the child receives 'pupil-bound budget' whereby the school can decide how to spend this budget (e.g. on extra assistance/materials/support etc.). Children receiving such a budget have been referred as having serious special educational needs. Although the changes in education policy were aimed at stabilizing the number of students with SEN, it has been concluded that this goal has not been met (Smeets, 2007). The total number of students receiving a pupil-bound budget increased from 11,000 in 2003 to 39,000 in 2009 (see Figure 1.1).

Despite the intention of the Centres of Expertise Act to stimulate inclusive education there have also been shortcomings. One of these is the absence of a school's obligation to include and educate students with SEN. This has resulted in administrators and teachers refusing to include and educate students with SEN. To overcome this, a future policy Appropriate Education includes the obligation for schools to educate both students with and without SEN.

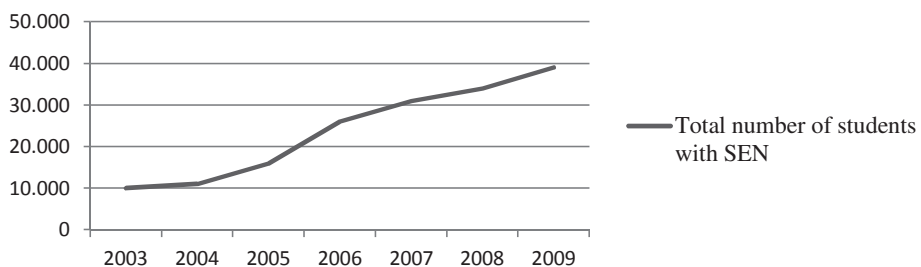


Figure 1.1 Development of the total number of students with SEN in Dutch regular primary education (Ministry Education, Culture and Science, 2011).

1.2 The social participation of students with special educational needs in inclusive education

The Salamanca Statement and the UN Convention make clear that the social aspect is important in the research and practice of inclusive education. By means of a literature review, Koster, Nakken, Pijl and Van Houten (2009) concluded that several terms were used to refer to the social dimension of inclusive education, like social integration, social status, and social position. Based on the outcomes of their study, Koster et al. suggested using the umbrella term ‘social participation’, which includes four themes: *positive contact/ interaction* between students with SEN and their peers; *acceptance* of students with SEN by peers; social *relationships/friendships* between students with SEN and their peers; students’ *perception* regarding their acceptance by peers (p. 135).

Over the past decade an increased number of studies have focused on one of the themes of social participation of students with SEN in regular education. Most of these looked at peer acceptance and friendship and often used a nomination procedure (Brendt & McCandless, 2009). Students were asked to indicate their best friends in class so that their ‘outdegrees’, ‘indegrees’ and ‘mutual links’ could be calculated. The term ‘outdegree’ refers to outgoing nominations of students, ‘indegrees’ to received nominations and peer acceptance (Iacobucci, 2009), while the total number of mutual links between students is often defined as a mutual friendship (Bukowski, Motzoi, & Meyer, 2009). Figure 1.2 presents a social network of a class. In this example, the student with SEN did not receive any ‘indegrees’ (in other words none of the classmates had an outdegree for this student), from which it can be concluded that the student is not accepted in this class.

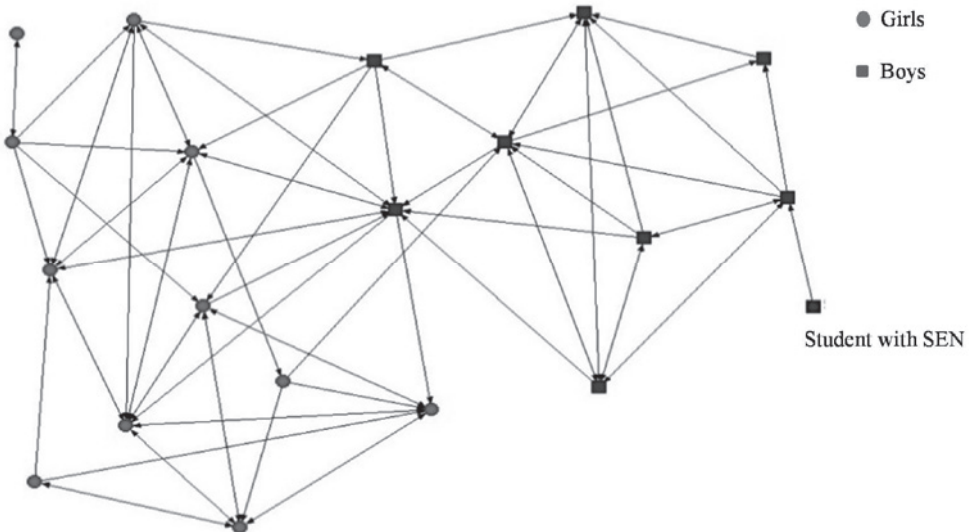


Figure 1.2 Example of a social network of a class including outdegrees, indegrees and mutual friendships of students.

Most studies on peer acceptance and friendships of students with SEN in regular education have presented worrying outcomes. Compared to typically developing peers, these students experience significant more difficulty in being accepted (Frederickson, Simmonds, Evans, & Soulsby, 2007; Nowicki, 2003; Pijl, Frostad, & Flem, 2008) and have significant fewer friendships (Koster, Pijl, Nakken, & Van Houten, 2010). It has been reported that 30% of students with SEN are rejected by their peer-group in class (Pijl, Frostad, & Flem, 2008).

Peer acceptance and friendships of students (regardless of a disability) in middle childhood is often regarded as a predictor of development outcomes. For example, a study of Laursen, Bukowski, Aunola and Nurmi (2007) showed that social isolation was found to be a significant predictor of increases in internalizing and externalizing problems for friendless children. Other research has shown that befriended children are less lonely and depressed than children who are without friends (Parker & Asher, 1993). Moreover, children who have multiple friends are found to be more academically proficient (Ladd & Kochenderfer, 1996; Vandell & Hembree, 1994). In worst case scenarios, peer rejection may lead to negative long term outcomes, like depression and other mental health issues (Aluede, Adeleke, Omoike, & Afen-Akpaide, 2008; Lund et al., 2009).

Considering the poor social outcomes of inclusive education, together with the negative effects on the development of children, it seems imperative to focus on the social dimension of inclusion, as this might moderate the academic and developmental outcomes of children. Frederickson (2010) stated that further research is needed to provide more understanding about the relationships of students with SEN in regular education. In this, both personal and environmental factors should be considered (Frederickson & Furnham, 1998). More understanding might lead to designing effective intervention programmes to improve social participation.

1.3 Attitudes of directly involved towards inclusive education

The disappointing social outcomes of inclusive education raise the question why students with SEN experience difficulties in participating socially in regular education. In recent years, it has been increasingly suggested that attitudes of those directly involved (i.e. teachers, parents and typically developing students) play a role in this (Hegarty, 1994; Meijer, 2003; Nowicki & Sandieson, 2002; Norwich, 1994). An attitude can be defined as someone's individual viewpoint or disposition toward a particular object, i.e. a person, thing, idea, etc. (Gall, Borg, & Gall, 1996). It is known that teachers and parents are of great influence on a child's development (Bowlby, 1982), suggesting that this also includes the development of particular attitudes. Consequently, positive attitudes of typically developing students may lead to accepting students with SEN (or vice versa). As stated by Nowicki and Sandieson (2002), negative attitudes of peers are a barrier to making inclusive education happen.

It is obvious that attitudes of the directly involved are important in relation to inclusive education. Nonetheless, various questions exist about attitudes in relation to the social participation of students with SEN. First, although increased attention has been paid to

describing the attitudes of the three directly involved groups, resulting in an expansion of studies over the last decade, it is unclear what attitudes teachers, parents and typically developing students hold. Second, the expansion in attitude studies has led to different approaches when measuring attitudes, whereby the conceptual basis and psychometric properties are often lacking (Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008). Hence, questions arise about the best use of instruments to *measure* attitudes. Third, it is unknown whether the attitudes of teachers, parents and students relate to one of the themes of social participation of students with SEN. As maintained by MacMillan and Morrison (1984), attitudes of teachers and typically developing students should be considered when examining the social participation of students with SEN. Nonetheless, until now little knowledge has been available on which factors *relate* to the social participation of students with SEN, especially when it concerns attitude. Fourth, when this relationship between attitude and social participation exists it seems likely to prompt interventions to *improve* attitudes of directly involved. Knowledge about the four aspects – describing, measuring, relating and improving attitudes – is lacking in the context of inclusive education, particularly when it concerns the social participation of students with SEN in the regular classroom.

1.4 Aims and outline of the present study

Due to the increased focus on the importance of attitudes in inclusive education, this study was set up to obtain more knowledge on attitudes of teachers, parents and typically developing students towards children with SEN in regular education. More specifically, the aim of this study is to describe, measure, relate and improve attitudes towards students with SEN in regular education. Hence, the relationship between attitudes of the three groups and the social participation of students with SEN is prominent in this dissertation. Ultimately, this leads to a better understanding of the social participation of students with SEN in regular education.

The dissertation begins with an extensive overview of recent literature about attitudes of teachers, parents and peers towards inclusive education. This phase of the study aimed at *describing attitudes* of teachers, parents and typically developing students. *Chapter 2* presents a literature review on teachers' attitudes and describes: 1) their attitudes towards inclusive education, 2) variables relating to their attitudes, and 3) the relation between their attitudes and the social participation of students with SEN in regular education. *Chapter 3* presents a literature review on parents' attitudes and describes: 1) their attitudes towards inclusive education, 2) variables relating to parents' attitudes, and 3) whether these attitudes relate to the social participation of children with SEN in regular education. *Chapter 4* presents a literature review on attitudes of typically developing peers towards students with SEN. The study describes: 1) attitudes of peers, 2) variables relating to their attitudes and 3) the relationship between their attitudes and the social participation of students with SEN.

An additional outcome of the three review studies was knowledge gained about the attitude questionnaires used. This was useful for setting up *Chapter 5* aimed at *measuring*

attitudes. The chapter presents a study on the construction and evaluation of an attitude questionnaire for teachers, parents and typically developing students². The chapter describes the process of questionnaire development, as well as the psychometric evaluation of the three questionnaires.

Describing attitudes of Dutch teachers, parents and typically developing students and relating attitudes to the social participation of students with SEN was the aim of the next phase of the study. *Chapter 6* presents an empirical study aimed at **describing** 1) attitudes of Dutch teachers, parents and typically developing peers towards students with cognitive disabilities, behavioural problems (i.e. Attention Deficit/Hyperactivity Disorder, AD/HD) or Autistic Spectrum Disorders (ASD), 2) variables relating to these attitudes and 3) the relationships between teachers, parents and typically developing students' attitudes. *Chapter 7* aims at **relating** child, peer and classroom **factors** to the acceptance and friendships of students with AD/HD and ASD. Here, *relating attitudes* of peers to the acceptance and friendships of students with SEN has a prominent role.

The knowledge gathered in the aforementioned chapters led to developing an intervention aimed at **improving attitudes** of typically developing students. The examination of the effectiveness of this intervention is presented in *Chapter 8*. In conclusion, *Chapter 9* outlines the major findings of the study and includes certain critical reflections. An overview of the organization of the study and the focus of each chapter is given in Figure 1.3.

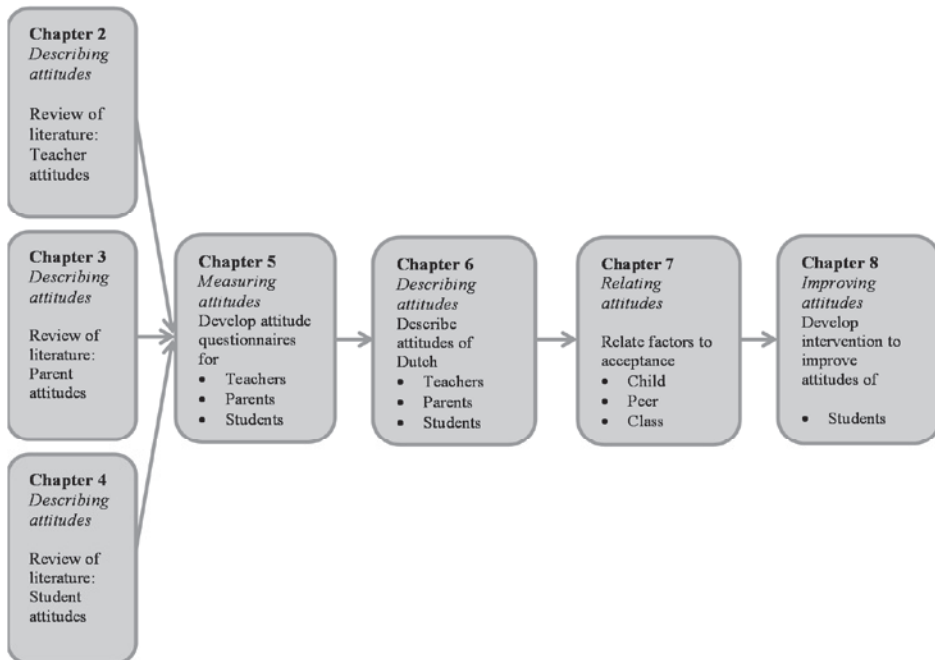


Figure 1.3 Overview of the organization of the study.

² Depending on the context we use the term ‘typically developing peers’ or ‘typically developing students’.

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Chapter 2

Regular primary schoolteachers' attitudes towards inclusive education: a review of the literature

A slightly adapted version of this chapter is published as: De Boer, A. A., Pijl, S. J., & Minnaert, A. E. M. G. (2011). Regular primary school teachers' attitudes towards inclusive education: a review of the literature. *International Journal of Inclusive Education*, 15(3), 331-353.

Abstract

Teachers are seen as key persons to implement inclusive education. Positive attitudes are therefore argued as playing a considerable role in implementing this educational change successfully. The aim of this study is to examine what attitudes teachers hold towards inclusive education, which variables are related to their attitudes and if these affect the social participation of students with special educational needs (SEN) in regular schools. A review of 26 studies revealed that the majority of teachers hold neutral or negative attitudes towards the inclusion of students with SEN in regular primary education. No studies reported clear positive results. Several variables are found which relate to teachers' attitudes, like training, experience with inclusive education and students' type of SEN. No conclusion could be drawn regarding the effects of teachers' attitudes on the social participation of students with SEN.

Keywords: teachers, attitudes, inclusive education, special educational needs, disabilities, regular education

2.1 Introduction

Education systems have changed drastically in the last decades as educating children with special educational needs in regular schools has become an important goal in many countries. This development to keep children with special educational needs in regular education settings instead of referring them to special schools is best described with the term 'inclusion'. According to Rafferty, Boettcher and Griffin (2001) inclusion refers to "the process of educating children with disabilities in the regular education classrooms of their neighbourhood schools – the schools they would attend if they did not have a disability – and providing them with the necessary services and support" (p. 266).

Parallel to the development towards including children with special educational needs into regular schools the terminology to denote those students changed. The Warnock report (1979) suggested moving the focus away from handicaps and disabilities and replacing these with the term 'special educational needs'. Thus the focus shifted away from the students' disability to the special needs the student has in education. In the late '90s the term special educational needs was also used for ethnic minorities or socially disadvantaged children. In this study the term 'special educational needs' (SEN) refers to the needs of the 'classic' population of students with communication disorders, motor skills disorders, sensory disorders, learning disorders, mental retardation, behaviour disorders and students with a chronic disease (terminology according to the American Psychiatric Association, 2000).

Due to this change in education policy many countries have largely abandoned the special school system (Meijer, Soriano, & Watkins, 2006) while in others parents of children with SEN may choose a regular or special school for their child. Although these parents have different motives for opting for a regular education setting for their child, they mainly choose a regular school because of the possibilities for their child to participate socially in the peer group. Parents hope and expect that physical integration, 'being-there', will lead to the social participation of their child (Scheepstra, Nakken, & Pijl, 1999).

According to Koster, Nakken, Pijl and Van Houten (2009), the term social participation can be described as follows:

“The social participation of students with special educational needs in regular education is the presence of positive contact/interaction between these students and their classmates; acceptance of them by their classmates; social relationships/ friendships between them and their classmates and the students’ perception they are accepted by their classmates.” (p. 135)

Although social participation of their child is one of parents’ main motives, research has established that attending a regular school does not automatically lead to an increase in the number of contacts and friendships with peers (Pijl, 2005). Students with different types of SEN have difficulties in obtaining a good social position in regular education. Several studies showed that students with SEN in regular schools are less accepted by their peers, have fewer friendships and are less often part of a network in class (Bramston, Bruggerman, & Pretty, 2002; Kuhne & Wiener, 2000; Mare & Ronde, 2000; Pijl, Frostad, & Flem, 2008; Soresi & Nota, 2000; Yu, Zhang, & Yan, 2005). Moreover, research has shown that the social position of students with SEN in segregated settings is far from positive. Research is limited yet, but there is evidence that students with disabilities are not popular in both regular and special schools (Mand, 2007). On account of these results it seems obvious that social participation deserves more attention when implementing inclusive education.

In the discussion on implementing inclusive education, several authors suggest aspects which are seen to be important in this process, like training, resources, legislation and teachers. The latter are regarded as key persons in the development and implementation of inclusive education (Hegarty, 1994; Meijer, 2003; Norwich, 1994). Because teachers are defined as such (Ainscow, 2007), several studies have tried to establish what attitude teachers hold towards inclusive education. Some of these stated that teachers are positive towards the general philosophy of inclusive education (Abbott, 2006; Avramidis, Bayliss, & Burden, 2000; Avramidis & Norwich, 2002; Marshall, Ralph, & Palmer, 2002), whereas other research has established that teachers have serious reservations about inclusive education in practice (Florian, 1998; Pearman, Huang, & Mellblom, 1997; Ring, 2005).

Regarding teachers’ attitudes towards the inclusion of students with SEN, research has shown that teachers’ attitudes differ according to the type of SEN. Avramidis et al. (2000) showed that students with emotional and behavioural difficulties are seen as causing significantly more concern to teachers than students with other types of disability. Similar results were found by Soodak, Podell and Lehman (1998), who reported that teachers hold the most negative attitudes towards the inclusion of students with mild or moderate learning disabilities and emotional disturbances. Besides the type of SEN, teachers’ attitudes also seem to be related to other variables, like experience with inclusive education (Moberg, 2003), and class size (Anderson, Klassen, & Georgiou, 2007; Rose, 2001; Scruggs & Mastropieri, 1996; Smith & Smith, 2000). Teachers with experience in inclusive education hold more positive attitudes than those with less experience and the smaller the class size, the more positive attitudes teachers have.

Next to elucidating teachers' attitudes and the variables related to these, it is also interesting to address the effects of certain attitudes on the academic and social outcomes of children. Because parents' main motive in choosing a regular school is the possibility for their child to socially interact, the social dimension is seen as an important aspect in implementing inclusive education successfully. To investigate if inclusive education has success, we therefore argue to measure this in terms of children's social outcomes.

As stated above, findings of studies regarding teachers' attitudes present a confusing picture. Teachers seem to endorse inclusive education in general, but do not like to be involved when it concerns their own teaching practice and vary their opinion according to the type of disability. Hence, the question remains how positive regular primary school teachers actually are towards the inclusion of students with SEN. Therefore a review study was set up to investigate 1) attitudes of teachers towards inclusive education, 2) variables which relate to these attitudes, 3) the effects of teachers' attitudes on the social participation of students with SEN.

Definition of the term 'attitude' in the context of inclusive education

To be able to examine what attitudes teachers hold towards inclusive education, we should first define the term 'attitude'. Although social psychology describes the concept in various ways, we decided to use the broad definition of Gall, Borg and Gall (1996): "an attitude is an individual's viewpoint or disposition toward a particular 'object' (a person, a thing, an idea, etc.)" (p. 273). As Figure 2.1 shows, attitudes are considered to have three components: 1) cognitive, 2) affective and 3) behavioural (Eagly & Chaiken, 1993).

The cognitive component consists of the individual's beliefs or knowledge about the attitude object. Teachers' beliefs or knowledge about educating students with SEN in inclusive settings can represent this component, e.g. 'I believe that students with special educational needs belong in regular schools'. Feelings about the attitude object refer to the affective component. Regarding inclusive education this may reflect teachers' feelings about educating students with SEN, like 'I'm afraid students with behaviour problems disturb the order in class'. The behavioural component reflects someone's predisposition to act toward the attitude object in a particular way. This might include teachers' views on how to act with a student with SEN in his/her classroom, e.g. 'I would refuse to give extra support to a student with special educational needs'.

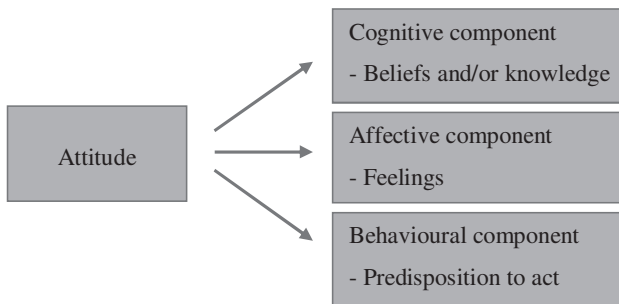


Figure 2.1 The concept 'attitude' and its three components

2.2 Method

A review study was set up in order to present a complete and recent overview of empirical studies published in the last 10 years. The procedure used to search for references, to select studies and to analyse these are described below.

Procedure

To search for relevant studies, a comprehensive search was performed using 'EBSCOhost Complete' in February 2009. This browser includes many databases like ERIC, MEDLINE, PsycARTICLES, PsychINFO and SocINDEX. To search for potential references, the term 'teacher attitudes' was combined each time with the following terms: 'inclusive education', 'mainstreaming', 'inclusion', 'special needs students', 'special educational needs', 'impairment', 'impaired', 'disorders', 'handicapped', 'disabled', and 'disabilities'. Seven journals in the field (*International Journal of Inclusive Education*, *European Journal of Special Needs Education*, *British Journal of Special Education*, *Exceptional children*, *British Journal of Educational Psychology*, *International Journal of Disability, Development and Education*, *International Journal of Special Education*) were also hand searched for relevant articles. Articles with abstracts and/or titles with the following terms were included: teacher attitudes, inclusive education, mainstreaming, inclusion, special needs students, special educational needs, impairment, impaired, disorders, handicapped, disabled, and disabilities.

Selection of studies

The combination of the term 'teacher attitudes' with the additional search terms resulted in 396 references. To select relevant studies for this review, a study had to conform to the following criteria:

- published between 1998 and 2008;
- contained empirical data;
- published in an international scientific journal;
- focused on attitudes of regular primary school teachers towards aspects of inclusive education;
- included a standardised measurement of teachers' attitudes;
- aimed at the inclusion of children with special educational needs in regular primary education and more specifically towards the social participation of those students;
- focused on attitudes of teachers towards students with one of the following types of disorders: communication disorders, motor skills disorders, sensory disorders, learning disorders, mental retardation, behaviour disorders and chronic diseases;
- provided convincing empirical evidence regarding factors related to teachers' attitudes.

From only reading the abstract 333 articles were rejected, either because studies were aimed at student teachers or teachers of secondary or special education (97). In some cases, studies included two groups of participants, like student teachers and regular primary teachers, so that we could not split up the results through which we excluded the studies from further analysis. Other studies were rejected because they did not focus on attitudes

towards inclusive education (91); were aimed at evaluating inclusive education programmes (11); addressed attitudes towards other educational changes (22); had not been published in an international journal (often unpublished dissertations) (85) or did not include empirical data (27).

After this first filtering 63 articles remained for further analysis. However, 14 proved untraceable, which led to a database of 49 studies while a search of the seven journals added 1 new study: a final total of 50 articles.

After reading the articles carefully, 24 of the studies were rejected because they did not satisfy selection criteria, i.e. they included participants of other school types like special or secondary education (12); did not include empirical data (4); did not focus in particular on teachers' attitudes towards the inclusion of students with special needs in regular classrooms (5); included pre-service teachers as participants (2) and did not report scores on the attitude questionnaire (1). This led to a final database of 26 studies.

Analysis of studies

The three-component theory (Eagly & Chaiken, 1993) provided a useful framework to present the results of the studies. This framework was used to describe the selected studies regarding teachers' attitudes towards inclusive education, according to the cognitive, affective and behavioural components. None of the selected studies, however, used the Eagly and Chaiken framework and defined their questionnaires in terms of cognitive, affective or behavioural aspects of attitude. In a number of cases it was possible to categorise (sub)scales as belonging to one of the three components. In other cases only careful analysis of the type of questions or statements used in the questionnaires revealed on which component(s) of attitude the questionnaire was focused. Questionnaires which included items such as 'I believe that students with special educational needs have the right to be educated in regular schools' were then classified under the cognitive component. Items like 'I feel I am competent in teaching students with special educational needs' were ranged under the affective component, while items like 'Which student would you like to see removed from your class?' were classified under the behavioural component. Thus this analysis made it possible to classify the studies under the corresponding component. However, in some studies this distinction was difficult to make. For example, the questionnaire 'My Thinking About Inclusion' included three subscales. The subscale 'core perspectives' reflected general beliefs about inclusive education. The other two subscales of the questionnaires did not correspond with one of the components and were therefore excluded from further analysis. In cases where the majority of a questionnaire's items were focused on beliefs/knowledge, feelings or behavioural intentions, it was decided to range the results under the 'belonging' component.

Regarding the first research question, we analysed if the results of the studies showed positive, neutral or negative attitudes. The majority of the studies used a 5-point Likert scale and reported the findings either in terms of percentages, or in terms of mean scores and standard deviations. Percentages were used in various ways: to indicate which percentage of the teachers scored above/below scale midpoint (for example: 40% negative

and 60% positive) or to indicate the percentage of teachers giving positive/negative outcomes (for example: 60% showed positive outcomes). Means scores and percentages on 5-point Likert scales cannot be linearly transformed to one another. It is of course likely that a higher positive percentage goes along with a mean score clearly above scale midpoint. However, different descriptive statistics are reported in the studies.

Since most studies reported limited statistical data it was not possible to calculate a common criteria applicable to all studies. We therefore had to develop a rule of thumb in order to evaluate the outcomes of the studies. Study outcomes counted as positive when the percentage of positive scores was above 70% or when the mean score was above 3.5 (on a 5-point Likert scale). The reverse held for negative scores. Scores were counted as neutral if the percentage was between 30 and 70 or if the mean score was between 2.5 and 3.5. For questionnaires not using a 5-point Likert scale, these boundaries were adjusted.

2.3 Results

After applying the selection criteria, 26 studies were selected for this review. Table 2.1 presents an overview of the studies selected which investigated 1) teachers' attitudes towards inclusive education according to the three components of attitude, 2) related variables and 3) the effects of teachers' attitudes on the social participation of students with SEN. The crosses in the columns indicate the main focus of the study.

After drawing up the overview in Table 2.1, the results of the studies were described in more detail. First, the results of the studies which examined teachers' attitudes toward inclusive education were described according to the three components of attitude. Secondly, the results of the studies which established relating factors were presented. Finally, the studies focusing on the effects of teachers' attitudes on the social outcomes of students with SEN were detailed.

Results 1: teachers' attitudes towards inclusive education

The results regarding teachers' attitudes are presented below according to the three components of attitude. Teachers' beliefs and knowledge about inclusive education are described first, followed by the results of the studies which assessed teachers' feelings and then the studies regarding the behavioural component of attitude.

Teachers' beliefs and knowledge about inclusive education

Alghazo and Naggari Gaad (2004) examined attitudes of regular education teachers towards inclusion ($N=160$). The questionnaire included statements to indicate whether teachers 'agreed' or 'disagreed' with the philosophy of inclusion. The questionnaire used a 5-point Likert scale that ranged from 1 to 5 (1= strong agreement and 5= strong disagreement). The overall mean of 3.2 ($SD=0.34$) indicated that teachers held a neutral attitude towards the inclusion of students with special needs in general education.

Avramidis and Kalyva (2007) assessed teacher beliefs ($N=155$) using the 'My Thinking About Inclusion' questionnaire (developed by Stoiber, Gettinger, & Goetz, 1998). This consisted of three subscales, namely: core perspectives, expected outcomes, and classroom

practices. Teachers were asked to indicate the extent of their agreement on items of the three subscales according to the response choices 1= strongly agree to 5= strongly disagree (low scores indicated positive attitudes). The subscale ‘core perspectives’ reflects the cognitive component as it illustrates teachers’ beliefs about inclusive education. The subscale includes items like ‘Students with special educational needs have the right to be educated in the same classroom as typically developing students’. The other two subscales did not reflect one of the components and were therefore exempt from further analysis. The mean item score of 2.86 ($SD= 0.37$) on the subscale ‘core perspectives’ indicated that teachers held an undecided/neutral attitude towards inclusive education. However, the authors of the study concluded that teachers held positive attitudes regarding the philosophy of inclusive education. Kalyva, Gojkovic and Tsakiris (2007) attitudes of Serbian primary school teachers also examined by the MTAI (Stoiber, Gettinger, & Goetz, 1998) ($N= 72$). According to our rule of thumb the mean score of 34.06 ($SD= 7.61$) on the subscale ‘core perspectives’ indicated that teachers held neutral attitudes towards inclusive education. The authors, however, reported that teachers held slightly negative attitudes towards core perspectives.

Table 2.1. Summarising overview of the selected studies ($N= 26$)

Author(s)	Country	Attitudes towards inclusive education ¹			Relating factors	Effects of attitudes on social participation
		C	A	B		
Alghazo & Naggar Gaad (2004)	United Arab Emirates	X			X	
Avramidis & Kalyva (2007)	Greece	X			X	
Batsiou et al. (2008)	Greece and Cyprus	X		X	X	
Bussing (2002)	United States		X			
Cook (2001)	United States			X	X	
Cook et al. (2007)	United States			X		
Cook et al. (2000)	United States			X		
DeBettencourt (1999)	United States	X				
Everington (1999)	United States	X	X		X	
Freira & César (2003)	Portugal	X				
Ghanizadeh et al. (2006)	Iran	X			X	
Glaubman & Lifshitz (2001)	Israel		X		X	
Hammond & Lawrence (2003)	United States	X				
Kalyva et al. (2007)	Serbia	X			X	
Kim et al. (2005)	Korea	X			X	
Liftshitz et al. (2004)	Israel and Palestine		X		X	
Monsen & Frederickson (2004)	New Zealand	X				
Mushoriwa (2001)	Zimbabwe	X				
Opdal et al. (2001)	Palestina	X			X	
Parasuram (2006)	India	X			X	
Pearson et al. (2003)	China	X				
Rheams & Bain (2005)	United States	X				
Sadler (2005)	United Kingdom	X	X			
Sari (2007)	Turkey	X			X	
Snyder (1999)	United States		X			
Wilkins & Nietfeld (2004)	United States	X			X	

Note. ¹ C= cognitive; A= affective; B= behavioural.

Batsiou, Bebetos, Panteli and Antoniou (2008) investigated the attitudes and intentions of Greek and Cypriot teachers towards the education of students with SEN in regular classrooms ($N= 179$) by means of a questionnaire. This included seven variables (intention, attitudes, subjective norms, self-identity, attitude strength, knowledge, information and experience) and consisted of items like: 'For me teaching in a class with regular and special educational needs students next year is....' Responses were rated on a seven-point scale using five opposing adjectives (like: good-bad, useful-not useful or strongly agree to strongly disagree), in which a lower score indicated more positive attitudes. The mean score on the variables 'attitudes' ($M= 4.7$, $SD= 1.2$), 'self-identity' ($M= 3.8$, $SD= 1.5$), 'attitude strength' ($M= 3.7$, $SD= 1.3$) indicated neutral attitudes of teachers.

Parasuram (2006) reported a mean item score of 3.3 on the 'Attitude Towards Inclusive Education Scale' (developed by Wilczenski, 1992). By means of a 6-point Likert scale, teachers ($N= 300$) indicated their extent of agreement (ranging from 6 ('strongly agree') to 1 ('strongly disagree'), in which a high score indicated more favourable attitudes towards inclusive education. The mean item score of 3.3 indicated that teachers' attitudes leaned towards response number 3, namely 'disagree somewhat'.

Using 'Mainstream Attitude Survey' (MAS, developed by Bender, Vail, & Scott, 1995) DeBettencourt (1999) surveyed teachers' beliefs about inclusion ($N= 71$). The 5-point Likert scale included items like 'I support mainstreaming....', in which a higher score indicates a more positive belief. The results of the study showed that 29.9% held negative beliefs towards inclusion (response numbers 1 and 2), whereas 40.8% held positive beliefs (response numbers 4 and 5). The other 29.5% of the teachers showed neutral attitudes. According to the rule of thumb this means that teachers held neutral attitudes towards inclusive education.

Everington, Steven and Winters (1999) used certain statements from the 'Opinions Relative to Mainstreaming' (ORM) scale (developed by Larrivee & Cook, 1979) to investigate teachers' support for inclusion ($N= 108$). Response scores ranged from 0 ('strongly agree') to 4 ('strongly disagree'), in which lower scores indicate a positive attitude. The scale included statements like 'Inclusion fosters understanding and acceptance'. The mean item score on the statements 'Supportive to Inclusion' was 1.7 ($SD= 0.95$). According to the rule of thumb, the mean item score showed that teachers held neutral attitudes. However, the high standard deviation needs to be considered because it indicates that participants hold very different opinions. According to the response choices, the mean item score indicated no strong positive attitudes. Surprisingly, the authors of the study concluded that teachers have positive attitudes towards inclusion of all children. The ORM scale was also used by Monsen and Frederickson (2004) to examine teachers' attitudes towards inclusion ($N= 63$). In this study the possible score range was from 30 to 150, in which a higher scores reflects more positive attitudes. The mean score was 97.69 ($SD= 6.74$), which indicated neutral attitudes of teachers. Sari (2007) used an adapted version of the ORM (Antonak & Larrivee, 1995) to assess teachers' attitudes towards deaf students ($N= 61$). The possible range of the scores was from 20 to 100, whereby higher

scores reflect negative attitudes. The mean score of 56.05 ($SD= 12.43$) indicates that teachers held neutral attitudes.

Hammond and Lawrence (2003) investigated teachers' attitudes towards inclusion using the 'Prevailing Attitudes about Inclusion' questionnaire ($N= 343$). This 5-point Likert scale included statements like 'Inclusion benefits all special education students'. The scores on the items showed that 49.7% of the teachers agreed with the statements and 30.2% disagreed. According to the rule of thumb the results of the study indicated that teachers held neutral attitudes.

In a study of Kim, Park and Snell (2005), teachers' attitudes ($N= 30$) towards inclusion were examined by the 'Teachers' Attitudes Scale on Inclusion' (TASI) (developed by Green & Stoneman, 1989). This questionnaire consisted of 32 items, in which teachers indicated their level of agreement using a 5-point Likert scale. The possible score range was between 32 and 160, with higher scores reflecting more positive attitudes. The mean score of 107.50 ($SD= 11.37$) showed that teachers held neutral attitudes.

Opdal, Wormæs and Habayeb (2001) found supportive attitudes among teachers. By means of a questionnaire teachers were invited to share their opinions about inclusion ($N= 90$). The study showed that 60% of the participating teachers were of the opinion that students with special educational needs should have the chance to attend regular schools. According to the rule of thumb, this percentage indicates that teachers held neutral attitudes.

Pearson, Lo, Chui and Wong (2003) used interviews to examine teachers' attitudes towards inclusive education ($N= 224$). Many teachers agreed with the two positive values of inclusion, namely 'realisation of equal opportunity' (75.9%) and 'a good chance for students to interact' (75.5%), whereas 61.8% responded positively to the item that 'inclusion is an educational value to other students'. But almost half the teachers (48.1%) responded that integrated education was 'a painful struggle for special needs students', and 60% indicated that integrated education was 'a burden to the school and teachers'. According to the rule of thumb we interpreted the results as neutral outcomes.

Results of Mushoriwa (2001), however, showed that the majority of teachers were against inclusive education for visually impaired children. The study evaluated teachers' attitude towards the inclusion of blind children in regular classes based on their responses to several statements on inclusive education. Of the total sample ($N= 400$), 86% of the teachers reported they were not in favour of inclusive education. With regard to the inclusion of students with a hearing disability, Freire and César (2003) reported that two of the five teachers interviewed agreed with the inclusion of deaf students. Ghanizadeh et al. (2006) examined teachers' attitudes towards the inclusion of students with AD/HD ($N= 169$) and reported hardly any positive attitudes. The study showed that 152 out of 196 teachers' (77.5%) agreed that AD/HD students should attend special education settings, instead of regular education.

Rheams and Bain (2005) used the 'Attitude Toward Inclusion Scale' (ATIS) (developed by Larrivee & Cook, 1979), which measured teachers' attitudes towards the inclusion of students with SEN in regular classrooms ($N= 79$). The ATIS consisted of 30

items in which teachers indicated their degree of agreement using a 5-point Likert scale (1= strongly disagree, 5= strongly agree). The mean score of 84.65 ($SD= 15.75$) on the whole scale indicated neutral attitudes of teachers.

Teachers' attitudes towards inclusive education were further examined by Wilkins and Nietfeld (2004), using a questionnaire which consisted of items like 'There are disabilities that are inappropriate for the regular classroom' ($N= 89$). The 4-point response scale ranged from 'strongly agree' to 'strongly disagree', in which lower scores indicated positive attitudes. The mean score of 2.49 ($SD= 0.69$) on the questionnaire revealed that teachers hold neutral attitudes towards inclusive education.

The previous results were regarded to beliefs of teachers towards inclusive education. One of the studies investigated the other aspect of the cognitive component, namely knowledge. Sadler (2005) examined teachers' knowledge level about educating students with speech and language difficulties ($N= 89$). Teachers were asked to rate their knowledge level with by means of a questionnaire, which included questions like 'How would you rate your present knowledge of speech and language impairments in students?' The results of the study showed that 87.6% of the teachers reported to have 'limited' or 'very limited' knowledge. None of the teachers rated themselves as having sufficient knowledge about teaching students with speech and language difficulties.

Teachers' feelings toward inclusive education

Several studies focused on teachers' feelings towards aspects of inclusive education. Bussing, Gary, Leon, Wilson and Reid (2002) assessed teachers' confidence to educate students with AD/HD ($N= 365$). Teachers rated their confidence on their ability to perform a task on a 5-point Likert scale, ranging from 1 ('no confidence') to 5 ('strongly confident'). Teachers had to indicate their degree of confidence based on 10 statements like 'I'm able to manage the stress caused by students with AD/HD in my classroom'. The mean score of 3.87 ($SD= 0.95$) indicates that teachers were fairly confident about their ability to educate students with AD/HD. However, the high standard deviation needs to be considered in interpreting the outcomes of the study. Feelings of confidence by teachers were also investigated by Sadler (2005). This study showed that none of the participating teachers ($N=89$) reported to be very confident in teaching students with speech and language difficulties. A majority of the teachers (63%) indicated that they felt 'not confident at all' or 'not very confident'. Moreover, negative findings were found by Snyder (1999), who reported that none of the general primary education teachers felt confident in working with students with special needs.

Everington et al. (1999) assessed feelings of competence among teachers by asking them to respond to thirteen statements, like 'I feel I am competent in managing behaviour', using a 5-point Likert scale (ranging from 0= strongly agree to 4= strongly disagree). A lower score indicated a higher agreement with the statement. The results of the study showed a mean score of 1.35, which means teachers ranked their feelings of competence between response number 1 (agree) and 2 (neutral). According to our rule of thumb, the results of the study are positive.

Table 2.2 Overview of studies which examined teachers' attitudes toward inclusive education (N= 26)

Author(s)	N	Name measurement instrument	Attitude component ¹			Type of disability	Outcomes ²
			C	A	B		
Alghazo & Naggar Gaad (2004)	160	Unknown	X			Several	+/-
Avramidis & Kalyva (2007)	155	MTAI: core perspectives	X			Several	+/-
Batsiou et al. (2008)	179	Planned Behaviour Theory	X		X	Several	+/-
Bussing et al. (2002)	365	Unknown		X		AD/HD	+/-
Cook et al. (2000)	70	Nomination procedure			X	Several	-
Cook et al. (2007)	70	Nomination procedure			X	Several	-
Cook (2001)	70	Nomination procedure			X	Several	-
DeBettercourt (1999)	71	MAS	X			Several	+/-
Everington et al. (1999)	108	ORM and unknown	X	X		Several	+/-
Freira & César (2003)	5	Interview	X			Deaf students	+/-
Ghanizadeh et al. (2006)	169	Unknown	X			AD/HD	-
Glaubman & Lifshitz (2001)	136	Regular Education Initiative		X		Several	+/-
Hammond & Lawrence (2003)	343	Prevailing Attitudes about Inclusion	X			Several	+/-
Kalyva et al. (2007)	72	MTAI	X			Several	+/-
Kim et al. (2005)	30	TASI	X			Several	+/-
Lifshitz et al. (2004)	125	Regular Education Initiative		X		Several	+/-
Monsen & Frederickson (2004)	63	ORM	X			Several	+/-
Mushoriwa (2001)	400	Unknown	X			Blind students	-
Opdal et al. (2001)	90	Unknown	X			Several	+/-
Parasuram (2006)	300	ATIS	X			Several	+/-
Pearson et al. (2003)	224	Unknown	X			Several	+/-
Rheams & Bain (2005)	79	ATIS	X			Several	+/-
Sadler (2005)	89	Unknown	X	X		Speech/ language	-
Sari (2007)	61	ORM	X			Deaf students	+/-
Snyder (1999)	n/a	Unknown		X		Several	-
Wilkins & Nietfeld (2004)	89	Unknown	X			Several	+/-

Note. ¹C= cognitive; A= affective; B= behavioural. ²Study outcomes are counted as positive when the percentage of positive scores is above 70% or when the mean score is above 3.5 (the reverse holds for negative scores). Scores are counted as neutral if the percentage is between 30 and 70 or if the mean score is between 2.5 and 3.5.

The 'Regular Education Initiative Questionnaire' (Gemmel-Crosby & Hanszlik, 1994) was used by Glaubman and Lifshitz (2001) to examine teachers' willingness to include students with SEN in their classroom (N=136). Teachers' attitudes were assessed using a 5-point Likert scale. However, the response choices were compressed in the analysis of the results (1 and 2= 1, 3= 2 and 4 and 5= 3), in which a higher score indicated positive attitudes. The mean score of 1.96 (*SD*= 0.58) showed that teachers are neutral about the inclusion of students with SEN in regular classrooms.

The 'Regular Education Initiative Questionnaire' (Gemmel-Crosby & Hanzlik, 1994) was also used by Liftshitz, Glaubman and Issawi (2004) to examine Israeli and Palestinian teachers' attitudes towards inclusive education ($N= 125$). The five response choices (1, 'strongly disagree' to 5, 'strongly agree') were condensed to a 3-point scale, with a higher score representing more positive attitudes towards inclusion. Regular education teachers showed a mean score of 2.02 ($SD= 0.61$), which indicated neutral attitudes.

Teachers' predisposition to act with regard to inclusive education

Cook, Tankersley, Cook and Landrum (2000) investigated teachers' attitudes towards the inclusion of children with disabilities using a nomination procedure ($N= 70$). Teachers were asked to nominate three of their students who represented the best responses to four attitudinal categories (attachment, concern, indifference and rejection). The nomination prompts regarding the four categories were as follows: 1) 'If you could keep one student for another year for the sheer joy of it, whom would you pick?' (Attachment). 2) 'If you could devote all your attention to a student who concerns you a great deal, whom would you pick?' (Concern). 3) 'If parents were to drop by for a chat, whose child would you be least prepared to talk about?' (Indifference). 4) 'If your class had to have one student, whom would you be relieved to see removed?' (Rejection). The results of the study revealed that teachers nominated significantly more students with disabilities in the category 'concern' or 'rejection', whereas typically developing students are significantly nominated more in the attachment category. No significant differences were found between the two groups with regard to the 'indifference' category. These findings are supported by another study performed by Cook (2001) and Cook, Cameron and Tankersley (2007).

The study of Batsiou, Bebetos, Panteli and Antoniou (2008) investigated the behaviour of teachers towards educating students with SEN in regular classrooms ($N= 179$). Teachers' attitudes were examined using a questionnaire based on the 'Planned Behaviour Theory'. The variable 'intention' consisted of three different statements: 'I intend/I will try/ I am determined to teach a class with regular and special educational needs students next year'. A seven point scale was used to determine teachers' intentions, in which a lower score indicated a positive attitude. The mean score of 3.2 ($SD= 1.7$) showed that teachers were neutral in their behavioural intentions.

Summary of results 1: teachers' attitudes towards inclusive education

Twenty six studies investigated one (or more) attitude component(s) with regard to inclusive education. As illustrated in Table 2.2, most studies focused on teachers' attitudes regarding beliefs and/or knowledge. To sum up, the results of the studies showed that the majority of teachers were undecided or negative in their beliefs about inclusive education and do not rate themselves as very knowledgeable about educating students with SEN. The six studies which examined teachers' feelings towards inclusive education showed that teachers did not feel competent and confident in teaching students with various types of SEN. Furthermore, studies regarding the behavioural component showed that teachers hold negative or neutral behavioural intentions towards students with SEN.

Results 2: variables related to teachers' attitudes

As mentioned previously, it is argued that teachers' attitudes are related to several variables. Table 2.3 presents an overview of the studies which have established variables related to teachers' attitudes. The results of these studies are illustrated below.

Author(s)	<i>N</i>	Type of disability	Variable(s)
Alghazo & Naggar Gaad (2004)	140	Several	Gender/Years of teaching experience/ Type of disability
Avramidis & Kalyva (2007)	155	Several	Experience/Training
Batsiou et al. (2008)	179	Several	Experience with inclusive education/Training
Cook (2001)	70	Several	Type of disability
Everington et al. (1999)	108	Several	Experience
Ghanizadeh (2006)	196	AD/HD	Training
Glaubman & Lifshitz (2001)	136	Several	Years of teaching experience/Type of disability
Kalyva et al. (2007)	72	Several	Experience with inclusive education
Kim et al. (2005)	30	Several	Training
Lifshitz et al. (2004)	125	Several	Training/Type of disability
Opdal et al. (2001)	300	Several	Gender/Experience
Parasuram (2006)	300	Several	Experience/Gender
Sari (2007)	122	Deaf children	Training
Wilkins & Nietfeld (2004)	89	Several	Training

Gender

Alghazo and Naggar Gaad (2004) found a significant difference between male and female teachers, whereby males held less positive attitudes towards inclusive education ($t= 4.42$, $p= 0.05$). Opdal et al. (2001) reported that female teachers were more supportive towards inclusion, compared to male teachers. Of the male teachers, 59% answered that they supported the inclusion of students with SEN, whereas 69% of the female teachers were supportive in their answer. However, those results are not replicated in a study of Parasuram (2006), who reported that there were no significant gender differences.

Years of teaching experience

The study of Alghazo and Naggar Gaad (2004) showed that teachers with one to five years of teaching experience held significant more positive attitudes towards the inclusion of students with SEN compared with teachers with six to 11 years of experience and those with 12 or more years of experience, $F(2, 149)= 10.3$, $p= 0.05$. Glaubman and Lifshitz (2001), also found that teachers with less years of teaching experience (1-10 years) were significantly more positive than their counterparts with more experience (>11 years), $F(1, 108)= 4.73$, $p<0.05$.

Experience with inclusive education

Experience with inclusive education is described by several authors as a factor which influences teachers' attitudes. Avramidis and Kalyva (2007) found a significant difference between schools who had much experience and those with little or no experience with inclusive education, $F(1, 153)= 12.33$, $p< .001$. Teachers with experience held significantly more positive attitudes towards inclusive education than teachers with little or no

experience. Kalyva et al. (2007) found similar results among Serbian teachers. The results of the study also showed that teachers with experience in teaching students with SEN were more positive compared to those without experience, $F(1, 69) = 55.41, p < 0.001$.

Everington et al. (1999) also reported that teachers who had previous experience with inclusive education were significantly more positive towards it than those without any experience. Moreover, Opdal et al. (2001) concluded that teachers who had experience in teaching students with SEN (29%) were more positive towards inclusion than teachers without experience (9%). Batsiou et al. (2008) found a significant positive correlation between experience and teachers' attitudes ($r = 0.88, p < 0.001$), indicating that teachers' positive attitude is influenced by their previous experience.

In addition to experience with inclusive education, prior contact with disabled people also seems related to teachers' attitudes. Teachers who were acquainted with a disabled person held more positive attitudes towards inclusion than teachers who were not acquainted with someone with a disability (Parasuram, 2006).

Training

Many authors point at the importance of specialised training. Of the selected studies, Avramidis and Kalyva (2007) found that teachers with long-term training were significantly more positive towards statements about the general philosophy of inclusion, compared with those who had no training at all, $F(2, 152) = 4.85, p < .01$. Hence, a significant positive relationship of 0.24 was found between knowledge and attitude by Ghanizadeh et al. (2006). This study showed that the more knowledge teachers had about AD/HD, the more positive their attitude was towards the inclusion of students with this type of SEN.

Batsiou et al. (2008) found a significant relationship between information and attitudes ($r = 0.36, p < 0.001$) and knowledge and attitudes ($r = 0.26, p < 0.001$). These results showed that teachers' attitudes are influenced by information and knowledge they have about the inclusion of students with SEN in regular classrooms.

Liftshitz et al. (2004) investigated the influence of in-service training on teachers' attitudes comprising a course of 28 hours for regular teachers. Results of the study showed that after the intervention the scores of the regular teachers on the attitude questionnaire increased significantly. In contrast, the study of Wilkins and Nietfeld (2004) revealed no differences between the group who participated in an experimental group and the control group. The results indicated that the intervention did not influence teachers' attitudes towards inclusive education.

The influence of an In-Service Teacher Training (INSET) programme on teachers' attitudes towards inclusion was also evaluated by Sari (2007). The results of the study revealed that an increasing knowledge level leads to positive attitude changes among teachers towards the inclusion of deaf children. The experimental group in the study, who attended an INSET programme, showed significant higher scores ($t = 15.6, p = .0001$) on the post-test than on the pre-test for the 'Opinions Relative to Mainstreaming Scale' (developed by Larrivee & Cook, 1979). Comparable findings were reported by Kim et al.

(2005), who examined if written information had influenced teachers' attitudes towards inclusive education. They offered a weekly newsletter for regular school teachers written by special needs educators. This was divided in four parts and contained information about students with SEN, news from special needs classes, information on special education and inclusion and feedback from teachers of integrated classes. Besides this, regular school teachers had weekly contact with the special needs educators. The results of the study indicated that regular teachers who received written information and had weekly contact held significantly more positive attitudes by the end of the study towards the inclusion of students with SEN than the control group, $F(1, 27) = 13.37, p < .001$.

Type of disability

Several studies related teachers' attitudes to students' type of disability. Using a nomination procedure, Cook (2001) compared teachers' attitudes towards students with mild and severe disabilities ($N = 70$). The results of the study pointed out that students with specific learning disabilities, AD/HD or behavioural disorders were nominated significantly more often by teachers in the attitudinal category 'rejection' than those with easy-to-notice disabilities (like cognitive, orthopaedic, hearing, visual or multiple disabilities and autism), $\chi^2(1, N = 63) = 3.00, p < .05$. According to the findings of this study, if teachers could reduce their class by one student they would be relieved if it were a student with learning disabilities, AD/HD or behaviour problems.

The results of the study of Alghazo and Naggar Gaad (2004) revealed that teachers were most positive towards students with physical disabilities, students with specific learning difficulties and visual impaired students. Additionally, teachers were the most negative about the inclusion of students with mental disabilities, behavioural difficulties and hearing impairment.

Glaubman and Liftshitz (2001) found that teachers differentiated their attitudes according to type of disability. Teachers showed greatest willingness for the inclusion of students with physical disabilities or sensory impairments. Teachers' attitudes were most negative towards the inclusion of students with learning disabilities, mild emotional problems, mild mental retardation and students with medium and severe emotional problems and mental retardation.

Finally, Liftshitz et al. (2004) also showed that teachers' attitudes differed per type of disability. Teachers were the most positive about the inclusion of students with learning disabilities, mild emotional disorders ($M = 2.41, SD = 0.46$), and students with visual and hearing impairments ($M = 2.36, SD = 0.72$). The lowest score (which indicated a more negative attitude) was found among students with mental retardation, moderate/severe behavioural and emotional disorders ($M = 1.66, SD = 0.48$) and blind and deaf students ($M = 1.60, SD = 0.68$).

Summary of results 2: variables related to teachers' attitudes

Three studies related gender to teachers' attitudes, in which two studies showed that female teachers were more supportive towards inclusive education than male teachers. However, one study did not revealed any gender differences.

Several studies revealed that attitudes towards inclusive education were influenced by years of teaching experience. Teachers with less teaching experience held significantly more positive attitudes towards the inclusion of students with SEN than those with more years of teaching experience. Additionally, several studies showed that teachers who had previous experience with inclusive education held significantly more positive attitudes than teachers who have no or less experience with inclusive education.

Several studies established that training in SEN education positively influences the attitudes of teachers. The results of these studies indicate that teachers who received training hold more positive attitudes toward inclusive education compared with teachers who received less training. Furthermore, several studies revealed that teachers are most negative about the inclusion of students with learning disabilities, behaviour problems and cognitive disabilities. In contrast, teachers are the most positive about the inclusion of students with physical disabilities and students with sensory impairments.

Results 3: the effects of teachers' attitudes on the social participation of students with SEN

The third research question of this study was aimed to investigate if teachers' attitudes have effects on the social participation of students with SEN. However, no studies were found in which this aspect was investigated. Consequently, no results can be reported in this section.

2.4 Conclusion

The general aim of this study was to examine how positive regular primary school teachers actually are towards the inclusion of students with SEN in regular education. By means of a review study we investigated what attitudes teachers hold towards inclusive education, which variables are related to their attitude and what the effects of teachers' attitudes are on the social participation of students with SEN.

Regarding the first research question of this study it can be concluded that teachers are negative or undecided in their beliefs about inclusive education and do not rate themselves as knowledgeable about educating students with SEN. Additionally, they do not feel competent and very confident in teaching students with SEN. Furthermore it can be concluded that teachers would more often reject students with SEN compared to their typically developing peers.

With regard to the second research question, this study revealed that years of teaching experience, experience with inclusive education and training in special needs education are related to teachers' attitudes. Hence, it can be stated that teachers with less years of teaching experience hold more positive attitudes towards inclusive education than teachers who have many years of teaching experience. Furthermore, it can be concluded that

teachers who have experience with inclusive education and training hold more positive attitudes toward inclusive education than teachers who have less experience and received less training. Additionally teachers' attitudes seem to be related to the type of disability. Teachers hold the most negative attitudes to the inclusion of students with learning disabilities, AD/HD and other behaviour problems. In contrast, they are more positive about the inclusion of students with physical disabilities and sensory impairments.

Regarding the last research question it can be concluded that none of the selected studies examined if teachers' attitudes have effects on the social participation of students with SEN in regular classrooms. On behalf of this, no conclusions can be drawn regarding this aspect.

2.5 Discussion

Several authors regard the attitude of teachers towards inclusive education as a significant factor in the implementation of successful inclusive education (Meijer, 2003; Norwich, 1994). It is therefore not surprising that many studies have assessed teachers' attitudes towards inclusive education. In this current study we presented an overview of studies which examined teachers' attitudes towards inclusive education, variables relating to their attitude, and the influence of teachers' attitudes on the social participation of students with SEN in regular classrooms.

This review showed that teachers hold predominantly negative or undecided beliefs and feelings towards inclusive education. Some of the authors of the studies under review here present a more positive interpretation, but careful analysis of the data do not support their conclusions. As presented in Table 2.2, the majority of studies focused on the cognitive or affective component of attitudes. Regarding those components, it was expected to find more positive attitudes than the results revealed. It seemed reasonable to expect that teachers would generally react positive on items like 'I agree that all students have the right to be educated in a regular school'. However, the results showed teachers to hold neutral/negative attitudes. These results seem to deviate from the more positive conclusion of older reviews (Avramidis & Norwich, 2002; Scruggs & Mastropieri, 1996) regarding the attitudes towards inclusive education, but concur with the sombre views of recent state-of-the-art studies of Vislie (2006) and Ferguson (2008). They concluded that progress in implementing inclusive education is slow or even lacking. It is still an open-ended question how Vislie and Ferguson's conclusions are related to seemingly more negative teachers' attitudes.

Years of teaching experience is found to be a variable related to teachers' attitudes. Teachers with less years of teaching experience hold more positive attitudes towards the inclusion of students with special needs than teachers who have many years of experience. However, a contradictory result is found regarding experience with inclusive education. Clear differences in attitudes between teachers with and without experience with inclusive education are found, in which teachers with experience hold more positive attitudes than teachers without experience. The latter is supported by other studies (Balboni & Pedrabissi, 2000; Avramidis & Norwich, 2002). Those authors also concluded that teachers with

inclusive education experience show significantly more positive attitudes than teachers with less or no experience in inclusive education. The findings of teaching experience and experience with inclusive education seem to be contradictory. A possible explanation for these conflicting findings might be that teachers with many years of teaching experience grow 'stale' in their profession. These teachers might find it difficult to educate students with various types of SEN, instead of typically developing students. Hence, it seems reasonable that such teachers are less supportive towards the implementation of inclusive education.

It is not surprising that experience is related to attitudes, as the theory about the formation of attitudes also states that attitudes are formed by direct and indirect experience (Eagly & Chaiken, 1993). Besides the variable experience, teachers who received (long-term) training in special needs education held more positive attitudes towards inclusive education compared with teachers who did not receive training. Results of other studies also showed that teachers' attitudes are influenced by specialised training in special needs education (Avramidis & Norwich, 2002). These data suggest that additional teacher training in educating students with SEN in regular education leads to more positive attitudes and willingness to implement inclusive education. However, some cautionary comments need to be made regarding this relation. Although it seems likely that training in special needs education facilitates a more positive attitude among teachers, other mediating variables might influence this relationship.

The results of this study further indicate that teachers' attitudes are related to disability categories. Various studies showed clearly that teachers are most negative about the inclusion of students with learning disabilities, AD/HD and other behaviour problems. Avramidis and Norwich (2002) concluded in their study that teachers are more willing to include students with mild disabilities, or physical/sensory disabilities than students with more complex needs. Although there is evidence that teachers' attitudes vary according to type of disability, it is not clear to what extent this affects their behaviour, support and willingness to make inclusive education possible for students with special educational needs.

Limitations of the study

In this study the term 'attitude' was defined using the three-component theory of Eagly and Chaiken (1993), who consider attitudes to have three components, namely a cognitive, an affective, and a behavioural component. Although only high quality studies were selected for this review, hardly any of the authors defined the concept 'attitude'. In many studies the conceptualisation of the term 'attitude' could only be deduced from the descriptions in the articles or the content and types of items in the questionnaires used. In a number of cases this seriously impeded drawing conclusions based on the studies' results and (parts of) the data collected in these studies had to be put aside. It was therefore sometimes difficult to classify the results of the studies under one of the three components. However, it became clear that none of our selected studies dealt with all three components of attitudes

(see Table 2.1). This limitation needs to be considered in interpreting the results of this current study.

Another limitation of this study is that the selected studies used self-reported questionnaires rather than observations of teachers' classroom behaviour. Hence, socially desirable answers could easily be given. Teachers may endorse the general philosophy of inclusive education, but this does not obviously mean they are willing to make specific adaptations for students with SEN. It seems reasonable that observations are necessary to establish if teachers' beliefs, feelings and behavioural intentions correspond with their actual behaviour to students with SEN. We therefore emphasise the importance of extensive research focusing on all three components of attitude and the consistency of teachers' actual behaviour toward students with SEN.

Recommendations for future research

One of the core ideas behind the striving for inclusion is the increased possibilities for social contacts and relationships between students with SEN and their typically developing peers in regular education. One of the aims of this review study was therefore to examine if teachers' attitudes affect the social participation of students with SEN. However, none of the studies selected linked teachers' attitudes to this type of students' outcome. Consequently, it was impossible to conclude if attitudes are a significant factor in implementing inclusive education. The question therefore still remains unanswered as to the extent teachers' attitudes are important in implementing inclusive education. Hence, we emphasize the importance of research focussing on the influence of attitudes on the social outcomes of students with SEN.

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Chapter 3

Attitudes of parents towards inclusive education: a review of the literature

A slightly adapted version of this chapter is published as: De Boer, A. A., Pijl, S. J., & Minnaert, A. E. M. G. (2010). Attitudes of parents towards inclusive education: a review of the literature. *European Journal of Special Needs Education*, 25(2), 165-181.

Abstract

The aim of this study is to review literature about parents' attitudes towards inclusive education. Special attention is paid to parents' attitudes and to the effect of these on the social participation of children with disabilities in regular schools. Review of the literature resulted in 10 studies showing that the majority of parents hold positive attitudes. However, parents of children with disabilities reported various concerns, including the availability of services in regular schools and individualised instruction. Several variables were found which relate to parents' attitudes, like social-economic status, education level, experience with inclusion and type of disability. No studies examined the effects of parental attitudes on the social participation of children with disabilities. The importance of positive parental attitudes is elaborated in the discussion.

Keywords: parents, attitudes, inclusive education, special needs students

3.1 Introduction

The education of children with disabilities in regular education has become an important matter for debate worldwide in the last decades. Previously it was assumed as unrealistic to place children with disabilities in regular schools (Pijl, 1997). However, children with various types of disabilities can actually attend regular education in many countries nowadays (Nakken & Pijl, 2002). The development to include children with disabilities in regular education settings is generally described with the term 'inclusion', which refers to "the process of educating children with disabilities in the regular education classrooms of their neighbourhood schools – the schools they would attend if they did not have a disability – and providing them with the necessary services and support" (Rafferty, Boettcher, & Griffin, 2001, p. 266).

In various countries inclusive education was initiated by parents of children with disabilities. Although parents' motives to place their disabled child in a regular school might vary, they mainly choose a regular education setting because of the possibilities for their child to participate socially in the peer group. Parents hope and expect that physical integration, 'being there', will lead to social participation of their child in the peer group (Scheepstra, Nakken, & Pijl, 1999). The social dimension of inclusive education covers various aspects. According to Koster, Nakken, Pijl and Van Houten (2009), social participation consists of four key elements, namely 1) the presence of positive contact/interaction between children with disabilities and their classmates, 2) acceptance of them by their classmates, 3) social relationships/friendships between children with disabilities and their classmates and 4) the students' perception they are accepted by their classmates.

However, children with disabilities in regular schools have relatively more difficulty in participating socially in regular education. Research showed that these children are less accepted by their peers, have fewer friendships and are less part of a network in class compared to their typically developing peers (Bramston, Bruggerman, & Pretty, 2002;

Kuhne & Wiener, 2000; Mare & Ronde, 2000; Pijl & Frostad, & Flem, 2008; Soresi & Nota, 2000).

Why these children experience difficulties in their relationships with typically developing peers is not quite clear. It seems likely that acceptance aspects, like the attitudes of parents of typically developing children play a key role here. Children develop attitudes by being exposed to, and adopting, the attitudes of their parents (Katz & Chamiel, 1989). Parents' attitudes and behaviour influence their children's, which is then carried over into later life (Holden, 1995). This theory indicates that parents who do not support inclusive education might negatively influence the formation of their child's attitudes and behaviour.

Parental support and involvement, moreover, is regarded as being greatly important in facilitating inclusive education (Palmer, Fuller, Arora, & Nelson, 2001). It seems reasonable that when both groups of parents – those of children with disabilities and those without – are positive towards inclusive education, teachers and support staff will be more inclined to realise inclusion. Hence, acquiring knowledge about parents' attitudes towards inclusive education and variables relating to their attitude could be useful in developing interventions to create positive ones.

Research on the subject has shown that parents seem to hold predominantly positive attitudes towards inclusive education (Miller & Phillips, 1992). For example, parents of typically developing children report that inclusive education helps their offspring to learn about and accept individual differences (Gallagher et al., 2000; Miller & Phillips, 1992).

Besides the benefits of inclusive education, both groups of parents show concerns about inclusive practices. Some parents of children with disabilities argue that a regular classroom is not an option for their child (Green & Shinn, 1994; Palmer et al., 2001). They have concerns about the social impact on their child, like social isolation, rejection and bullying (Bailey & Winton, 1987; Leyser & Kirk, 2004; Salisbury, 1992). Moreover, they are apprehensive regular teachers are not trained well enough, have insufficient teaching time and lack appropriate support and resources to educate their children properly (Bennett & Deluca, 1997; Fox & Ysseldyke, 1997; Grove & Fisher, 1999). Parents of typically developing children, on the other hand, are concerned that their child might develop inappropriate behaviour (Reichart et al., 1989).

Additionally, research has found several variables which relate to the attitudes of parents, including the fact that those who have experience of there being a disabled child in their child's classroom hold more positive attitudes than parents without this experience (Innes & Diamond, 1999). Furthermore, the type of disability seems related to parents' attitudes: they are most positive towards the inclusion of children with mild disabilities.

Due to the increasing interest of researchers in aspects relating to successful inclusive education, knowledge about attitudes has increased over the last decades. However, to the best of our knowledge, a systematic review performed to gather insight into parents' attitudes towards inclusive education was lacking. Thus, a review study was set up to examine 1) what attitudes parents hold towards inclusive education and if attitudes of parents of children with and without disabilities differ, 2) which variables relate to their

attitude and 3) the effects of parents' attitudes on the social participation of children with disabilities.

In this study the following broad definition of attitude will be used: "an attitude is an individual's viewpoint or disposition toward a particular 'object' (a person, a thing, an idea, etc.)" (Gall, Borg, & Gall, 1996, p. 273).

3.2 Method

A review study was set up in order to present a complete and recent overview of empirical studies which assessed parents' attitudes towards inclusive education. The procedure to search for references, select and analyse studies are described below.

Procedure

A comprehensive search was performed using 'EBSCOhost Complete' to search for relevant articles. The search was conducted in February 2009. This browser includes many databases, among which are ERIC, MEDLINE, PsycARTICLES, PsychINFO and SocINDEX. To search for potential references, the term 'parent attitudes' was each time combined with the following terms: 'inclusive education', 'mainstreaming', 'inclusion', 'special needs students', 'special educational needs', 'impairment', 'impaired', 'disorders', 'handicapped', 'disabled', 'disabilities'.

Moreover, a double check for references was made by hand searching seven journals. Those journals (International Journal of Inclusive Education, European Journal of Special Needs Education, British Journal of Special Education, Exceptional Children, British Journal of Educational Psychology, International Journal of Disability, Development and Education, and International Journal of Special Education) were selected because they particularly focus on special needs education. The used selection criteria are described underneath and apply for the electronic search, as well as for the hand search.

Selection of studies

The combination of the term 'parent attitudes' with the additional search term resulted in 346 references. The search in the seven journals, however, did not yield any new references. To select relevant studies for this review, a study had to confirm to the following criteria:

- contain empirical data;
- include a standardized measurement to examine parents' attitudes;
- taking a publication lag of 4 to 5 years into account, and only wanting to describe recent studies in this review, articles published between 1998 and 2008 were selected;
- participants of the study were parents of children with and without special needs;
- convincing empirical evidence was provided regarding factors related to parents' attitudes;
- was aimed at attitudes of parents towards inclusive education and more specifically towards the social participation of special needs students;

- focused on children with one of the following types of disabilities: communication motor skills, sensory, learning and behavioural disorders (including autistic spectrum syndromes), mental retardation and chronic diseases;

By means of the selection criteria and reading the title and/or abstract carefully, 308 references were deleted from the database, which resulted in 38 remaining articles. A primary reason for rejection was that many studies (256) did not focus on parents' attitudes towards inclusive education. Moreover, various studies did not contain empirical data (38), and some studies did not only include parents as participants, but also other caregivers (14). This first filtering resulted in 38 studies which had to be assessed. However, 4 studies were untraceable, resulting in a database of 34 articles. After reading those articles in depth, 23 studies had to be deleted because they did not fully satisfy the selection criteria. Various studies did not focus specifically on attitudes of parents towards inclusive education (15), but on community inclusion for instance. Furthermore, some studies did not include empirical data (8) and one study did not use a standardised instrument to measure attitudes. This last filtering resulted in a final database of 11 articles.

Applying the selection criteria, 11 studies were selected for this review. However, two of the selected studies contained the same empirical data of parents' attitudes towards inclusive education. One of the studies, however, also presented data regarding variables related to parents' attitudes. This made us decide to present the results of the study which included data about parents' attitudes and data about relating variables. Consequently, the final database included 10 different entries.

Analysis of studies

Regarding the first research question, we established if the results of the studies showed positive, neutral or negative attitudes. The majority of the studies used a 5-point Likert scale and reported their findings in terms of percentages, or in terms of mean scores and standard deviations. Mean scores and percentages on 5-point Likert scales cannot linearly be transformed to one another. It is of course likely that a higher positive percentage goes along with a mean score clearly above scale midpoint.

Since most studies reported limited empirical data, it was not possible to calculate a common criterion applicable to all studies. Therefore, we developed a rule of thumb in order to evaluate the outcomes of the studies. Study outcomes counted as positive when the percentage of positive scores was above 70% or when the mean score was above 3.5 (on a 5-point Likert scale). The reverse held for negative scores. Scores were counted as neutral if the percentage was between 30 and 70, or if the mean scores were between 2.5 and 3.5. For questionnaires not using a 5-point Likert scale, their boundaries would be adjusted. The percentages of respondents who chose a neutral/undecided response were equally divided and added to the percentages of positive and negative responses.

3.3 Results

Table 3.1 gives an overview of the selected studies which investigated 1) parents' attitudes towards inclusive education, 2) relating variables and 3) the effects of parents' attitudes on

the social participation of children with disabilities. The crosses in the columns show the main aspects of the studies. After summarising the results in Table 1, the study results are described in more detail.

The last column of Table 3.1 is striking because no marks were made in this column. This indicates that none of the selected studies has examined the effects of parents' attitudes on the social participation of children with disabilities. As there are no studies found, no further attention to this aspect will be given in the description of the results in the following pages.

Results 1: attitudes of parents towards inclusive education

The main topics of the selected studies about parents' attitudes toward inclusive education are presented below. These results are divided into three groups, namely, those 1) describing attitudes of parents of children with disabilities, 2) describing attitudes of parents of typically developing children (also referring to children without disabilities) and 3) comparing attitudes of parents of children with and without disabilities.

Table 3.1 Summarising overview of the studies included ($N= 10$)

Author(s)	Country	Attitudes of parents of ¹			Relating variables	Effects of attitudes on social participation
		CSN	TDC	Both		
Balboni & Padrabissi (2000)	Italy		X		X	
Elkins et al. (2003)	Australia	X				
Kalyva et al. (2007)	Greece		X		X	
Kelly (2001)	USA			X		
Leyser & Kirk (2004)	USA	X			X	
Palmer et al. (1998)	USA	X			X	
Peck et al. (2004)	USA		X			
Rafferty et al. (2001)	USA			X	X	
Stoiber et al. (1998)	USA			X	X	
Tafa & Manolitsis (2003)	Greece		X		X	

Note. ¹ CSN= children with special needs; TDC= typically developing children; Both= children with special needs and typically developing children.

Attitudes of parents of children with disabilities towards inclusive education

Three of the ten studies examined what attitudes parents of children with disabilities held towards inclusive education (see first column, Table 3.1). Elkins, van Kraayenoord and Jobling (2003) assessed parents' attitudes by means of the Survey of Parents' Attitudes and Opinions about their Children with Special Needs and their Support ($N= 354$). Parents could indicate their level of agreement on 25 statements about aspects of their child's education, like 'regular class teachers have sufficient training to teach students with special needs'. The results of the study showed that the mean percentage of parents who responded with 'strongly agree' and 'agree' was 53.2%. Negative attitudes ('disagree' or 'strongly disagree') were found among 30.7% of parents. The other 16.2% of parents showed neutral attitudes. Although a small majority of parents recognized the benefits of inclusion, parents

expressed more concerns regarding inclusion for their own child. When parents were asked about inclusion for their own child, 50% reported that they favoured special classes instead of regular schools.

The Attitude Toward Inclusion/Mainstreaming scale (adapted from the Opinions Relative to Mainstreaming scale, developed by Antonak & Larrivee, 1995) was used by Leyser and Kirk (2004) to evaluate attitudes of parents of children with disabilities ($N=437$). The questionnaire included statements like 'inclusion is more likely to prepare children with disabilities for the real world'. Parents rated their extent of agreement on the statements using a 5-point Likert scale (1= strongly agree, 5= strongly disagree), in which a lower score can be interpreted as a positive attitude. The mean score of 2.56 ($SD=1.03$) on the total scale showed that parents were undecided in their attitude. This score on the total scale indicated that parents held a neutral attitude. However, variance in attitudes was found on item level. More than 85% of parents showed strong support for the item which referred to the general concept of inclusion ('special needs students should be given every opportunity to function in the regular classroom setting where possible'). On the other hand, 53.6% of parents reported that inclusion is likely to hurt the emotional development of children with disabilities. Furthermore, parents had concerns about individualised instruction and available services in regular schools.

The study of Palmer, Borthwick-Duffy, Widaman and Best (1998) presented a situation of inclusive education to parents and asked them 1) if they agreed with inclusion in general (according to the situation) and 2) if inclusion would be good for their child with disabilities ($N=408$). The study revealed that 46.6% of the participating parents agreed with the statement that inclusion was good in general. When parents were asked if inclusion would be a good idea for their child, more than half the participants (54.1%) responded negatively. According to rule of thumb, the results can be interpreted as neutral attitudes.

Attitudes of parents of typically developing children towards inclusive education

Attitudes of parents of children without special needs were examined in four studies (see TDC column, Table 3.1). The study of Balboni and Pedrabissi (2000) investigated what attitudes parents held toward the inclusion of children with cognitive disabilities in regular education ($N=647$). Through the Mental Retardation and Inclusion questionnaire parents indicated their agreement or disagreement on 26 statements about inclusive education, like 'the only advantage of including students with mental retardation in ordinary classes concerns their socialisation'. Using a 4-point Likert scale parents rated their agreement or disagreement (ranging from a score of 1 (total disagreement) to 4 refers (total agreement), in which a higher score shows more positive attitudes. The mean item score was 2.66 ($SD=0.37$), which indicates that parents held neutral attitudes.

By means of the My Thinking About Inclusion (MTAI) questionnaire, parents' agreement with inclusive education was assessed in a study by Kalyva, Georgiadi and Tsakiris (2007). Through this 12-item questionnaire parents were asked to indicate what attitudes they held on the inclusion of children with disabilities in regular education ($N=$

338). The possible range of scores for the total scale was 12 to 60, in which a higher score indicated negative attitudes. The mean score of 25.49 ($SD= 3.79$) for the whole scale showed that parents held positive attitudes towards inclusive education. Besides the MTAI questionnaire, parents were also asked to complete a questionnaire to evaluate parents' personal involvement and the involvement of their own child with a child with disabilities (questionnaire devised by Besevegis et al., 1997). The items of this questionnaire corresponded with the behavioural component of attitude. Parents were asked to respond with a 'yes' or a 'no' to eight statements. The majority of parents responded positively to the statements (72%), which indicated positive attitudes. However, on item level there was some variance in attitude towards certain statements. A large group of parents was not willing to invite a child with disabilities to spend a night at their house (68.3%). Furthermore, 38.3% of parents would not invite a child with disabilities to their home.

Positive attitudes of parents were found by Peck, Staub, Gallucci and Schwartz (2004). In this study parents were asked to indicate 1) their general attitude toward inclusion before their child enrolled in an inclusive classroom, 2) their attitude after enrolling their child in an inclusive classroom, and 3) if they would re-enrol their child in an inclusive class. Almost half the parents (47%) held a positive attitude toward inclusion before their child enrolled in an inclusive classroom and 46% a neutral one. After their children enrolled in an inclusive classroom, 64% of parents still held a positive attitude. Regarding the third question, the results of the study showed that 73% of parents would re-enrol their child in an inclusive classroom. Based on rule of thumb, the results are interpreted as positive attitudes. Besides the results on the three questions, parents frequently described the social benefits of inclusive education, like 'our daughter has become more accepting of other children', or 'they are all learning you do not have to be perfect to be valuable'.

The study of Tafa and Manolitsis (2003) showed that parents hold undecided attitudes toward kindergarten inclusion ($N= 290$). Attitudes of parents were assessed according to the Parental Attitudes Towards Kindergarten Inclusion Scale (PATKIS), which includes statements like 'I prefer my child to participate in a classroom with children who do not have special educational needs'. Parents were asked to indicate their degree of agreement by means of a 5-point Likert scale (1= strongly disagree, 5= strongly agree), in which a higher score reflects more positive attitudes. The mean score on the questionnaire was 2.61 ($SD= 0.73$). This score is ranged between response 2 (disagree) and 3 (undecided), which indicated that parents held undecided attitudes. Based on our rule of thumb, this score indicates neutral attitudes. However, the authors of the study concluded that parents held positive attitudes.

Comparing attitudes of parents of children with and without disabilities

Attitudes of parents of children with and without disabilities were examined by Kelly (2001) ($N= 370$). Parents rated their degree of agreement by means of a 5-point Likert scale (1= strongly disagree, 5= strongly agree) on six items. Parents of children with disabilities showed a mean score of 4.03 ($SD= 1.03$), and parents of children without

disabilities a mean score of 3.78 ($SD= 1.05$). These scores indicated that both groups of parents held positive attitudes towards inclusive education.

Rafferty, Boettcher and Griffin (2001) examined parents' attitudes towards inclusive education of preschoolers ($N= 244$). Attitudes of both groups of parents towards inclusion were assessed with 13 situations selected from the Attitudes about Integration Opportunities for Children with Special Needs questionnaire (developed by Miller & Phillips, 1992). Parents reported the extent to which they agreed or disagreed with a statement by means of a 5-point Likert scale (1= strongly disagree, 5= strongly agree). The possible range of the scores was 13-65, with a higher score reflecting more positive attitudes. The mean score of all parents was 52.91 ($SD= 8.64$), which indicates positive attitudes. No statistical difference was found on the entire scale between the attitudes of parents of typically developing children and parents of children with disabilities. Next to attitudes of parents, the authors asked parents to indicate potential benefits and risks of inclusion for children with and without disabilities. An analysis of items revealed that the majority of parents agreed that inclusive education has benefits for typically developing children, like 'accept differences in people' (87%) and 'develop sensitivity to others' (91%). Regarding benefits for children with disabilities, most parents indicated benefits like 'more chances to participate in activities' (82%) or 'function effectively in the real world' (82%). Additionally, several potential risks were mentioned by parents, like typically developing children might be frightened by unusual behaviour (59%). Parents also commented that teachers may not be qualified or trained for children with special needs (36%), and that these students are less likely to receive enough specialist help/individual instruction from teachers (36%).

Finally, attitudes of parents of children with and without disabilities were compared in the study of Stoiber, Gettinger and Goetz (1998) ($N= 415$). The My Thinking About Inclusion questionnaire was developed for this study. Parents indicated their degree of agreement on 12 statements about aspects of inclusive education by means of a 5-point Likert scale (1= strongly accept, 5= strongly reject). The mean score on the scale was 2.08, which indicated positive parental attitudes. Although the authors did not present results indicating how positive each group of parents were, the study revealed that parents of children with disabilities were significantly more positive in their beliefs than those of children without disabilities on the total scale, $t(404)= 2.79, p< .01$.

Summary of results 1: attitudes of parents towards inclusive education

The overall picture of parents' attitudes towards inclusive education is positive. None of the studies showed negative outcomes (see Table 3.2). Of the ten selected studies, five revealed neutral attitudes of parents towards inclusive education, while the other five reported positive parental attitudes

Parents of children with disabilities did not show clear positive attitudes. They were undecided in their attitude towards inclusive education and were not in favour when it concerns inclusion for their own child. Parents of typically developing children on the other hand held more positive attitudes towards inclusive education. The results revealed

that parents indicated that typically developing children might experience social benefits from inclusive education.

Studies comparing both groups of parents showed that all parents held positive attitudes towards inclusive education. Both groups of parents agreed that inclusive education has benefits for typically developing children as well as for children with disabilities. Nevertheless, parents also indicated that inclusive education has risks for both groups of children.

Results 2: variables related to parents' attitudes

The second research question of this study concerned variables which relate to parents' attitudes. The results of these studies are presented below.

Age

With regard to the age of parents, Balboni and Padrabissi (2000) showed that younger parents do not hold different attitudes than older ones. Comparable results were found by Kalyva et al. (2007), who also established that the age of parents was not related to their attitudes.

Gender

Balboni and Padrabissi (2000) found contradictory results. Their study established that Italian mothers held an attitude significantly more positive than the attitude of fathers. However, the study of Kalyva et al. (2007) determined that Greek fathers held more positive attitudes towards the inclusion of children with disabilities than mothers. Fathers held significantly more positive attitudes on the subscale 'core perspectives' of the MTAI questionnaire.

Social-economic status

Balboni and Padrabissi (2000) reported that parents with a high and average social-economic status (SES) level were significantly more favourable towards inclusion than parents with a low SES level, $F(2, 644) = 8.48, p < .001$. Also high SES parents agreed more than low and average level parents on the need for greater collaboration between general and special teachers. The results of Stoiber et al. (1998) showed that parents with higher or middle incomes held more positive – although not significant – attitudes toward inclusive education than parents with low incomes. However, the differences were not significant.

Education level

Several studies concluded that the education level of parents is related to their attitudes. Leyser and Kirk (2004) found that parents with college education were significantly more positive towards the benefits of inclusion than parents who had only finished high school, $t(403) = 3.26, p = .013$. Comparable results were reported by Tafa and Manolitsis (2003). They established that mothers' with the highest education level held more positive attitudes towards the inclusion of children with physical disabilities or blind children compared to

Table 3.2 Overview of studies which examined parents' attitudes toward inclusive education, including study outcomes (N= 10)

Author(s)	Parents of ¹		Education setting	Age children	N	Measurement	Outcomes ²
	CSN	TDC					
Balboni & Padrabissi (2000)		X		Regular	647	Mental Retardation and Inclusion questionnaire	+/-
Elkins et al. (2003)	X			Regular	354	Survey of Parents' Attitudes and Opinions About their Children with Special Needs	+/-
Kalyva et al. (2007)		X		Regular	338	My Thinking About Inclusion questionnaire	+
Kelly (2001)			X	Regular and special	435	Questionnaire	+
Leyser & Kirk (2004)	X			Regular and special	437	Parent Opinion About Inclusion/Mainstreaming questionnaire	+/-
Palmer et al. (1998)	X			Special and regular	408	Parent Attitudes Toward Inclusion Scale	+/-
Peck et al. (2004)		X		Regular	389	Attitude questionnaire	+
Rafferty et al. (2001)			X	Preschool	244	Attitudes about Integration Opportunities for Children with Special Needs scale	+
Stoiber et al. (1998)		X		Preschool	415	My Thinking About Inclusion questionnaire	+
Tafa & Manolitis (2003)		X		Preschool	290	Parental Attitudes Towards Kindergarten Inclusion Scale	+/-

Note. ¹ CSN= children with special needs TDC= typically developing children. ² Study outcomes are counted as positive when the percentage of positive scores is above 70% or when the mean score is above 3.5 (the reverse holds for negative scores). Scores are counted as neutral if the % is between 30 and 70 or if the mean score is between 2.5 and 3.5.

mothers with a lower education level. Stoiber et al. (1998) and Palmer et al. (1998) also reported that parents with a higher educational level (college) held more positive beliefs towards inclusive education compared to parents with a high school education or lower. Nevertheless, Kalyva et al. (2007) established that the educational level did not relate to attitudes of parents of children without disabilities.

Experience with inclusive education

Research showed that both groups of parents - with and without a child with disabilities - became more positive when they had more experience with inclusive education. Balboni and Padrabissi (2000) revealed that experience with inclusive education is related to the attitudes of parents of children with and without disabilities, $F(1, 645) = 4.83, p = .05$.

Parents whose children have a classmate with mental retardation were significantly more positive towards inclusion than those who did not have such experience. Tafa and Manolitsis (2003) found differences between parents who had experience with children with disabilities and inexperienced parents on the factor 'classroom practices' of the PATKIS questionnaire ($t(288) = 2.20, p < .03$).

Palmer et al. (1998) showed a significant negative correlation between years children spent in a special class and parents' general attitudes about full inclusion ($r = -.21, p < .001$) and full inclusion for their own child ($r = -.28, p < .001$). This indicates that the more years a child spent in special class, the more negative parents were about inclusive education. Furthermore, a significant positive correlation was found between the inclusion history of the child and parents' attitude towards full inclusion in general ($r = .17, p < .001$) and full inclusion for their own child ($r = .23, p < .001$). These results indicated that an inclusion history is positive related to parents' attitudes.

Child's type of disability

Several studies showed that the type of disability is related to parents' attitudes. Leyser and Kirk (2004) compared attitudes of parents of children with special needs according to three levels of severity of disability (mild, moderate and severe). Their questionnaire consisted of four factors, including 'benefits' and 'teacher ability and inclusion support'. Parents of children with mild disabilities were significantly more positive about both factors - 'benefits' ($t(412) = -2.93, p = .004$) and 'teacher ability' etc. ($t(412) = -5.80, p = .001$) compared to parents of children with moderate and severe disabilities.

Rafferty et al. (2001) investigated the impact of the type and severity of disability on parents' attitudes towards inclusion. The study determined that parents of children with and without disabilities were least positive about the inclusion of children with emotional problems, cognitive impairment or autism. Parents were most positive about the inclusion of children with physical disabilities and sensory disabilities. In addition, the study established that parents of children with mild disabilities were slightly more positive than parents of typically developing children. Similar findings were reported by Tafa and Manolitsis (2003), who established that parents of typically developing children were more concerned about the inclusion of children with behaviour problems or severe cognitive

disabilities than about including children with moderate or mild cognitive disabilities, physical disabilities, blindness or deafness.

Summary of results 2: variables related to parents' attitudes

The results of the studies showed that there were several variables which related to parents' attitudes towards inclusive education. With regard to parent characteristics parents no clear results are shown: neither age nor gender seemed consistently related to attitude.

The socio-economic level of parents, education level, experience with inclusion, and type of disability, all relate to parents' attitudes. Parents with a higher SES, higher education level and more experience of inclusion hold more positive attitudes compared to parents with a low SES, lower education level and less experience with inclusion. With regard to the child's type of disability, the results showed that parents are the least positive about the inclusion of children with behavioural problems and severe cognitive disabilities. In contrast, they hold the most positive attitudes towards the inclusion of children with physical disabilities and sensory disabilities.

3.4 Conclusion

This review revealed that parents hold positive or neutral attitudes towards the inclusion of children with disabilities in regular education. Based on our rule of thumb, five studies revealed positive, parental attitudes. The other five studies showed that parents were neutral.

With regard to parents of children with disabilities, it can be concluded that this group holds more neutral attitudes than parents of typically developing children. The majority of the studies which examined attitudes of parents of disabled children did not show clear positive attitudes. Parents were neutral and often indicated that inclusion was not a good option for their child. Furthermore, this group indicated to have concerns about their child's emotional development, individual instruction and available services in regular schools. Parents of typically developing children, on the other hand, showed more positive attitudes towards inclusive education. Those parents recognised that their children might experience benefits from inclusive education, like accepting differences in people and developing sensitivity to others. However, parents also indicated that inclusive education has potential risks for both groups of children.

This review further showed that parents' attitudes are related to several variables, like socio-economic status, type of disability, education level and experience with inclusive education. Parents with a higher SES, higher education level and experience with inclusive education held more positive attitudes than those with a low SES, lower education level and less experience. In addition, it can be concluded that parents were the least positive about the inclusion of children with behaviour problems and cognitive disabilities.

Furthermore, no studies showed what effects parental attitudes have on the social participation of students with disabilities. Consequently, the conclusion can be drawn that there is no evidence attitudes of parents directly relate to this aspect of inclusive education.

3.5 Discussion

Parallel to the development in making schools more inclusive, research aimed to develop knowledge regarding the factors playing a significant role in this process. In many studies, policy papers and historical accounts, the position of parents of children with disabilities has been highlighted (Pijl, Meijer, & Hegarty, 1997). Parents of children with disabilities have been described as one of the main factors behind the push towards inclusive education in many countries. It is therefore not surprising that several studies investigated what attitudes parents of children with and without disabilities held towards inclusive education and the general aim of this review was to present a recent overview of these attitudes.

The aim of this study initially was to classify the results of the studies selected for this review into three groups using the three component theory of Eagly and Chaiken (1993). According to this theory attitudes are considered to have three components, namely a cognitive, an affective and a behavioural. On theoretical level the three component theory seemed a useful framework to present the results of the studies. However, on empirical level it was not possible to classify the studies according to the cognitive, affective and behavioural component. Even though only high quality studies were selected for this review, barely any of these defined the concept 'attitude' on a component level and analyses of content and types of items in the studies' questionnaires showed that none of those selected had concentrated specifically on one of the components. The conclusions of this review are therefore based on a rather general concept of attitude and could not be specified in terms of components of attitude. This limitation needs to be considered in interpreting the results of this review.

The results show that parents in general hold neutral to positive attitudes towards the inclusion of children with disabilities in regular education. Parents of children with disabilities score lower compared to those of typically developing children. Parents of children with disabilities often indicate that inclusion is not a good option for their child and have concerns about their child's emotional development, the quality of instruction and the available services in regular schools. Parents of typically developing children, on the other hand, are more positive towards inclusive education and see it as an opportunity for their children to experience social benefits, like accepting differences in people and developing sensitivity to others.

These results do not concur with the image parents of children with disabilities have as being the main driving factor behind inclusive education. The group known for their willingness to go court, form lobby groups, push regular schools and seek publicity (Melnick, 1995), in order to make inclusion happen for their own and other children with special needs, must have high expectations and positive attitudes towards inclusion. The parents of typically developing children in regular schools were alleged to hold more reservations as to the effects of inclusion on their education. They were said to be afraid that the order and atmosphere in class would be disrupted and that the teacher would have to spend much attention on the child with disabilities at the expense of their child. Results of this review show the opposite: it is the parents of children with disabilities that are

hesitant while the parents of typically developing children are positive. The explanation for this unexpected finding might have to do with two different generations of parents (Itkonen, 2007). The studies reviewed here were published in or after 1998 and the data collection for them most likely carried out in the period from 1995 to 2006. In countries like the United States, the United Kingdom and the Scandinavian countries the parent movement for inclusion had already succeeded in changing laws, regulations and funding systems before 1995 and were largely able to include their children in regular school settings. The group of parents participating in the studies under review here were never required to fight for these rights, but could use the work of their predecessors. The ideology driven parents have to some degree been replaced by parents 'consuming' the attainments of the inclusive education movement. This new generation of parents is more critical towards inclusive education as it functions in practice and the results of this review show that they are not always pleased with what they find. This concurs with the critical reviews of the state of affairs of inclusive education of Vislie (2006) and Ferguson (2008). Both clearly describe their worries about the practice of inclusive education and this review shows that at least some of the parents of children with disabilities seem to endorse these worries. This is problematical as in practice this seems not only to slow down the development of inclusive education but an important driving factor is omitted.

All this does not explain why the parents of typically developing children are quite positive about inclusive education. A possible explanation is that the number of children with disabilities who are full time in regular classes is still rather limited and that these students belong to the relatively easy to include subgroups of children with disabilities. The parents of typically developing children then experience relatively few problems, resulting in a growing acceptance and a positive attitude. It is however also possible that these parents by now know which answers are socially and politically correct and then their attitude only reflects an overall sympathy in society towards inclusive education. The studies analysed in this review do not allow for any firm statement about the mechanisms at stake here.

This review further showed that parents who have experience with inclusive education hold more positive attitudes compared to parents who do not. It is unsurprising that experience is related to parents' attitudes, as theory on the formation of attitudes also states that these are formed by direct and indirect experience (Eagly & Chaiken, 1993). Although this review did not reveal studies which reported training about special needs education as relating variable, another review study on teachers' attitudes showed that experience with inclusive education and training in special needs education positively influences attitudes towards inclusive education (De Boer, Pijl, & Minnaert, 2011). Considering the effect of information on attitudes, we emphasize the importance of collaboration between parents and schools.

Besides experience, the results also showed that the child's type of disability relates to parents' attitudes. They hold the most negative attitude towards the inclusion of children with behavioural problems and cognitive disabilities. However, the studies which investigated the relation between the type of disability and parents' attitudes, only asked

parents to indicate which types of disabilities concerned them most. These studies, however, did not use a statistical analysis to relate attitudes with types of disability, so it is uncertain to conclude the extent to which parents' attitudes are actually related to this.

Although one of the aims of this review was to examine the effects of parents' attitudes on the social participation of children with disabilities in regular school, none of the selected studies examined this aspect. Regardless of this disappointing result, we still argue that attitudes of parents towards inclusive education might play a considerable role in the implementation and sustainability of this educational change for several reasons. Firstly, it seems reasonable to assume that in a positive environment the implementation of inclusion is easier to accommodate. Teachers and support staff may be influenced by positive parental attitudes, which might result in an environment which supports the inclusion of children with disabilities in regular schools. Secondly, parents' of children with disabilities in particular might push policymakers to implement inclusive education. Thirdly, positive attitudes of parents are important because they influence the formation of their children's attitudes towards peers with disabilities. Hence, we underline that parents play an important role in their children's ideas about disabled peers and their interaction with them. Dunn (1993) proposed that parents may directly influence children's peer relationships through modelling or teaching about relationships. It is furthermore suggested that transferring attitudes by parents about children with disabilities to their own children occurs when they respond to their children's questions (Stoneman, Rugg, & Rivers, 1996). These authors state that parents are the child's primary teachers about pro-social behaviour. From this point of view it seems likely that parents' who are positive about inclusive education transfer positive attitudes to their children. Consequently, these children might become more accepting to the inclusion of peers with special needs in their regular classrooms. However, no research is yet available establishing the effects of parents' attitudes on their children's attitudes towards disabled peers. Based on the aforementioned theories, we emphasise the importance of future research focusing precisely on this aspect.

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Chapter 4

Students' attitudes towards peers with disabilities: a review of the literature

A slightly adapted version of this chapter is accepted for publication as: De Boer, A. A., Pijl, S. J., & Minnaert, A. E. M. G. Peers' attitudes towards students with disabilities: a review of the literature. *International Journal of Disability, Development and Education*.

Abstract

The trend towards inclusive education and the subsequent difficulties experienced by students with disabilities in socially participating has led, over the past decade, to an increase of studies focusing on peer attitudes. This review study presents an overview of studies describing 1) attitudes of typically developing students, 2) variables relating to their attitudes and 3) the relationship between attitudes of typically developing students and the social participation of peers with disabilities. This review study is based on a literature search which resulted in selecting twenty-two studies conducted in seven different countries on typically developing students' attitudes towards peers with disabilities. Outcomes were described in terms of negative, neutral or positive according to three attitude components (cognitive, affective and behavioural). The results show that students generally hold neutral attitudes towards peers with disabilities. Several variables were found relating to their attitudes, like gender, age, experience with inclusive education, knowledge about disabilities and parental influence. Moreover, based on three studies, we carefully conclude that attitudes of students are related to the social participation of peers with disabilities, underlying the importance of positive attitudes in the peer group when implementing inclusive education.

Keywords: peers, attitudes, inclusive education, special educational needs, social participation, disabilities, behavioural problems, regular primary education.

4.1 Introduction

The development towards inclusive education has gained momentum in the past few decades, certainly in the Western world. A direct effect of this development was that in many countries separate schools for special education closed in favour of growing numbers of students with disabilities attending regular schools (UNESCO, 1995). Research on inclusive education has followed this development closely. Its focus has long been on identifying the segregating mechanisms in educational settings and on describing factors considered relevant in implementing inclusive education (Pijl & Meijer, 1997). However, nowadays, research has started to address the experiences and outcomes of students with disabilities in inclusive settings. In the last decade, an increasing number of studies addressed the social dimension of inclusive education (see Koster, Nakken, Pijl, & Van Houten, 2009). Based on a literature study, Koster et al. suggested using the term social participation, which refers to four themes: interaction between the student with disabilities and his/her peers, acceptance by peers, friendships and social self-perception.

The increased interest in the social dimension is most likely explained by the direct link between the main philosophy behind inclusive education and the social participation of students with disabilities. After all, one of the core ideas behind inclusive education is that students with and without disabilities experience social benefits in attending regular schools together (Flem & Keller, 2000). It is anticipated that students with disabilities in regular schools – as opposed to attending special schools – have more possibilities for interaction and friendships with typically developing students. Studies show that although

the majority of students with disabilities seem to function well socially in regular schools, certain ones experience difficulties in obtaining acceptance and friendship (Bramston, Bruggerman, & Pretty, 2002; Chamberlain, Kasari, & Rotheram-Fuller, 2007; Kuhne & Wiener, 2000; Pijl, Frostad, & Flem, 2008; Smoot, 2004).

Why students with disabilities experience difficulties in making and keeping friends is not quite clear. It is argued that several aspects play a role in the process of including students with disabilities in regular schools, like attitudes of teachers (Norwich, 1994), class size (Scruggs & Mastropieri, 1996) and type of disability (Stoiber, Gettinger, & Goetz, 1998). Another aspect described as important are the attitudes of their typically developing students. Stoneman (1993) states that negative attitudes may be just as obstructive as physical barriers, limiting those with disabilities to participate fully in schools and communities. Nowicki and Sandieson (2002) even suggest that the attitudes of regular students towards those with disabilities are one of the major problems in inclusive education.

Negative attitudes may result in low acceptance by peers, few friendships, loneliness and even being rejected and/or bullied. This can have dramatic effects on the lives of young students with disabilities, resulting in difficulties in joining group activities, declining academic performance, dropping-out of school and/or problem behaviour (Jackson & Bracken, 1998; Ollendick, Weist, Borden, & Greene, 1992). In worst case scenarios, rejection and bullying may lead to negative long term outcomes, like depression and other mental health issues (Aluede, Adeleke, Omoike, & Afen- Akpaída, 2008; Lund et al., 2009).

Due to the possible consequences of negative attitudes it is important to know which variables relate to the attitudes of typically developing students. Ultimately, this may lead to appropriate interventions to predict, explain and manipulate reactions toward the attitude object. Previous research on typically developing students' attitudes did examine variables like gender, age, and experience with inclusive education (Nowicki & Sandieson, 2002), but a clear overview of these variables is lacking.

The on-going trend towards inclusive education and difficulties experienced by students with disabilities in social participation led to an expansion of studies focusing on attitudes of typically developing students over the last decade. An overview of these studies, including their outcomes and variables in relation to students' attitudes, would seem a requirement. In addition, the importance of the social dimension of inclusive education suggests it is reasonable to investigate whether there is empirical evidence for the relationship between the attitudes of typically developing students and the social participation of peers with disabilities. In order to broaden our knowledge about these three aspects, a review study was set up to describe 1) attitudes of typically developing students towards peers with disabilities, 2) which variables relate to students' attitudes and 3) the relationship between students' attitudes and the social participation of peers with disabilities.

Definition of the term ‘attitude’ in the context of inclusive education

Within the field of social psychology the concept ‘attitude’ is generally described in various ways. In spite of this, no uniform definition can be made about this concept. For this current study, we therefore chose to use the following broad definition of attitude Gall, Borg and Gall (1996, p. 273): “an attitude is an individual’s viewpoint or disposition toward a particular ‘object’ (a person, a thing, an idea, etc.)”. Attitudes are furthermore considered to consist of three components: 1) cognitive, 2) affective and 3) behavioural (Eagly & Chaiken, 1993; Triandis, 1971). The cognitive component consists of an individual’s beliefs or knowledge about the ‘object’. Feelings about the ‘object’ refer to the affective component. With regard to the behavioural component, this reflects someone’s predisposition to act towards the ‘object’ in a particular way. Due to the wide use of the aforementioned components of attitude, it was decided to use these as a framework in this current study. In the section ‘Analysis of studies’ more detailed explanation is given about the use of this framework.

4.2 Method

Search procedure

To search for relevant studies, a comprehensive search was performed in August 2011 using ‘EBSCOhost Complete’. This browser includes a total number of 30 databases, like ERIC, MEDLINE, PsycARTICLES, PsychINFO and SocINDEX. To search for potential references, the term ‘students/classmate/childhood/children’s attitudes’ was combined each time with ‘inclusive education’, ‘inclusion’, ‘special educational needs and peers’, ‘impaired and peers’. Moreover, we selected seven journals which have a prominent role in the field of special needs education for a hand search (i.e. International Journal of Inclusive Education, European Journal of Special Needs Education, British Journal of Special Education, Exceptional Students, British Journal of Educational Psychology, International Journal of Disability, Development and Education, International Journal of Special Education).

Selection of studies

The aim of this study was to give a recent overview of studies describing attitudes of typically developing students towards peers with disabilities. Hence, we attempted to select studies including empirical data which were published between 1998 and 2011 in international scientific journals (peer-reviewed). The search with the browser resulted in 472 references. To select relevant studies for this review, a study had to meet the following criteria:

1. Focused on attitudes of regular primary school students towards peers with disabilities (age range 4-12 years);
2. Focused on the inclusion of students with disabilities in regular primary education, and specifically their social participation;
3. The instrument used focused on attitudes of typically developing students towards peers with various disabilities. This means we included studies on one specific type of

disability (e.g., physical), but also studies using focusing on general terms (e.g., disabilities).

4. Included an instrument to measure attitudes of primary school students, which should be based on appropriate psychometric properties (Drenth & Sijtsma, 2006).

From only reading the titles and/or abstract, 425 studies were deleted from the database because they did not fully meet the selection criteria. The majority of studies were excluded based on one criterion (see Table 4.1). However, it is likely that more than one criterion was not meet. The outcome of this first filtering resulted in 47 studies being assessed for further analysis. Of those, four were untraceable (e.g., not available on the internet or library), resulting in a database of 43 studies. The search in the journals did not yield any new studies. After reading the 43 studies carefully, 21 articles were deleted from the database because they did not satisfy the criteria. Some studies did not contain empirical data (7), or did not focus on students in regular/primary education (6). Three studies were rejected because they did not examine peers' attitudes towards students with disabilities. Moreover, two studies presented the same data whereby we decided to exclude the duplicate. As last, four studies did not use an instrument based on appropriate psychometric properties. Deleting those four studies resulted led to a final database of 22 studies.

Analysis of studies

Attitudes are often defined according to the nature of cognitive, affective and behavioural responses. This three-component theory is widely used in the field of attitude research. Hence, we decided to use this framework to present the results of the selected studies on students' attitudes towards peers with disabilities, according to the cognitive, affective and behavioural components. In most cases we followed the classification of Vignes, Coley, Grandjean, Godeau and Arnoud (2008). These authors performed a study in which they analysed questionnaires to examine students' attitudes towards peers with disabilities and analysed the items of the questionnaires based on the three components of attitude. Hence, a classification of questionnaires was made.

Table 4.1 Reasons for rejection, first filtering

Criteria	Number
1. Did not focus on attitudes of regular primary school students	352
2. Did not focus on the inclusion of students with special educational needs in regular primary education	50
3. Did not focus on attitudes of students towards one of the specified types of special educational needs	24
4. Did not include a measurement based on appropriate psychometric properties	0
<i>Total</i>	<i>426</i>

For this current study, we mostly used the classification of Vignes et al. (2008) to identify which components of attitude the questionnaire was measuring. In cases where a

questionnaire was not included in the study of Vignes et al., we carefully analysed the used items, which revealed on which component(s) of attitude the questionnaire was focused. Questionnaires inviting students to ‘Tell everything you know about a person with disabilities’ were classified under the cognitive component. Items like ‘Would you like to be friends with a child who can’t see?’ were ranged under the affective component, while items like ‘I would like to go to a ball game with Robby’ were classified under the behavioural component.

Regarding the first research question, we analysed whether the results of the studies revealed positive, neutral or negative attitudes. The majority of the studies used a 5-point Likert scale and reported the findings, either in terms of percentages, or in terms of mean scores and standard deviations. Mean scores and percentages on 5-point Likert scales cannot be linearly transformed to one another. It is of course likely that a higher positive percentage goes along with a mean score clearly above scale midpoint.

Since most studies reported limited statistical data, it was not possible to calculate a common criterion applicable to all studies. In order to evaluate the outcomes of the studies we used the rule of thumb suggested by De Boer, Pijl and Minnaert (2010; 2011). Study outcomes counted as positive when the percentage of positive scores was above 70% or when the mean score was above 3.5 (on a 5-point Likert scale). The reverse held for negative scores. Scores were counted as neutral if the percentage was between 30 and 70, or if the mean score was between 2.5 and 3.5. For questionnaires that did not use a 5-point Likert scale, these boundaries were adjusted. The percentages of respondents who chose a neutral/undecided response were equally divided and added to the percentages of positive and negative responses.

To answer the second aim of this study, we analysed whether the selected studies included variables relating to peer’ attitudes. Studies showing a significant relationship or a significant difference between groups ($p < 0.05$) were described in the results section.

4.3 Results

As stated earlier, we classified the used instruments or subscales to identify which attitude component the selected study examined. It became clear that the majority of the studies used instruments reflecting one or two of the attitude components ($n = 16$). The outcomes of these studies were often presented per attitude component, or could be analysed as such. However, some studies used an instrument reflecting all three attitude components and reported the outcomes in terms of general attitudes ($n = 6$).

The first part of the results section aims to answer the first research question of this study. The section begins with an overview of the studies and a description of their outcomes in general terms. An overview of these studies is given in Table 4.2. The outcomes of studies per attitude component are then described, which are summarized in Table 4.3. No specific attention is given to the differences in attitudes according to gender, type of disability or other relating variables. An overview of the latter variables is given in the second results section, which also aims to answer the second research question. The final results section summarizes the studies which examined the relationship between

students' attitudes and one of the themes of the social participation of peers with disabilities.

Results 1: Attitudes of typically developing students towards peers with disabilities

Students' beliefs, feelings and behavioural intentions towards peers with disabilities

Six studies used a questionnaire in which all three components of attitude were included (see Table 4.2). In four studies a specification of the type of disability was made. Three of these revealed that students held positive attitudes, while one reported negative attitudes of students. The study of Arampatzi et al. (2011) indicated that students held positive attitudes towards peers with a physical disability. Moreover, the study of Beck et al. (2000) showed positive attitudes of students towards peers with language problems. Nikolaraizi et al. (2001) examined students' attitudes towards blind, deaf or physically disabled peers and revealed positive outcomes. Kalyva and Agaliotis (2009) examined students' attitudes towards peers with a physical disability and reported negative outcomes. Two studies used the general term 'disability'. Both studies indicated that students held neutral attitudes.

Students' beliefs and knowledge about peers with disabilities

A total number of fourteen studies included the cognitive component, whereby students' beliefs and knowledge about peers with disabilities were examined. Ten studies specified the type of disability in the instrument used, while four used the general term 'disability'. The majority of studies focused on children with a physical or intellectual disability. Results revealed that the majority of studies reported neutral attitudes of students. Three studies indicated positive outcomes while one study found negative attitudes.

Students' feelings towards peers with disabilities

Three studies were found with a focus on the affective component. The study of Godeau et al. (2010) and Vignes et al. (2009) both revealed positive feelings of students. Nowicki (2006) used a pictorial scale to assess students' feelings towards peers with a physical and intellectual disability. The study revealed that students held positive attitudes.

Students' behavioural intentions towards peers with disabilities

Twelve studies examined the behavioural intentions of students towards peers with disabilities. The target group of the studies differed: some studies focused on attitudes towards children with autism, physical or intellectual disabilities while others used 'disabilities' in their instruments. Seven studies revealed that students held neutral attitudes and five studies showed positive attitudes.

Results 2: Variables relating to students' attitudes

The majority of the studies examined the relationship between one or several personal and environmental variables and the attitudes of students. Due to the fact that there was insufficient data per variable across the three attitude components per type of disability, the

Table 4.2 Descriptive summary of the selected studies and outcomes of studies which described attitudes in general terms ($n=6$)

Author(s)	Country	N	Age	Instrument	Type of disability ¹	Outcomes ²	Attitudes and social participation
1. Arampatzi, Mouratidou, Evaggelinou, Koidou, & Barkoukis (2011)	Greece	658	10-12	CAIPE-R	Physical	+	
2. Beck, Fritz, Keller, & Dennis (2000)	USA	174	4-12	AATAAC	Language	+	
3. Kalyva & Agaliotis (2009)	Greece	60	10-12	Attitude questionnaire	Physical	+/-	
4. Nowicki (2006)	Greece, USA	196	4-7	ASK-R	Not specified	+/-	
5. Nikolarazi & de Reybekiel (2001)	Greece, UK	463	10-12	Attitude questionnaire	Deaf, blind, physical	+	
6. Tavares (2011)	Canada	51	12-13	CATCH	Not specified	+/-	

Note. ¹Not specified means that the general term 'disabilities' is used in the instruments. ² Study outcomes are counted as positive when the percentage of positive scores is above 70%, or when the mean score is above 3.5 (the reverse holds for negative scores). Scores are counted as neutral if the percentage is between 30 and 70, or if the mean score is between 2.5 and 3.5.

Table 4.3 Descriptive summary of the selected studies and outcomes of studies which described attitudes according to (one of the) attitude components (*n*= 16)

Nr.	Author(s)	Country	N	Age	Instrument	Type of disability ¹	Outcome per attitude component ^{2,3}			Attitudes and social participation
							C	A	B	
7.	Campbell, Ferguson, Herzinger, & Marino (2004)	USA	576	8-12	ACL/ SAQ-SF	Autism	+/-		+/-	
8.	Dyson (2005)	Canada	77	4-6	PSSHHS	Not specified	+/-			
9.	Gannon & McGilloway (2009)	Ireland	118	8-11	Attitude questionnaire	Intellectual	-			+/-
10.	Godeau et al. (2010)	France	1509	12-13	CATCH	Not specified	+/-	+	+	X
11.	Kim, Park, & Snell (2005)	Korea	300	4-12	NPAS	Not specified	+/-			
12.	Laws & Kelly (2005)	UK	202	9-12	PATHS/ BIS	Physical, intellectual, behaviour	+/-		+	
13.	Maras & Brown (2000)	UK	256	5-11	Photographs	Physical, learning, hearing	+			
14.	Morgan, Bieberich, & Walker (1998)	USA	120	9-12	SAQ	Physical				+/-
15.	Morton & Campbell (2008)	USA	296	8-12	ACL/ SAQ-SF	Autism	+/-			+/-
16.	Nabors & Larson (2002)	USA	262	3-9	Drawings	Physical	+/-			
17.	Nowicki (2006)	Canada	100	4-10	MRAS/ PS/ BIS	Physical, intellectual	+/-	+	+	
18.	Okagaki, Diamond, Kontos, & Hestenes (1998)	USA	36	3-6	PS/SPST-R, dolls	Physical, language	+/-			+/-
19.	Siperstein, Parker, Bardon, & Widaman (2007)	USA	5837	11-14	BIS	Intellectual				+/-
20.	Sliminger, Sherrill, & Jankowski (2000)	USA	79	8-11	ACL/ BIS	Severe intellectual	+		+	
21.	Swaim & Morgan (2001)	USA	233	8-12	ACL/ SAQ	Autism	+			+/-
22.	Vignes et al. (2009)	France	1509	12-13	CATCH	Not specified	+/-	+/-	+/-	X

Note. ¹ Not specified means that the general term 'disabilities' is used in the instruments. ² Study outcomes are counted as positive when the percentage of positive scores is above 70%, or when the mean score is above 3.5 (the reverse holds for negative scores). Scores are counted as neutral if the percentage is between 30 and 70, or if the mean score is between 2.5 and 3.5. ³ C= cognitive; A= affective; B= behavioural.

results are described in general terms. Table 4.4 presents an overview of the variables, relevant studies and overall outcomes.

Gender and age of students

Eight studies addressed gender differences in attitudes of typically developing students towards peers with (different types of) disabilities. The results clearly showed a significant effect of gender; girls were found to hold more positive attitudes than boys.

Four studies examined the effect of age on students' attitudes. Three studies indicated that older students held more positive attitudes. One study (Swaim & Morgan, 2001) found that younger students were more positive.

Experience and knowledge

Several studies examined the effect of experience with inclusive education/peers with disabilities in class on students' attitudes. In these studies groups with and without experience were compared. Six studies showed a positive effect of experience, while three studies found that experience with inclusive education had a negative effect on students' attitudes.

The effect of knowledge about (different types of) disabilities on students' attitudes was examined in seven studies. Three studies performed an intervention study which provided knowledge about disabilities within an educational project. By means of pre- and post-tests differences in attitudes were examined. Both studies of Kim et al. (2005) and Tavares (2011) showed a positive effect of the intervention on students' attitudes. Vignes et al. (2009) investigated whether students had received information about disabilities in the past, for instance by reading a book about someone with a disability. They reported a positive effect of such knowledge on students' attitudes. In the study of Campbell et al. (2005) and the study of Swaim and Morgan (2001) the effect of descriptive information about autism on students' attitudes was examined. Campbell et al. showed that such information positively affected students' behavioural intentions but had no effect on the cognitive component.

Other variables

Vignes et al. (2009) examined whether receiving information about disabilities from parents had an influence on students' attitudes and found a positive effect.

The influence of the type of disability on students' attitudes was examined in two studies and revealed that students' attitudes differed according to the type of disability presented in the instrument. Laws and Kelly (2005) indicated that students' were least positive towards peers with behavioural problems and most positive towards students with intellectual or physical disabilities. Nowicki (2006) reported that students were least positive towards peers with intellectual disabilities, compared to peers with physical disabilities.

Results 3: The relationship between students' attitudes and the social participation of peers with disabilities

Three of the twenty-two studies investigated whether there was a relationship between students' attitudes and the social participation of peers with disabilities (i.e. interaction, acceptance, friendship or self-perception). Okagaki et al. (1998) found that students who expressed more willingness to play with peers with disabilities were more likely to interact with these children in free play situations in the regular class. Godeau et al. (2010) and Vignes et al. (2009) examined the effect of friendship with a peer with disabilities on students' attitudes. Both studies found a significant positive relationship.

Table 4.4 Summary of variables examined in the selected studies

Variable	Studies	Overall significant outcomes
Gender	2, 5, 12, 16, 17, 19, 20, 22	<ul style="list-style-type: none"> Girls hold more positive attitudes
Age	16, 17, 22	<ul style="list-style-type: none"> Older students are more positive
Experience ¹	21	<ul style="list-style-type: none"> Younger students are more positive
	3, 4, 5, 13, 19, 20	<ul style="list-style-type: none"> Positive effect of experience on students' attitudes
Knowledge	1, 10, 22	<ul style="list-style-type: none"> Negative effect of experience on students' attitudes
	6, 7, 11, 22	<ul style="list-style-type: none"> Knowledge about disabilities showed positive effect
Parental influence	22	<ul style="list-style-type: none"> Positive parental attitudes are related to their children
Type of disability	12	<ul style="list-style-type: none"> Most positive attitudes: sensory and physical disabilities. Least positive attitudes: behavior problems.
	17	<ul style="list-style-type: none"> Most positive: physical disability Least positive: intellectual disability.

Note. ¹ Experience is measured in terms of the presence of inclusive units in schools or the presence of a peer with a disability in class.

4.4 Discussion

Proponents of inclusive education have argued that children with disabilities attending regular schools will lead to increasing opportunities for their social participation. However, being physically included in regular schools does not automatically result in positive acceptance or friendships. It is assumed that attitudes of typically developing students towards peers with disabilities play a role in this. In this current study, we presented an overview of studies which examined attitudes of students and classified outcomes according to the three attitude components (cognitive, affective and behaviour). Moreover, we described which variables relate to students' attitudes and the relationship between students' attitudes and the social participation of peers with disabilities.

To answer the first research question, it can be concluded that the majority of studies showed that students held neutral beliefs, feelings and behavioural intentions towards peers with disabilities. One could argue that the neutral outcomes of this study are no reason for concern as, at least, they are not negative. However, it is important to consider that the averages indicating neutral scores are based on data with sometimes considerable variance. Despite the overall neutral score, there were also students holding far more positive or far

more negative attitudes. Even a small group of students holding negative attitudes can make life at school for a child with a disability very difficult (McDougall, Dewit, King, Mille, & Steve, 2004). Hence, it is important to consider that neutral scores also imply a number of students with negative attitudes.

Regarding the three attitude components, this study showed that the majority of the studies focused on the cognitive and the behavioural component of attitude. It was expected to find more positive results in relation to the cognitive component than the behavioural one. It seems reasonable to suppose that students would respond more positively to items like 'I think that children with disabilities like to play' rather than to items reflecting their behavioral intentions (e.g. 'I would play with..'). However, the results revealed no differences in outcomes per attitude component. A possible explanation for this unexpected outcome might have to do with the difference in the questionnaires used. Many studies examined one or two attitude components for which different questionnaires were used. Within the cognitive component, several authors used an adjective checklist to examine students' beliefs towards peers with disabilities, whereby students had to circle the adjectives which best described a hypothetical child. This research method is quite different from standard questionnaires asking students' to respond to items like 'I think children with disabilities are often sad'. This lack of coherence in way that questions were presented may affect the way students' responses reflected their attitude. An instrument in which all three components are included is therefore recommended, as findings may vary according to the type of component assessed (Vignes et al., 2009).

With respect to the outcomes of the first research question, it can be argued that our criteria to evaluate study outcomes may have been too conservative. It is true that in some cases average score questionnaires were originally interpreted as positive by the authors of the studies reviewed, while our rule of thumb did not support this. According to this rule, mean scores between 2.5 and 3.5 (on a 5-point Likert scale) or percentages between 30 and 70, were indications of neutral attitudes. Changing the rule of thumb into a less conservative one would increase the number of studies with a positive outcome, but it would, however, also result in more negative studies.

With respect to the second aim of this study it can be concluded that students' attitudes are influenced by several variables. We found that both personal as well as environmental variables relate to these attitudes, like gender and age, experience with inclusive education and knowledge about disabilities. With respect to future interventions, it seems logical to focus on variables which can be changed or manipulated, like the aforementioned. The overview presented in this study showed that knowledge about disabilities positively influences students' attitudes. Students become more accepting when their knowledge and understanding about peers with disabilities increases. This is a valuable result as it can be seen as a starting point for intervention. Within the educational context it seems possible to use information about disabilities – like storytelling, books, posters and videos – to foster more positive attitudes among typically developing students. Principals and teachers should be aware of this when implementing inclusive education.

Based on the outcomes of this study it seems that students with behaviour problems and intellectual disabilities are particularly vulnerable for negative attitudes from typically developing peers. Although we found only a few studies in which attitudes towards different types of disabilities were examined, it is reasonable to believe that peers are especially negative towards students with behaviour problems. The behaviour typical of such students (i.e., difficulty with normal behaviour and social relationships) might explain why peers hold particularly negative attitudes towards them. This outcome, together with the increased prevalence of students with psychiatric disorders (e.g., Attention Deficit/Hyperactivity Disorder) (Batstra et al., in press) shows a need for future research focusing on students with behaviour problems.

With respect to the third research question, this review revealed that scant research has been conducted into the relationship between students' attitudes and the social participation of peers with disabilities. Three studies were found supporting this relationship with empirical data. Based on the outcomes we carefully conclude that positive attitudes of typically developing students are important for successful social outcomes of inclusive education. However, it seems a challenging route to foster more positive attitudes among students as their attitudes are influenced by different variables. Based on the outcomes of this current study we underline the importance of using different angles in future interventions, like parental involvement, to gain knowledge and experience of those with disabilities. Ultimately, this may lead to effective interventions whereby students with disabilities can better participate socially in regular education.

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Chapter 5

The psychometric evaluation of a questionnaire to measure attitudes towards inclusive education

This chapter is accepted for publication and online available as: De Boer, A. A., Timmerman, M. E., Pijl, S. J., & Minnaert, A. E. M. G. The psychometric evaluation of a questionnaire to measure attitudes towards inclusive education. *European Journal of Psychology of Education*, DOI: 10.1007/s10212-011-0096-z.

Abstract

In many countries, there has been a development towards the inclusion of students with special educational needs (SEN) in regular education. Over the past decade this has resulted in an increased interest in attitudes towards this educational change of those directly involved. This current study aims at the development, psychometric evaluation and validation of a questionnaire to measure attitudes of teachers, parents and students. The questionnaire is based on the three-component theory, reflecting a cognitive, an affective and a behavioral component. Based on data of a pilot study and a main study, we evaluated the psychometric properties and separability of the three components per questionnaire using a Mokken scale analysis (MSA). Removing various dysfunctional items resulted in questionnaires with appropriate psychometric properties and high reliability. Results of the analysis for the separability of the attitude components revealed no distinction could be made between the components in the teachers' and parents' questionnaire. In the students' questionnaire the items belonging to the cognitive and affective/behavioral components were distinguished as two scales.

Keywords: Teachers, parents, students, attitude questionnaire, Mokken scale analysis, special educational needs, inclusion.

5.1 Introduction

The inclusion of students with special educational needs (SEN) in regular education became an important matter of debate in the last decades. In many countries this resulted in changing education policies and in making regular education the standard provision for all students, including those with SEN. One of the core ideas behind these changes is that both students with and without SEN experience social benefits in regular schools (Flem & Keller, 2000), like acceptance of students with SEN in society (Tafa & Manolitsis 2003) and friendships (Scheepstra, Nakken, & Pijl, 1999). Although more acceptance and friendships for students with SEN in regular schools is a widely supported aim, implementing inclusion in daily practice is challenging (Ferguson, 2008; Vislie, 2003).

The difficulties in making inclusive education happen triggered researchers to think about the reasons for this. Several authors point at the key role teachers play in realising inclusive education (Meijer, 2003; Norwich, 1994). Their attitudes are regarded as highly important (Chow & Winzer 1992), but those of others directly involved, like parents and typically developing students, are of relevance as well. According to Stoiber, Gettinger and Goetz (1998), the voices of those directly involved in change should be heard because they provide valuable "inside" perceptions and information.

To obtain more information about these voices, educational research has increasingly focused on measuring attitudes towards inclusive education. This resulted in the construction and evaluation of various scales to measure attitudes of teachers, parents and typically developing students towards various aspects of inclusion (Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008). Some of those scales use the widely known three-component theory (Eagly & Chaiken, 1993; Triandis, 1971) as a theoretical framework.

According to this, attitudes are considered to comprise three components: 1) cognitive, 2) affective, and 3) behavioral. The first reflects one's beliefs and knowledge about the subject (i.e., children with special needs), the second reflects a person's feelings and the third component reflects one's behavioral intentions.

In the field of attitude research, some argue in favour of this three-component model (e.g., Triandis, 1971), while others prefer to work with a two (e.g., Ajzen, 2005) or a single-component model (e.g., Dillon & Kumar, 1985). The three-component model assumes that the three attitude components are separate constructs (Eagly & Chaiken, 1993; Ostrom, 1969). The two-component one usually distinguishes the cognitive and affective components, while the behavioural intentions are excluded (Bagozzi & Burnkrant, 1979, 1985; Fishbein & Ajzen, 1974). The single-component model, however, assumes that a distinction between the three components cannot be sensibly made (Dillon & Kumar, 1985). The strong relationship between the three components is also underlined by Albarracín, Johnson and Zanna (2005). They state that attitudes are evaluative tendencies, which can both be inferred from, and have an influence on, beliefs, affect and behaviour: "beliefs, affect and behaviour are seen as interacting with attitudes rather than as being their parts" (p. 5).

A number of researchers have tried to confirm the discriminate validity of the three attitude components. Some of the results supported the three-component model (Breckler, 1984; Mahat, 2008; Rosenbaum, Armstrong, & King, 1986), while others established a two-component or a single-component model (Bagozzi & Burnkrant, 1985; Fishbein & Ajzen, 1974). For example, Ajzen (2005) stated that most data reported in literature are quite consistent with a single-component model because factor analyses revealed a single factor explaining most of the variance present in the data. Eagly & Chaiken (1993), however, underline that evidence supports the separability of the three components under certain circumstances. Thus, the number of attitude components is still a matter of debate.

Although views may differ in this discussion, it is evident that attitude measurements should be based on a well-considered, conceptual framework. A closer look at the conceptual framework behind a number of attitude scales revealed that many of these lack any theoretical basis (De Boer, Pijl, & Minnaert, 2010; De Boer, Pijl, & Minnaert, 2011), which hampers the interpretation of the scales.

The purpose of the current study is to develop an instrument to measure attitudes of Dutch teachers, parents and typically developing students towards inclusive education. This self-completion questionnaire for each of the three target groups includes all three attitude components. The current study examines the psychometric properties of the teacher, parent and student questionnaires and addresses the empirical support for the three attitude components.

5.2 Method

Procedure for questionnaire development

The procedure used to develop the questionnaire consisted of four steps. First, based on content analysis, a set of items was proposed for each subscale for each target group.

Second, the quality of the scales was assessed in a pilot study. Then, the questionnaires were adapted based on the results of the study. Finally, the revised version was examined in the main study. The four steps will now be described in greater detail.

Conceptual framework of the questionnaire

Three review studies were performed to examine what attitudes teachers, parents and students hold towards the inclusion of children with special needs. The studies selected for the reviews were derived from an electronic search in EBSCOhost Complete. The selection was based on the following criteria: the study was published between 1998 and 2008, and focused on attitudes of regular primary school teachers, parents or students towards the inclusion of children with special needs in regular primary schools.

The total number of studies included in the three review studies was 58. In order to describe the outcomes of the studies, these were grouped according to the three target populations (i.e., teachers, parents and students) and according to the three attitude components. This grouping was based on analyzing the components measured by the (sub) scales. In some cases it was possible to categorise (sub)scales as belonging to one of the three components. In others, only careful analysis of the type of questions or statements used in the questionnaires revealed on which component(s) of attitude the questionnaire was focused. This analyses showed that only a few studies used the three-component theory as a framework and defined their questionnaires in terms of cognitive, affective or behavioural aspects (Alderfer, Wiebe, & Hartmann 2001; Beck, Bock, Thompson, Bowman, & Robbins 2006; Nowicki 2006).

The few studies in which (sub)scales were used for a particular component gave an insight into the scale developers' views on the content of a particular attitude component. For example, the teacher scales designed to measure the cognitive component largely included items reflecting general beliefs about the philosophy behind inclusion, beliefs on children's educational rights and knowledge about SEN. For this group the affective component comprised items reflecting feelings like competence, confidence, frustration and irritation, while items belonging to the behavioural component reflected teachers' willingness to implement educational change (e.g. change the curriculum).

The scales to measure the cognitive component of parents included mainly items about general beliefs on the philosophy of inclusion, special needs children's educational rights and knowledge about SEN. The affective component was frequently measured by items reflecting concerns, fears and approval (e.g. allowing their child to play with a disabled child), while the behavioural component was measured by items on their willingness to interact and support (e.g. personally standing up for a child with a disability who's bullied).

The cognitive component in the student scales often focussed on items reflecting their knowledge about the behaviour of peers with SEN. Feelings of fear, shame and joy were measured by items belonging to the affective component. The behavioural component was often measured by items reflecting students' school and free time related willingness to interact and support with a peer with SEN.

The content analysis of the (sub) scales resulted in a list of concepts intended for use in the teacher, parent and student questionnaires. The goal was to find existing teacher, parent and student-scales preferably comprising all three attitude components and each with well-documented psychometric quality. In case this was not possible, existing subscales, or parts of subscales, were used to build new scales measuring all components. The new scales were then translated into Dutch and adjusted to the Dutch situation.

Selection of (sub)scales

The selection of parts of the (sub)scales was based on the following criteria:

- 1) Reflecting relevant constructs of the cognitive, affective and behavioural component;
- 2) The reliability of the original scales in the relevant population was reported to be $>.80$, which is considered to be appropriate for research purposes (Drenth & Sijtsma, 2006).

Teacher questionnaire. The cognitive component was based on 12 items of the subscale ‘core perspectives’ from the ‘My Thinking About Inclusion’ questionnaire (MTAI, developed by Stoiber et al., 1998). For the affective component, four items of the ‘Multidimensional Attitudes Towards Inclusive Education Scale’ (MATIES, developed by Mahat, 2008) were selected to measure feelings of frustration and irritation. Because those items only reflected negative feelings, eight items from the ‘Skills’ questionnaire (developed by Avramidis, Bayliss, & Burden, 2000) were added. These reflected positive feelings, like competence and confidence. The subscale measuring the behavioral component was based on six items from the MATIES (Mahat, 2008), reflecting teachers’ willingness to interact and support.

A total number of 30 items for the teachers’ questionnaire were selected (see Table 5.1). Those items pertained to the three components with respectively 12, 12 and 6 items measuring the cognitive, affective and behavioral domains. Respondents could rate the items on a 5-point Likert scale (1= completely disagree to 5= completely agree).

Table 5.1 Overview of selected questionnaires

Target group	Instrument	Items per component ²			References	Reliability
		C	A	B		
Teachers	MTAI – Core perspectives	12			Stoiber et al. (1998)	Alpha= 0.80
	Skills		8		Avramidis et al. (2000)	Alpha= 0.88
	MATIES		4	6	Mahat (2008)	Alpha= 0.91
Parents	PATHC	11	11	8	Rosenbaum et al. (1987)	Alpha= 0.89
	MTAI – Core perspectives	8			Stoiber et al. (1998)	Alpha= 0.80
Students	CATCH	12	12	12	Rosenbaum et al. (1986)	Alpha= 0.90

Note. ¹ The theoretical framework of the questionnaire is based on the three-component theory. ² Attitude component: C= cognitive, A= affective, B= behavioral.

Parent questionnaire. The ‘Parental Attitudes Towards Handicapped Children’ questionnaire (PATHC, developed by Rosenbaum, Armstrong, & King, 1987) was used as ‘donor’ scale. The questionnaire consists of items reflecting all three attitude components,

but the concept ‘beliefs of parents towards inclusion’ was insufficiently covered. Thus, eight items of the subscale ‘core perspectives’ from the ‘My Thinking About Inclusion’ questionnaire (Stoiber et al., 1998) were added. A total number of 38 items for parents’ questionnaire were selected (see Table 5.1) relating to the three components, with 19 (cognitive), 11 (affective) and 8 (behavior) items, respectively. Respondents could rate the items on a 5-point Likert scale (1= completely disagree to 5= completely agree).

Student questionnaire. The ‘Chedoke-McMaster Attitudes Towards Children with Handicaps’ (CATCH, developed by Rosenbaum et al., 1986) included all three components and met our selection criteria. Hence, it was decided to select this questionnaire to measure students’ attitudes towards peers with SEN. This questionnaire consisted of 36 items, 12 items for each component (see Table 5.1).

The original CATCH questionnaire used the term ‘handicapped child’. It is likely that students aged 8-12 years would interpret this in many different ways. To avoid this, vignettes were presented at the beginning of the questionnaire. These vignettes represented a hypothetical child showing characteristics of a specific type of disability, but without using terms as handicapped, disability, impairment or special needs (see Appendix 1). Students were asked to read this story before responding to the questionnaire. The wording of the items in the student-questionnaire was linked to the content of the vignette. Three different vignettes were compiled describing children which could attend a regular or a special Dutch school. The stories were compiled by the first author and verified by an educational psychologist.

The students’ questionnaire consisted of a vignette and 36 statements, with each component being measured by 12 items. The students’ questionnaire had three versions with each having a different vignette. Respondents could rate the items on a 5-point Likert scale (1= completely disagree to 5= completely agree).

Translation procedure

The selected items for the three scales were translated in order to assess the attitudes of Dutch teachers, parents and students: two people (the first author and a graduate student) translated the items independently of each other. Both translations were then compared and both translators discussed what the most accurate translation would be.

After the translation of the items they were tested in a small convenience sample. This made it possible to detect difficulties in the wording of the items. From each target population, a small group (seven teachers, two parents and four students) were asked to complete the questionnaire with the graduate student or the first author present. All remarks by the teachers, parents and students on the formulation of the items were examined. Subsequently, the wording of difficult or vague formulated items was changed.

Procedure for questionnaire evaluation

The psychometric properties and the construct validity of the questionnaires was tested in a two- stage process, the first stage comprising drawing three independent samples of

teachers ($N= 58$), parents ($N= 58$) and students ($N= 1157$). This data were used for a first analysis of the psychometric properties of the scales and the separability of the three attitude components in each scale. Based on the outcomes of these first analyses, adaptations and improvements to the questionnaires could be made. The second stage was set up in order to examine the psychometric properties and the possible separability of the attitude components of the three final scales.

Analysis of the psychometric properties

The analysis of the psychometric properties was based on an item response theory model. To analyze the item quality of each questionnaire a Mokken scale analysis (MSA) was used. In a MSA, the relationship between observed item responses and a latent trait are examined. The latent trait is assumed to pertain to the measured concept (e.g., attitudes). Based on MSA, the quality of individual items can be assessed. In particular, the Monotonicity Homogeneity Model was used (MHM, Mokken, 1971; Sijtsma & Molenaar, 2002) based on the following three assumptions:

- 1) Unidimensionality of items: a single latent trait underlies the items responses;
- 2) Local independence: the scores on a previous item are not to be influenced by the scores on the other items of the scale;
- 3) Monotonicity: all Item Response Functions (IRFs), which express the relationship between the latent trait and the item scores, are monotone, non-decreasing.

When those three assumptions are met for a set of items, the important implication is that the individuals' sum scores of the items provide the ordering of the individuals on the latent trait.

The program 'Mokken Scale Analysis for Polytomous' items (MSP, Molenaar & Sijtsma, 2000) was used to analyze the fit of the MHM for each subscale (i.e., attitude component). In this way, it can be determined whether the sum scores of the items indeed indicate the ordering of persons on, e.g., the cognitive component, or whether items should be adapted or deleted from the scale before the scale can sensibly use to order the persons. In order to assess whether item i fits the MHM the Item Scalability Coefficient (H_i) of each item was examined. If the MHM holds, H_i is between 0 and 1 at the population level. The H_i -values furthermore indicate the extent of discrimination power of the items across individuals, with lower values indicating a lower discrimination power. Molenaar and Sijtsma (2000) suggest as rule of thumb that items associated with H_i values < 0.30 are considered to have weak discrimination power. Thus, the H_i -value of item i expresses the quality of the item, given the other items in the scale. The quality of a (sub)scale is indicated with the H -value, indicating its strength, with $0.30 \leq H \leq 0.40$ regarded as a weak scale, $0.40 \leq H \leq 0.50$ a moderate scale and an H -value of > 0.50 a strong scale.

Besides the scalability coefficients, other diagnostics were used to assess whether the monotonicity assumption holds for each item. The diagnostics are summarized into so-called criteria values, where a value ≥ 80 strongly suggests assumption violation, values between 40 and 80 are questionable, and values of ≤ 40 are satisfying (Sijtsma & Molenaar, 2002). Based on the outcomes of the analysis and the content of the items, we decided

whether suspicious items would be removed or maintained in the questionnaire with a reformulation.

Next to the analysis with the MHM, we examined if evidence for differential item functioning (DIF) could be found within each questionnaire per target group. DIF might occur when the IRF of a particular item is different in two relevant subgroups (i.e. men/boys and women/girls). For each of the target groups, DIF was examined among the three subgroup variables: gender, experience with inclusion/having a child with SEN and type of vignette.

The following analysis procedure was used for each subscale:

- 1) Assessing the H_i coefficients and the criteria values to examine whether the assumptions of the MHM appear to hold;
- 2) Inspection of suspicious items from 1) based on H_i and content;
- 3) Removal of items from the subscales/ adaptations of the content of the item;
- 4) Assessing the diagnostics for differential item functioning across subgroups;
- 5) Determination of the H -value of the final scale (thus, excluding suspicious items) and the reliability coefficients.

Analysis of the separability of the subscales

To determine whether the attitude components can be seen as separate subscales within the attitude questionnaire, we used the automatic item step procedure (AISP) of MSA. This procedure can be used to select a cluster of items from a larger set, where each cluster consists of items which measure the same latent trait, with sufficient discrimination power. AISP can be seen as an alternative to factor analysis and applies very well to items from questionnaires that are scored polytomously. The AISP requires a sample of at least 100 respondents (Sijtsma & Molenaar, 2002). The AISP aims at finding scales from a set of items such that each scale satisfies a minimal, pre-specified degree of quality – as indicated by the scale H coefficient – and contains as much items as possible that are indicative of the same latent trait. The AISP was used according to the guidelines of Sijtsma and Molenaar (2002, p. 80-82) in which we used the bottom-up strategy with lower bounds ranging from $c= 0.30$ to $c= 0.60$. The AISP was intended to be performed on all items using various boundary levels ($c= 0.30$ to $c= 0.60$, decreasing each step with 0.10). With increasing boundary levels, a typical pattern in the emergence of indicated scales arise. A small boundary value results in most items in one scale. The noticeable difference between the single scale and multiple subscales occur with increasing boundary values: The emergence of one smaller scale indicates a single scale suffices, where two or more scales indicate the necessity of subscales.

5.2 Results

First stage analyses: procedure and participants

To evaluate the psychometric properties of the items and the separability of the subscales, an independent study per target group was performed. This means that the schools where the teacher and student studies were performed were independent of each other, while

parents and students were not related as well. All three studies were conducted by undergraduates and supervised by the first author. The teacher and student studies took place in April 2009 and parents' study took place in June 2009. A description of the data collection is given below. Detailed information about the participants is presented in Table 5.2.

Teachers. A total number of 60 regular primary schools were randomly selected from a list of addresses of schools situated in an urban area in the north of the Netherlands. Teachers from grades 5 - 8 were invited to participate in the study. A survey package was sent to each school containing an invitation to participate in the study, four questionnaires and return envelopes. In total 58 questionnaires were returned, reflecting a response rate of 24%.

Table 5.2 Teacher and parent demographics of the pilot study and the main study

Demographics ¹		Pilot study		Main study	
		Teachers (N=58)	Parents (N= 58)	Teachers (N= 45)	Parents (N= 420)
		N (%)	N (%)	N (%)	N (%)
Gender	Male	13 (23)	17 (29)	11 (24)	81 (20)
	Female	45 (77)	41 (71)	34 (76)	339 (80)
Age ¹	21 - 30 years	12 (22)	5 (8)	26 (59)	27 (6)
	31 – 40 years	9 (15)	23 (39)	4 (8)	301 (72)
	> 40 years	37 (63)	30 (53)	15 (33)	90 (21)
Teaching experience	1 - 4 years	8 (13)	--	12 (27)	--
	5 - 9 years	13 (23)	--	15 (33)	--
	10 - 14 years	8 (15)	--	3 (7)	--
	> 14 years	29 (49)	--	15 (33)	--
Education degree ¹	Primary	--	1 (2)	--	2 (1)
	Secondary	--	4 (7)	--	37 (9)
	Intermediate vocational	--	22 (38)	--	188 (45)
	Bachelor degree	--	20 (34)	--	158 (38)
	Master's degree	--	11 (19)	--	31 (7)
Having a child with SEN (in class) ²	Yes	30 (52)	12 (21)	45 (100) ³	132 (32)
	No	28 (48)	46 (79)	--	288 (68)

Note. ¹ Due to missing values of demographics the number sometimes does not correspond with the sample size. ² SEN= Special Educational Needs. ³ Due to other purposes of the data-collection the inclusion criterion of the second stage sampling was the inclusion of at least one child with SEN in teachers' class.

Parents. The sample of parents testing the parent questionnaire was gleaned by the first author of this article inviting acquaintances with primary school children to participate in the study. Since there was not any contact with schools at the time of the data-collection it was impossible to contact parents via teachers or students. Therefore, we decided to use a snowball effect in sampling parents, i.e. invited parents who indicated they wanted to participate in the study then approached other parents and asked if they wanted to

participate. Parents who wanted to participate were informed about the research and received a survey package, including an information letter, two questionnaires (one for each parent) and a return envelope. This procedure resulted in a total of 120 parents being invited to participate in the study. A total of 58 parents returned the questionnaire, reflecting a response rate of 48%.

Students. A total of 26 schools were randomly selected from a local address list of schools situated in the north of the Netherlands. Grades 5, 6, 7 and 8 of each school (age range 8-12) were invited by letter to participate in the study. Of these, 14 schools wished to participate (54%). In most cases the questionnaires were personally administered by the graduate students, although in some cases the schools only wanted to participate if teachers themselves could administer them. In such cases, the schools received written standardized instruction on how the questionnaire was to be administered.

The data of a sample of 1,157 regular primary school students was analyzed, consisting of 620 girls and 537 boys. Each class was randomly divided into three groups, each with a different vignette and each filling in the appropriate questionnaire. The age of the students ranged between 8 and 12 years old, with a mean of 10.1 years ($SD= 1.3$). A total number of 15 children had been formally assessed as having a disability (1.2%).

First stage analyses: evaluation of the psychometric properties

Teacher questionnaire. The assumptions of the MHM were checked using the scalability coefficients H_i and the criteria values. Four out of 30 items had insufficient scalability coefficients (i.e., $H_i < 0.30$). Based on the outcomes and content analysis it was decided to remove three items (e.g. ‘Parents of students with special needs benefit from inclusive education’). We decided to maintain the other item and adapt the wording since this was regarded as being highly relevant to the scale. Of the remaining 26 items, no violation of the monotonicity assumption was indicated. We found that the items of each component had weak to moderate scalability coefficients (see Table 5.3 for a summary).

Comparing the ordering of the response categories for all the statements across ‘gender of the teacher’ showed a slight indication of differential item functioning (DIF) within the cognitive component. For two statements (e.g. ‘Rights of regular education for children with special needs’) it is more likely that female teachers show positive scores. Because this difference appeared to be rather small, we decided to maintain the statements in the subscale. No indication of DIF was found for the items belonging to the affective and behavioural components for ‘gender’ and ‘with/without experience’.

Parent questionnaire. The outcomes of the analysis revealed that several items violated the assumptions of the MHM (see Table 5.3). Based on these outcomes it was decided to delete 6 of the 38 items. For 5 items with low scalability coefficients ($H_i < 0.30$) it was decided to maintain them in the scale as their content was considered to be important to address in the scale (e.g. ‘A regular education teacher cannot address adequately the individual needs of children with special needs’). To obtain stronger discrimination power we changed the formulation of the items. For the other 27 items, no indication of a

violation of the monotonicity assumption was found. The items of each component had weak to moderate scalability coefficients and a scale H of moderate strength.

Differential item functioning appeared to be absent for gender, while it was found for the variable ‘having/not having a child with a disability’. The results showed that parents having a child with a disability are more likely to show positive answers on several items of the cognitive and behavioural subscale. The differences appeared to be small. Therefore, we decided to keep the items in the subscale.

Student questionnaire. The results of the analysis revealed that 12 out of 36 items had insufficient scalability coefficients and these were removed from the scale. For three other items with low scalability coefficients it was decided to keep them in the scale, but adapt the formulation of the items (e.g. ‘I think Jenny is *interested* in many things’ was changed into ‘I think Jenny *likes* many things). For none of the remaining items was a violation of the monotonicity assumption indicated. The items had weak to moderate scalability coefficients and a moderate scale H (see Table 5.3 for a summary).

In addition, DIF was examined for the variable ‘correspondence of gender and vignette’. We examined if DIF existed among students with a gender corresponding and non-corresponding vignette. This means we had four groups: girls corresponding/non-corresponding, boys corresponding/non-corresponding. The results of the analysis showed that for items belonging to the cognitive component no DIF appeared to occur. For the affective component, it was found that DIF occurs for both variables ‘gender’ and ‘gender corresponding vignette’. For the latter DIF variable we found that it is more likely that girls and boys with a gender-corresponding vignette show positive answers, compared with girls and boys with a non-corresponding vignette. Those results suggest the importance of a gender-corresponding vignette to overcome DIF.

Table 5.3 Summary of number of deleted items, adapted items, final scale, the scalability H_i and Scale H .

Group	Scale ¹	Deleted	Adapted	Final scale	Scalability H_i	Scale H^2
		$H_i < 0.30$	$H_i < 0.30$			
Teachers	C	2	1	10	$0.30 \leq H_i \leq 0.43$	0.35
	A	1	0	11	$0.31 \leq H_i \leq 0.50$	0.38
	B	0	0	6	$0.41 \leq H_i \leq 0.66$	0.57
Parents	C	4	2	15	$0.26 \leq H_i \leq 0.51$	0.42
	A	0	2	11	$0.34 \leq H_i \leq 0.54$	0.42
	B	2	1	6	$0.26 \leq H_i \leq 0.56$	0.42
Students	C	5	3	7	$0.26 \leq H_i \leq 0.39$	0.34
	A	4	0	8	$0.42 \leq H_i \leq 0.56$	0.50
	B	3	0	9	$0.34 \leq H_i \leq 0.55$	0.48

Note. ¹ C= cognitive, A= affective, B= behavioral. ² The scale H is based on the items with $H_i > 0.30$.

First stage analyses: evaluation of the separability of the attitude components

To examine the separability of the attitude components as subscales in the three separate questionnaires we used the automatic item step procedure (AISP). The procedure was applied to all remaining items, including the adapted ones. Different boundary levels were

used, ranging from $c = 0.30$ to $c = 0.60$. The results of the final outcomes (lower bound $c = 0.30$) are summarized in Table 5.4.

The AISP was applied to all items which were included in the final scale at different boundary levels. For teachers' and parents' questionnaires the results indicated a unidimensional item set as no specific subscales were distinguished. Using a high boundary level, $c = 0.60$, the first selected scale contained a mix of items of the three components in both questionnaires. Repeating the AISP at different boundary levels with all items showed that no distinction between the three components was made. Calculating correlations between the components and a general attitude score showed that the three components were strongly related to each other (see Table 5.5). The results suggest that teachers' and parents' questionnaires measure a general attitude towards inclusive education, comprising cognitive, affective and behavioral responses. However, due to the relatively small sample sizes ($N = 58$ for teachers, and $N = 58$ for the parents), the results should be interpreted with some caution. With respect to the students questionnaire the results indicated a multidimensional item set. The first scale selected ($c = 0.60$) contained only items of the affective and behavioral component.

Table 5.4 Results of the Automatic Item Step Procedure of the pilot study – teachers, parents and students

Target group		Lower bound $c = 0.30$				
		Items ¹			H_i	Scale H
		C	A	B		
Teachers	Scale 1	5	9	6	$0.31 \leq H_i \leq 0.53$	0.41
	Scale 2	-	2	-	$0.78 \leq H_i \leq 0.78$	0.78
	Scale 3	2	-	-	$0.47 \leq H_i \leq 0.47$	0.47
	Excluded	3	-	-		
Parents	Scale 1	10	8	5	$0.31 \leq H_i \leq 0.51$	0.43
	Scale 2	1	1	1	$0.65 \leq H_i \leq 0.72$	0.69
	Excluded	4	2	-		
Students	Scale 1	1	8	9	$0.31 \leq H_i \leq 0.56$	0.47
	Scale 2	3	-	-	$0.38 \leq H_i \leq 0.43$	0.39
	Scale 3	2	-	-	$0.32 \leq H_i \leq 0.32$	0.32
	Excluded	1	-	-		

Note. ¹ C= cognitive, A= affective, B= behavioral.

Repeating the AISP at different boundary levels with all items showed that the items belonging to the affective and behavioral component are clustered together in one scale. The items of the cognitive component were distinguished as a separate scale. The correlations between the attitude components illustrated that the affective and behavioral components are strongly related to each other (see Table 5.5), whereas the cognitive component is less strongly related. Hence, the results indicated that the questionnaire includes two subscales: one with items of the cognitive component, and one with items of the affective and behavioral component.

First stage analyses: conclusion and adaptations

Outcomes of the MSA revealed that various items violated the assumptions of the MHM and these were therefore removed from the final questionnaire. Additionally, the formulation of several items with low scalability coefficients was changed. Analysis of the separability of the attitude components revealed that the single-component model appears to apply in teachers’ and parents’ questionnaires. This indicates that the scales measure teachers’ and parents’ general attitudes towards inclusive education. Analysis of the students’ questionnaire revealed that the two-component model applies with a cognitive component and an affective/behavioral component.

Table 5.5 Correlations of between total score and attitude components – main study

	Teacher				Parents			Students				
	T	C	A	B	T	C	A	B	T	C	A	B
Total	--				--				--			
Cognitive	0.83	--			0.93	--			0.68	--		
Affective	0.92	0.61	--		0.92	0.73	--		0.95	0.50	--	
Behavioral	0.83	0.51	0.76	--	0.85	0.66	0.82	--	0.94	0.47	0.88	--

In addition to the results of the psychometric properties and the separability of the scale, the analyses of the data provided useful information about teachers’, parents’ and students’ experience in completing the questionnaire. Three suggestions to further improve the scales were made:

- Change the 5-point Likert scale into a 4-point one. Initially, the questionnaire included a 5-point Likert scale with the third category representing a ‘neutral’ choice. Because too many participants (especially 10-35% students) used this response category, the 5-point Likert scale was transformed into 4-point scale. This invites the participants to indicate their degree of agreement in a more outspoken way.
- Add vignettes to the teacher and parent questionnaires. During the assessment of their attitudes teachers and parents indicated having difficulty in answering the items because the general term ‘disability’ was used. Many participants preferred a specification of the type of disability, hence we decided to include a vignette in the teacher and parent questionnaires such as used in students’ questionnaire (see Appendix 1).
- Develop gender specific vignettes for student questionnaires. Based on the DIF assessment, some items in the questionnaire appeared to be sensitive to the gender of the participant. During the assessment of students’ attitudes this finding was confirmed, as some boys and girls indicated they would respond differently to an item like ‘I would invite Mark to my birthday party’ if the child presented in the vignette would correspond with their gender. Taking the outcomes of DIF and the students’ together, we decided to develop gender specific vignettes.

Second stage analyses: procedure and participants

Based on the outcomes of the first stage analyses, each questionnaire was adapted and subsequently tested in a new sample. For this second stage analyses we drew samples

which were part of a wider study. For other purposes of this study we formulated an inclusion criterion (i.e. at least one student with special needs was in grade 5, 6, 7 and 8). Taking this into account, along with experience in previous research in the Netherlands, we expected a non-response of at least 75% (Koster, Timmerman, Nakken, Pijl, & Van Houten, 2009), and decided to select a large sample of regular primary schools in the north of the Netherlands ($N= 300$). All teachers, parents and students of grades 5 to 8 of the 300 schools were invited to participate in the study by written invitation which was mailed or emailed in February 2010. The invitation letter included a standardized return form, whereby directors and teachers were asked to indicate if they wanted to participate in the study. A total number of 26 schools wanted to participate and also met our selection criterion. The demographics of the participated teachers and parents are presented in Table 5.2. Prior to assessing the student attitude questionnaire, parents were invited to give their written consent to their child taking part. One parent refused permission so the child did not participate.

Teachers. The sample study included 49 regular primary school teachers teaching in grades 5, 6, 7 or 8. The teacher of each class was asked to participate in the study and complete a questionnaire package which could be returned by mail. Four teachers did not return the questionnaire, resulting in a sample of 45 teachers (response rate 92%).

Students. A total number of 49 classes were part of the study, resulting in data for 938 students (51% girls). The questionnaires were personally distributed to the students by the first author and graduate students. Students were in grades 5, 6, 7 or 8 and had a mean age of 9.9 years ($SD= 0.11$, range 8-12). The majority of students attended grade 6 (38%), 24% attended grade 5 and 30% and 8% of students were in grades 7 and 8 respectively.

Parents. The parents of the participating students were also invited to participate. Each student received an envelope for their parents, which contained an invitation letter explaining the study, an invitation to participate, a questionnaire and a return envelope. A total number of 508 parents returned the questionnaire, reflecting a response rate of 45.6%. Due to missing values the data of 420 parents was used to evaluate the psychometric properties of the attitude questionnaire.

Second stage analyses: evaluation of the psychometric properties

Teacher questionnaire. The assumptions of the MHM were checked using the scalability coefficients H_i and the criteria values. A summary of the results is given in Table 5.6. Eight items had insufficient discrimination power and were removed from the scale (e.g. ‘The best way to implement inclusive education, is just by doing it’). Two items had weak scalability coefficients, but since we considered the content of the items important to cover, we decided to maintain them in the scale. Differential item functioning (DIF) appeared to be absent and none of the criteria values indicated any violation of the monotonicity assumption. The final scale included 19 items, of which six measured teachers’ beliefs, seven measured feelings and six measured teachers’ behavioral intentions.

Parent questionnaire. The assumptions of the MHM were checked using the scalability coefficients H_i and the criteria values. Based on the outcomes of the analysis it was

decided to delete eight items from the questionnaire (e.g. ‘I feel sorry for children like Alex’). One item with weak a scalability coefficient was considered to be important and therefore this item was maintained in the scale (‘Regular primary schoolteachers cannot address the individual needs of children like Alex’ adequately). Differential item functioning appeared to be absent for gender, having a child with SEN, and type of vignette. The final scale includes 24 items, of which 13 items measured parents’ beliefs, seven measured feelings and four measured parents’ behavioral intentions (see Table 5.6 for a summary).

Student questionnaire. The assumptions of the MHM were checked using the scalability coefficients H_i and the criteria values. Remarkably, all items measuring beliefs of students had insufficient scalability coefficients ($H_i < 25$) and were excluded from the analysis. Taking the results of the pilot study and the main study together, we decided to remove all items of the cognitive component from the scale. This resulted in a final scale including only items of the affective and behavioral component. Differential item functioning appeared to be absent. The final scale consisted of 14 items, of which six and eight items measure students’ feelings and behavioral intentions respectively (see Table 5.6 for a summary).

Table 5.6 Summary of the final scale per target group

Target group	Deleted, $H_i < 0.30^1$			Final scale ¹			H_i	Scale H	Rho
	C	A	B	C	A	B			
Teachers (N= 45)	4	4	0	6	7	6	$0.34 \leq H_i \leq 0.60$	0.48	0.91
Parents (N= 420)	2	4	2	13	7	4	$0.15 \leq H_i \leq 0.52$	0.40	0.92
Students (N= 938)	7	2	1	0	6	8	$0.37 \leq H_i \leq 0.57$	0.50	0.92

Note. ¹ C= cognitive, A= affective, B= behavioral.

Second stage analyses: evaluation of the separability of the attitude components

Applying the Automatic Item Step Procedure (AISP) to the data of teachers’ and parents attitudes confirmed the findings of the pilot study: no distinction between the three attitude components could be made in the teacher and parent questionnaires. Using different boundary levels (ranging from $c= 0.30$ to $c= 0.60$) revealed a clustering of the three components into one scale. These results indicate that the questionnaire primarily measures teachers’ and parents’ general attitude towards inclusive education, which comprises cognitive, affective and behavioral responses.

Removing the items belonging to the cognitive component in the student questionnaire resulted in a questionnaire reflecting students’ feelings and behavioral intentions. We applied to AISP to check whether the two components could be distinguished as separate subscales. Using different boundary levels revealed that the affective and behavioral items were clustered into one scale. These results indicate that the student questionnaire primarily measures general attitudes, comprising affective and behavioral responses.

5.3 Discussion

The study presented here departed from the need for a set of good scales in order to be able to measure the attitude towards inclusive education of teachers, parents and students in the Netherlands. A literature review showed that numerous scales to measure attitudes towards inclusive education exist, but these were all made for use in English spoken settings. The review further showed that not all scales had a sound psychometric profile and that only a minority clearly based their item composition on a one, two, or three component model in attitude research. From the start it was clear that simply selecting a scale and translating it into Dutch was no option. We used the available scales as 'donor' scales. The most promising items or subscales were selected into new teacher, parent and student scales and these were translated and adapted to the Dutch educational situation. In practice, this resulted in making completely new questionnaires. These were constructed in two stages. The first stage analysis was focused on further improving the scales while the second stage addressed the psychometric quality of the final scale. Data in the two stages was collected from different samples.

The results of the first stage analyses made clear that next to a number of smaller adaptations, the often used 5-point Likert scale was not optimal, that both the teacher and parent scales would benefit from adding vignettes and that the scale for students needed gender specific vignettes. These findings implicitly say something about the quality of many of the existing scales. Already in reviewing the available attitude scales for inclusive education there was serious criticism about the majority of the available scales, while the findings regarding the 5-point Likert scales, the vignettes for all target groups and the gender specific vignettes point at further flaws in many of the existing attitude questionnaires.

The Mokken scale analyses (MSA) applied in the first stage resulted in detailed information about the items' scalability and dimensionality structure of each questionnaire. Based on those outcomes some adaptations were made resulting in a final questionnaire for teachers, parents and students with appropriate discrimination power and high reliability coefficients. However, the second stage analyses still gave rise to a number of adaptations. The results furthermore supported an unidimensional item set in the teachers' and parents' questionnaires, rather than the three component model (Triandis, 1971), which is often used in attitude research. With respect to the separability of the attitude components in the students' questionnaire we found ambiguous outcomes. Initially a two-component model with a distinction between the cognitive and affective/behavioral components was found, but repeating the procedure in the second stage analyses revealed insufficient scalability coefficients of all cognitive items. Subsequently, these items were removed which resulted in a questionnaire including a one-component model comprising the items measuring students' feelings and behavioral intentions. This finding is in line with findings of Rosenbaum, Armstrong and King (1986), who suggested that a two-component model might be more appropriate. The consequences of this finding are not quite clear yet. It is argued that beliefs and knowledge are not that important to consider, as beliefs of young students are, as yet, not stable. However, from developmental theories it is known that

children develop beliefs when they are about 4 years old (Keenan, 2002), which argues for further development work on this aspect of the student scale.

The unsuccessful attempts in this study to differentiate between the three attitude components may suggest that the three component model is a theoretical model without empirical basis. Different angles of incidence are possible here. First, it is possible that there is no such thing as a three component model and that all theoretical distinctions within the concept 'attitude' intercorrelate highly with each other. A second option is that the items in the questionnaire are simply not good enough to measure the three components, and that finding a one component model is nothing more than an artifact of this weakness. Eagly and Chaiken (1993) state that "the tripartite distinction provides an important conceptual framework, that allows psychologists to express the fact that evaluation can manifest through responses of all three types, regardless of whether the types prove separable in appropriate statistical analyses" (p. 14).

Despite all these comments, this study has resulted in three new scales measuring the attitude towards inclusive education for teachers, parents and children in the Netherlands. The past decades have made clear that implementing inclusive education is far from easy. The slow progress has been explained by, among others, pointing at teachers', parents' and students' attitudes. It was stated that these were most likely rather negative. A first analysis on the data from the second stage sample does not support this: teachers, parents and peer attitudes are overall neutral to positive. This can be interpreted as good news, but it also raises issues around socially desirable answering behaviour, about placing cut-off points to decide what is negative and what is positive and about the content of the vignettes.

The issues described above point at certain limitations of the study, which need to be mentioned here. We used different procedures when drawing samples for the first and second stage, which resulted in differences in participants' experience with students with SEN. For example, only half the teachers who participated in the first-stage sample had experience with teaching students with SEN, whereas all teachers of the second stage sample had experience. As shown in other attitude studies (Avramidis & Kalyva, 2007; Balboni & Pedrabissi, 2000; Siperstein, Parker, Bardon, & Widaman, 2007) experience with students with SEN is found to be a variable which positively influences people's attitudes. It is possible that the responses of the participants of the second stage sample were biased. Another limitation relates to the distinction of the three components of student attitudes. When using a student questionnaire for other purposes one should bear in mind that the cognitive component cannot be measured by this questionnaire.

The ultimate purpose in using an attitude questionnaire concerns the prediction of future behavior. Few studies use attitudes to predict or explain teacher and student behaviour. In the study of Van der Veen, Smeets and Derriks (2010) teacher attitudes were used to predict referral of students with special needs to special education. The outcomes of their study are in line with the meta-analysis of Glasman (2006), showing that attitudes can predict people's future behavior. A measurement with good psychometric properties is necessary in such research. The attitude questionnaires developed in this current study can

be used as tools for studies to predict future behaviour of teachers, parents and students in the context of inclusive education.

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Appendix 1: Vignettes used in the student questionnaire

Mark: a boy showing characteristics of AD/HD

Mark is a boy of your age and has just moved to your town. He then attends the same school as you. Mark is very noisy, he has difficulty staying in his place and walks about the classroom a lot. He also has difficulty in listening, calls out and often speaks out of turn. He has trouble working together with other children and wants to do everything his way. Mark likes playing football and he's quite good at it. Also, when Mark is angry he starts to shout, throws stuff and often leaves the classroom.

Jenny: a girl showing characteristics of a cognitive disability

Jenny is a girl of your age and has just moved to your town. She then attends the same school as you. Jenny has just started to read and write but has difficulty with maths. She can play and run like other children, but sometimes forgets the rules of certain games.. She needs extra time to learn at school and is forgetful in class. Sometimes it is difficult to understand what Jenny says. She enjoys playing music. For part of the day, Jenny receives extra learning assistance outside the classroom.

John: a boy showing characteristics of a physical disability

Mark is a boy of your age and has just moved to your town. He then attends the same school as you. John has difficulty walking. He walks with braces around his legs, uses crutches and sometimes needs a wheelchair for daytrips with his family. John often needs to skip school as he visits a doctor who helps him with his walking. John is a good learner and he's funny. He uses a computer at school because he's a slow writer. Sometimes it is difficult to understand what he says

Chapter 6

Which variables relate to the attitudes of teachers, parents and peers towards students with special educational needs in regular education?

Abstract

While there is an increased interest in describing attitudes of teachers, parents and peers towards students with special educational needs (SEN) in regular education, there is a lack of knowledge about various variables relating to the attitudes of these three groups. The aims of this study are 1) to examine which variables relate to the attitudes of teachers ($N=44$), parents ($N=508$) and peers ($N=1113$) towards students with Attention Deficit/Hyperactivity Disorder (AD/HD), Autistic Spectrum Disorder (ASD) or a cognitive disability in regular primary education and 2) to examine whether teachers and parents attitudes affect the attitudes of peers. An attitude survey was used to assess attitudes and data was analysed by means of multilevel analyses. The variables found in this study relating to attitudes can be used as a foundation to develop interventions to change attitudes.

Keywords: attitudes, inclusive education, behaviour problems, disabilities, multilevel analysis

6.1 Introduction

The inclusion of students with special educational needs (SEN) in regular education became an important issue in the education policies of many countries in recent decades. Internationally, this resulted in new legislation which aims to include students with various types of SEN in regular schools (Nakken & Pijl, 2002). Thus, the development of inclusive education resulted in research focusing on implementing and evaluating such practices. However, Vislie (2003) argued that, in practice, the implementation of such policies is not always evident and apparently difficult for practitioners.

Those difficulties especially account for the social participation of students with SEN in regular schools. Research has shown that inclusion does not necessarily guarantee full participation. Students with SEN often experience difficulties in social participation, like having limited friendships (Koster, Pijl, Nakken & Van Houten, 2010) and lack of acceptance by peers (Frederickson & Furnham, 2004). Such worrying outcomes resulted in a discussion among researchers on what causes the obstacles to make successful inclusion happen. Some argue that conditions like teaching materials, resources (e.g. specialized therapy) and curriculum is necessary (Hollenweger & Haskell, 2002). Others argue that personal factors are the key to making inclusive education possible, like attitudes of teachers, parents and peers towards SEN students in regular schools (Hegarty, 1994; Meijer, 2003; Norwich, 1994; Vignes et al., 2009).

International research has often addressed the question regarding the attitudes teachers, parents and typically developing peers hold towards inclusive education. Results have shown that these three groups hold neutral to negative attitudes towards inclusive education (De Boer, Pijl, & Minnaert, 2010; De Boer, Pijl, & Minnaert, 2011; Nowicki & Sandieson, 2002). Their attitudes, however, are differentiated by the severity and SEN type. When comparing attitudes towards different types of SEN it turns out that all three groups are least positive about the inclusion of students with cognitive disabilities and

moderate/severe behaviour problems (Alghazo & Naggar Gaad, 2004; Lifshitz, Glaubman, & Issawi, 2004). In most of these studies participants were asked to answer their degree of agreement (or concern) based on a description of an SEN type (e.g. Tafa & Manolitsis, 2003). Using such a method might indicate whether respondents have different their attitudes according to SEN type but that the experience with students with behaviour problems or a cognitive disability in class might lead to different attitudes. This effect is often neglected in attitude research.

Besides the influence of the type of SEN on attitudes, several other variables have been related to attitudes, like age of parents (Balboni & Pedrabissi, 2000), gender of peers (Nowicki, 2006; Opdal, Wormnæs, & Habayeb, 2001; Siperstein, Parker, Bardon, & Widaman, 2007) and teacher training (Batsiou, Bebetos, Panteli, & Antoniou, 2008). Additionally, knowing someone with a disability in daily life is often regarded as a variable which positively affects attitudes (Avramidis & Kalyva, 2007; Kalyva, Georgiadi, & Tsakiris, 2007).

Due to the importance of the social inclusion and the increased interest in attitudes it is remarkable that research has drawn little attention on the effect of a friendship between a student with and without SEN - on the attitudes of peers and parents. As far as we know only Vignes et al. (2009) showed that a friendship between students with and without SEN positively affects the attitudes of students in lower secondary education. Yet, it is unknown whether this effect accounts for peers in regular primary education.

Another unexplored factor in attitude research is the influence of teacher and parent attitudes on students' attitudes. Based on research and developmental theories, it is known that children develop working models based on the experiences with adult caregivers (Bowlby, 1982). Especially in the first years of children's life, parents play an important role in the development of their children. The influence of parents on children's development concerns various areas, like the development of sociometric status (Putallaz, 1987), social skills (Parke & O'Neil, 1996) and academic performance (Ahmed, Minnaert, Van der Werf, & Kuyper, 2010). Based on these research outcomes it seems likely that attitudes are related to their children's attitudes. This hypothesis is established in dated research of Katz and Chamiel (1989), which showed that mothers' attitudes towards those with physical disabilities related to the attitudes of young children. It is, however, unknown if this finding can be generalized to other SEN.

When children become older, parents are not the only primary caregivers. Once a child attends school classmates and teachers become more important in his/her life. The influence of teachers on students has widely been examined and concerns several developmental areas, like social (Birch & Ladd, 1998; Hughes & Cavell, 1999; Mercer & DeRosier, 2008) and academic outcomes (Hamre & Pianta, 2001; Lizzio, Dempster, & Neumann, 2011; Murray & Murray, 2004).

Previous research findings show that teachers, parents and typically developing peers hold neutral attitudes towards students with SEN in regular primary education. It has been shown that their attitude is influenced by several personal and environmental factors (e.g. gender, age, type of SEN, teacher training and experience with disabilities in daily life).

Yet, of various variables, it is unknown to what extent they relate to attitudes of teachers, parents and peers. This resulted in the following research questions for this current study:

- 1) Which variables relate to the attitudes of teachers, parents and peers towards students having a special educational needs referral?
- 2) To what extent do teacher and parent attitudes relate to the attitudes of peers?

6.2 Method

Procedure

This cross-sectional study was designed to obtain more knowledge about attitudes of Dutch regular primary schoolteachers, parents and peers towards students with a SEN referral in the Netherlands. In drawing samples we defined several inclusion criteria, namely:

- At least 1 SEN student was in grade 5, 6 or 7 (age range 8-12);
- The SEN student had a referral based on: 1) a cognitive disability or 2) an internalized or externalized behavioural problem like Autistic Spectrum Disorders (ASD, including Pervasive Developmental Disorder-Not Otherwise Specified), an Attention Deficit/Hyperactivity Disorder (AD/HD) or a physical disability.

Based on these inclusion criteria together with experiences in previous research in the Netherlands we expected a non-response of at least 75% (Koster, Timmerman, Nakken, Pijl & Van Houten, 2009). Taking this into account we decided to select a large sample of regular primary schools in the north of the Netherlands ($N=300$).

All schools were invited to participate in the study via an invitation letter which was sent by post or emailed in February 2010. The letter included a standardized return form in which schools were asked to indicate if they wanted to participate and if they met both the aforementioned inclusion criteria. A total number of 30 schools met the criteria and wanted to participate in the study.

The return forms sent back by the schools gave an insight into the sample of students with an SEN referral. It turns out that most students had an AD/HD or ASD (including PDD-NOS and Asperger syndrome) referral. Within this last group most students had a PDD-NOS referral. In addition, the third group comprised students with a cognitive disability referral. Four schools indicated that they had a student with a physical disability. Due to the small number of students in this fourth group we decided to focus the current study on students who had the three other types of referral.

Attitudes of teachers, parents and peers were assessed by a self-report questionnaire. The first author and three research assistants visited the schools to hand out questionnaires in the classroom to teacher and students (i.e. students with SEN and their peers). The attitudes of students were assessed per class using standardized instruction, which took up to 45 minutes. Teachers were asked to fill in their questionnaires at the same time. In some cases the teacher did not complete the questionnaire. The questionnaires were then returned by post. After the data collection in the classroom, each student received an envelope for their parents/caregivers comprising a letter with an explanation about the study and an invitation to participate plus a questionnaire and a return envelope.

Participants

The sample of the current study included 26 regular primary schools in the Netherlands. Because some schools had more than one class meeting our criteria, a total number of 49 classes took part in the study. Five teachers did not return the questionnaire, resulting in a sample of 44 teachers. The demographics of the participating teachers are presented in Table 6.1.

Data was collected for 1,113 students (49.8% boys), of whom 71 had SEN referrals (see Table 6.2). The students attended grades 5 (24.1%), 6 (39.7%) and 7 (27.7%). Based on our inclusion criteria, grade 8 was initially excluded from the sample. However, in some schools this grade was combined with grade 7, or 6 and 7. In those cases the grade 8 students were included in the sample as well (8.5%). The mean age of the students was 9.9 years ($SD= 1.0$).

As already explained, the parents of all participating students (with and without SEN) were invited to participate in the study. Out of 1,113 invitations, 508 parents returned the questionnaire (response rate 45.6%). Demographic information about the parent sample is given in Table 6.1.

Table 6.1 Demographics of the two samples: teachers ($N= 44$) and parents ($N= 508$)

Demographics ¹	Teachers		Parents		
	<i>N</i>	%	<i>N</i>	%	
Gender	Male	11	25	88	18
	Female	33	75	416	82
Age	25 - 34 years	24	57	31	6
	35 - 44 years	3	7	359	71
	45 - 55 years	10	24	109	22
	> 55 years	5	12	5	1
Teaching experience	1 - 4 years	11	25	-	-
	5 - 9 years	15	35	-	-
	10 - 14 years	2	5	-	-
	> 14 years	15	35	-	-
Educational level	Primary	-	-	3	1
	Secondary	-	-	42	8
	Intermediate vocational	-	-	223	45
	Higher vocational	-	-	196	39
	University	-	-	34	7
Assistance in class	Yes	12	29	-	-
	No	30	71	-	-
Experience with disabilities (in previous years) ²	Yes	42	95	420	5
	No	2	5	75	15

Note. ¹ Due to missing data the number sometimes does not correspond with the sample size. ² For parents this variable was measured by 'contact with people with disabilities in daily life'

Type of SEN	Frequency
AD/HD	30
ASS (incl. PDD-NOS)	35
Cognitive disability	6
No disability	1042
Total	1113

Instruments

Attitude Survey Towards Inclusive Education (ASIE). All three groups (teachers, parents and peers) completed this survey. This questionnaire was constructed and evaluated in a study of De Boer, Timmerman, Pijl and Minnaert (2012).

The ASIE consist of two parts: a vignette and statements about attitude. The vignette concerned a hypothetical child with SEN. Based on the population of SEN students in our study, we developed three different vignettes: Mark/Nelly – a student with AD/HD, Alex/Sandra – a student with PDD-NOS and Cornell/Janet – a student with a cognitive disability. These studies were drawn up by the first author and verified by an administrator with a degree in special education. Teachers received a questionnaire with a vignette that corresponded with the formal diagnosis of the SEN student in their class. When there was more than one student in a teacher's class with a referral, we chose a vignette randomly. Parents and students also randomly received a questionnaire, including one of the case studies and the corresponding vignette. The second part of the questionnaire comprised statements about attitudes towards the inclusion of the child presented in the vignette. Participants indicated their degree of agreement with the statement by means of a 4-point Likert scale (1= totally disagree to 4= totally agree), in which a higher score reflects a more positive attitude. The mean attitude score per group was included as dependent variable in the analysis.

The item quality of each questionnaire was analysed using the Mokken model (Mokken, 1971), a model based on Item Response Theory (IRT). The outcomes of the analysis resulted in satisfactory scalability coefficients ($H_{(t)} = 0.48$, $H_{(p)} = 0.40$, $H_{(s)} = 0.50$, respectively) and high reliability coefficients ($\rho_{(t)} = 0.91$, $\rho_{(p)} = 0.92$, and $\rho_{(s)} = 0.92$, respectively) for each of the scales for teachers, parents and students.

Target group	Demographic part	Nr. of items	Example item
Teachers	Gender, years of teaching experience, assistance in class, students' type of SEN	19	I believe students like Alex have the right to be educated in the same classroom as typically developing students.
Parents	Gender, age, educational degree, child with SEN, friendly with disabled person	24	I would mind if Mark would sit next to my child in class.
Peers	Gender, age, grade	14	I would invite Mark to my birthday party.

Background variables. The survey included demographic questions on gender, age and education level (see Table 6.3 for a complete overview per group). Based on the theory given in the Introduction, we selected several demographic variables which were included as independent variables in the analyses.

Type of vignette. The type of vignette of the ASIE was included as independent variable in the analysis.

Type of SEN in class. Teachers were asked to provide information on the SEN student in their class. Thus we gained information on the SEN type, i.e. cognitive disability, AD/HD, ASD (including PDD-NOS and Asperger syndrome) or a combination of AD/HD and ASD in any one class. This variable was included as independent variable to examine if a student with a particular SEN type affected the attitudes of teachers, parents and students.

Nomination procedure. Students were asked to nominate classmates they considered to be their best friends. Following Pijl, Frostad and Flem (2008) students could nominate a maximum of five classmates. Using the nominations of each individual student we examined if the SEN student was nominated as a friend. Based on these outcomes we created a dichotomous variable (indicating friend or not) which was included as independent variable.

Analyses

Research question 1

Before answering the first research question we calculated descriptive statistics of teacher, parent and peer attitudes. We used SPSS 16.0 for this and recoded statements with a negative formulation.

In order to answer the first research question we used multilevel analysis for all three groups. Because we were dealing with hierarchically nested data (parents/peers in classes in schools and teachers in schools), a general linear model could not be used (Snijders & Bosker, 1999) so multilevel modelling was preferred. In this kind of analysis variables at different levels are distinguished, like school, class/teacher and parent/peer level. We used the programme MLwiN 2.20 for this analysis (Rasbash, Steele, Browne & Prosser, 2005), which is specifically developed to analyse this kind of data.

To analyse which variables relate to the attitudes of teachers, parents and peers we started by executing an empty model (a model without any explanatory variables). For teachers we distinguished two levels (i.e. teachers within schools). For parents and peers we distinguished three levels (i.e. parents/peers within classes within schools). It appeared no variance existed at school level in all three groups. Based on this outcome we decided not to perform multilevel analysis for teachers' analysis. For parents and peers we continued with multilevel analysis in which two levels were distinguished (parents/peers within classes). The procedure used for further analysis per group is described below.

Teachers. To examine the variables relating to teacher attitudes we executed a one-way Mann-Whitney test and Kruskal-Wallis test. The following independent variables were

used: gender, years of teaching experience, assistance in class, type of vignette and SEN type in class. In cases where we found a significant overall outcome we performed post-hoc tests to establish whether there were differences between groups. We used a significance level of 0.05 (two-tailed).

Parents and peers. We executed a random intercept model with two levels to examine which variables related to the attitudes of parents and peers. Random slopes did not appear to be significant, whereby we executed a random intercept model. We started with a two level empty model, followed by a model in which all relevant independent variables were included (Model 1). After this, we executed a final model in which only variables with a significant effect were included (final model) ($p < 0.05$, two-tailed). In the results section the outcomes of the empty model and the final model are reported. We used deviance tests in both parent and peer models to examine whether the final model significantly improved by adding the independent variables.

Research question 2

To analyse the effect of teacher attitudes on peer attitudes we used a subsample of teachers and peers who received a questionnaire with a corresponding vignette. The selection of this subsample was necessary to due to the differences in case studies between teachers and peers. In this subsample the data of teacher attitudes was aggregated at class level, resulting in a subsample of $n = 334$. With this subsample we executed an empty model with peer attitudes as dependent variable. Subsequently, we expanded the model by including teacher attitudes as independent variable.

To analyse the effect of parent attitudes on peer attitudes we selected the sample of students whose parent attitude score was included in the database. This resulted in a sample of $n = 444$ parents. With this sample we executed an empty model with peer attitudes as dependent variable. After this, we expended the model by including parent attitudes as independent variable. We used deviance tests in both teacher and parent models to examine whether the final model significantly improved by adding the independent variable.

6.3 Results

Attitudes towards inclusive education

Prior to the analysis we calculated the mean scores for all three groups. Descriptive statistics showed that teacher mean score was 3.08 ($SD = 0.33$). At item level, the most positive score was found for one of the statement reflecting teachers' feelings: 'I get irritated when students with SEN cannot keep up with the day-to-day curriculum in my classroom' (reverse coding accounts, $M = 3.44$, $SD = 0.53$). The mean score indicates that teachers do not get irritated by this. The least positive score was found for the statement: 'I think we have to learn more about the effects of inclusive classrooms before inclusive classrooms take place on a large scale' (reverse coding accounts, $M = 1.80$, $SD = 0.69$).

The mean attitudes score of parents was found to be 2.96 ($SD = 0.33$). At item level, parents were most positive for the item 'I would mind having a child like Alex living next

door to us' (reverse coding accounts, $M= 3.39$, $SD= 0.62$). This mean score indicates that parents would not mind having a child with a disability living next to them. The least positive score was found for the item 'I wouldn't mind if my child invited Alex to his/her birthday party' ($M= 2.24$, $SD= 0.71$).

For peer attitudes a mean score of 2.81 ($SD= 0.70$) was found. At item level the most positive score was found for the statement 'I would stick up for Alex if he were teased' ($M= 3.37$, $SD= 0.84$). The least positive score was found for the statement 'I would tell Alex my secrets' ($M= 1.74$, $SD= 0.97$).

Variables relating to attitudes of teachers, parents and peers

Teacher attitudes. Calculating mean scores per background variable revealed that there were small differences in mean scores per response category (see Table 6.4 for a summary). Executing Mann-Whitney tests did not reveal significant outcomes for the variables gender ($U= 150.0$, $z= -0.85$, $p= 0.39$) and assistance in class ($U= 149.0$, $z= -0.86$, $p= 0.39$). The outcomes of the Kruskal-Wallis tests revealed no significant results for the variables years of teaching experience ($\chi^2(3)= 1.65$, $p= 0.65$) and type of vignette ($\chi^2(2)= 5.35$, $p= 0.07$). Furthermore, no significant outcome was found for the effect of experience with SEN students in teachers' classes ($\chi^2(3)= 5.90$, $p= 0.12$).

Table 6.4 Summary of mean teacher attitude scores per background variable ($N= 44$)

Background variables		Teachers			
		Mean	SD	Minimum	Maximum
Gender	Male	3.02	0.27	2.63	3.42
	Female	3.10	0.36	2.32	3.84
Teaching experience	1 - 4 years	3.06	0.37	2.47	3.63
	5 - 9 years	3.02	0.33	2.32	2.63
	10 - 14 years	3.06	0.45	2.74	3.37
	> 14 years	3.19	0.31	2.79	3.84
Assistance in class	Yes	3.02	0.38	2.32	3.63
	No	3.12	0.32	2.47	3.84
Type of vignette	AD/HD	3.14	0.22	2.84	3.63
	PDD-NOS	3.17	0.38	2.53	3.84
	Cognitive	2.93	0.34	2.32	3.63
Experience with SEN in class	Cognitive	3.22	0.35	2.79	3.63
	AD/HD	3.14	0.30	2.47	3.47
	ASD	2.92	0.33	2.32	3.63
	Combination ¹	3.21	0.33	2.84	3.84

Note. ¹ Combination= combination of more than 1 student with AD/HD and ASD.

Parent attitudes. Executing the empty model with two levels (classes and parents) revealed that 5.7% of the total variance in parent attitude score may be attributed to differences between classes. The outcomes of the empty model and the final model are presented in Table 6.5.

Several independent variables were included in Model 1 and showed no significant effects for parents' age, education background, type of vignette, experience with students

with SEN in their child's class, familiarity with a disabled person and a friendship between parents' child and a SEN student. These variables were excluded from the final model. A significant effect was found for gender and having a child with SEN. These variables were included in the final model.

Model	Empty model	Final model
Fixed part	Coefficient (SE)	Coefficient (SE)
<i>Intercept</i>	2.97 (0.02)	2.86 (0.04)
Gender		
Male (ref.)		
Female		0.08 (0.04)*
Child with SEN		0.17 (0.03)**
Random part	Variance (SE)	Variance (SE)
Class level	0.006 (0.004)	0.006 (0.003)
Parent level	0.099 (0.007)	0.093 (0.007)
Deviance	253.44	221.14

Note. * is significant at $p < 0.05$. ** is significant at $p < 0.001$.

The results of the final model revealed that mothers hold significantly more positive attitudes than fathers. Furthermore, it was found that parents of a child with special educational needs hold significantly more positive attitudes than parents of a child without SEN. Including the independent variables showing a significant effect in the final model revealed a small increase in the explained variance which can be attributed to differences between classes (5.7% to 6.0%). Overall, comparison of the deviance in the empty model and the final model revealed a significant improvement of the final model, $\chi^2(2) = 32.3, p < 0.001$.

Peer attitudes. Executing the empty model with two levels (classes and students) revealed that 6.2% of the total variance in the attitudes of peers may be attributed to differences between classes. This indicates that most differences in attitudes are due to individual differences of peers, instead of differences between classes. The outcomes of the empty model and the final model are presented in Table 6.6.

The results of Model 1 showed that no effect of experience with an SEN type in class was found. This variable was not included in the final model. The variables gender, age, type of vignette and friends with a SEN child significantly effected peer attitudes and were included in the final model.

We found a significant effect for gender, indicating that girls hold more positive attitudes than boys. A significant effect of age was found, indicating that older peers hold more positive attitudes. Including the type of vignette as independent variable in the model showed that peers significantly differentiate their attitude according to type of vignette ($\chi^2(2) = 63.17, p < 0.001$). The responses of peers were most positive for the vignette concerning cognitive disability and most negative for the vignette about AD/HD. The differences between all three types of case studies were significant. In addition, a

significant effect was found for the variable friendly with a SEN child. This indicates that peers who befriend a SEN student hold significantly more positive attitudes than peers who do not. The final model showed a small increase in the total variance explained by differences between classes (from 6.2% to 6.9%). The decrease in deviance of the final model showed a significant improvement of the model when independent variables were added, $\chi^2(6) = 137.02$, $p < 0.001$.

Table 6.6 Model estimates for the variable effects on the attitudes of peers ($N = 1113$)

Model	Empty model	Final model
	Coefficient (SE)	Coefficient (SE)
Fixed part		
<i>Intercept</i>	2.82 (0.03)	1.90 (0.25)
Gender		
Boys (ref.)		
Girls		0.28 (0.04)**
Age		0.06 (0.03)*
Type of vignette		
AD/HD (ref.)		
PDD-NOS		0.24 (0.05)**
Cognitive disability		0.40 (0.05)**
Friendly with SEN student		0.12 (0.06)*
Random part	Variance (SE)	Variance (SE)
Class level	0.03 (0.01)	0.03 (0.01)
Student level	0.45 (0.02)	0.40 (0.02)
Deviance	2077.68	1940.66

Note. * is significant at $p < 0.05$. ** is significant at $p < 0.001$.

Effect of teacher and parent attitudes on peer attitudes

Using the subsample of $n = 334$ and executing the empty model with two levels (classes and students), revealed that 8% of the total variance in the attitudes of peers may be attributed to differences between classes. The effect of teacher attitudes on the attitudes of peers was found to be significant and negative. The final model showed a small decrease in the total variance explained by differences between classes (from 8% to 6.1%) (see Table 6.7). This decrease indicates that less difference exists between classes when teacher attitudes are included in the model. The decrease in deviance of the final model showed a significant improvement of the model by adding teacher attitudes, $\chi^2(1) = 19.61$, $p < 0.001$.

We used the sample of $n = 444$ to examine whether parent attitudes have an effect on the attitudes of their children. Executing an empty model revealed that 4.3% of the total variance in peer attitudes can be attributed to the differences between classes (see Table 6.7). When including parent attitudes in the model we found a significant effect. The decrease in deviance of the final model showed a significant improvement of the model by adding parent attitudes, $\chi^2(1) = 6.45$, $p = 0.02$.

Table 6.7 Model estimates for the effects of teacher and parent attitudes on peer attitudes

Model	Teacher model		Parent model	
	Empty model (<i>n</i> =334) ¹	Final model (<i>n</i> = 334)	Empty model (<i>n</i> = 444) ²	Final model (<i>n</i> = 444)
Fixed part	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Intercept</i>	2.82 (0.05)	3.78 (0.45)	2.81 (0.04)	2.04 (0.31)
Teacher attitudes		-0.32 (0.15)*		
Parent attitudes				0.26 (0.10)*
Random part	Variance (SE)	Variance (SE)	Variance (SE)	Variance (SE)
Class level	0.04 (0.02)	0.03 (0.02)	0.02 (0.02)	0.02 (0.02)
Student level	0.46 (0.04)	0.46 (0.04)	0.44 (0.03)	0.43 (0.03)
Deviance ³	652.59	632.98	816.61	810.16

Note. * is significant at $p < 0.05$. ** is significant at $p < 0.001$. ¹ This sample is based on data of teachers of whose vignette corresponded with the vignette of peers. ² This sample includes only data of students whose parents' attitude score was available. ³ Due to different sample sizes the teacher model and parent model cannot be compared.

6.4 Discussion

The purpose of this study was twofold: 1) to analyse which variables relate to the attitudes of teachers, parents and peers towards students with SEN referrals for AD/HD, ASD or a cognitive disability and 2) to examine the effect of teacher and parent attitudes on the attitudes of peers. With respect to the first aim it can be concluded that none of the variables we explored related to teachers attitudes (i.e. gender, years of teaching experience, assistance in class, type of vignette, and experience with inclusive education). For parent and peer attitudes we found that gender, age of peers, peer type of vignette, having a child with SEN and peer friendship with a SEN student all related to their attitudes. With respect to the second aim it can be concluded that teacher attitudes have a significant negative affect on the attitudes of peers, while parent attitudes have a significant positive effect. The outcomes partially confirmed our expectations and are outlined below.

Prior to the main analyses of this study, we calculated the mean attitude scores of the three groups. When using the rule of thumb proposed by De Boer, Pijl and Minnaert (2010; 2011) (score < 2 is negative, 2-3 neutral, > 3 positive on a 4-point Likert scale) the outcomes of teacher attitudes are slightly positive. Parent and peer attitudes can be interpreted as neutral, though the response was more cautious for statements concerning personal involvement and a closer relationship with a SEN student. The slightly positive attitudes of teachers and the neutral attitudes of parents and peers may suggest that they would accept students with SEN in regular primary education.

The main purpose of this study, however, was not to describe attitudes but to find out which variables relate to the attitudes of teachers, parents and peers. With respect to the first group we did not find any significant outcomes. This is in contrast with other studies (Alghazo & Naggar Gaad, 2004; Glaubman & Lifshitz, 2001; Kalyva et al., 2007) showing differences in teacher attitudes according to gender, years of teaching experience, type of special educational needs and experience with inclusive education. The non-significant outcomes may be a result of the small sample size, which can be seen as a limitation of this

current study. To acquire more understanding about the nature of teacher attitudes future research with a larger sample is recommended.

With respect to the variable 'experience with students with SEN in class' we did not find an effect on parent and peer attitudes. We were surprised by this outcome, as other studies frequently found this variable had an effect on parent and peer attitudes (e.g., Chhabra, Srivastava, & Srivastava, 2010; Kalyva et al., 2007). The absence of any effect in this sample could be due to a methodological issue. Hence, the result of this current study should be interpreted with caution as we did not include a control group. Researchers who did find a significant effect of this variable often used designs that included a control group. It is likely different outcomes would be found when a control group is added.

Another variable we related to attitudes was the type of vignette, showing that peers are most negative when it concerns a student with an AD/HD referral. The behaviour typical of such students (difficulty in regulating behaviour and social relationships) might explain why peers hold particularly more negative attitudes towards them. It is somewhat worrying that peers hesitate most about the inclusion of this particular group of students, since they comprise the largest group of SEN students in regular education. The negative attitudes towards students with behaviour problems may result in difficulties in social acceptance by their peers (see Hoza et al., 2005). Taken these outcomes together, it seems that inclusive education is not fulfilling its promise that students with behaviour problems benefit socially from inclusive education.

With respect to the social benefits of inclusive education there is an on-going discussion about the importance of the positive attitudes of peers (De Boer, Timmerman, Pijl, & Minnaert, 2012). The outcomes of this current study indicate that peers who befriend a SEN student hold more positive attitudes. These peers might develop greater understanding of, and more sensitivity towards such students and perceive them more positively. However, the effect of a friendship on attitudes may also be considered the other way about, in that we may assume that positive attitudes of peers might lead to more willingness to be friends with SEN students. Although it not quite clear which way the effect applies, the empirical evidence found in this study may be seen as a foundation for the importance of interventions to change attitudes of peers towards students with SEN in regular primary education.

In the light of interventions, we aimed to analyse whether peers attitudes are influenced by teachers and parents. While we expected to find a positive effect of teacher attitudes on peers' attitudes, the opposite was found in this current study. This significant and negative effect poses questions about the rationale behind teacher and peer attitudes. One explanation for this might be linked to the items included in the teacher and peer questionnaire. Teacher items clearly reflect the profession of teacher ('I feel competent in writing individual education plans'), whereas the items in the peer questionnaire reflect more personal involvement ('I would invite Mark to my birthday party'). It is obvious that teachers' respond from a different perspective, which possibly explains the discrepancy in the attitudes of teachers and peers. The unanswered question shows a need for future research to explore this complex relationship in greater detail.

As the rationale behind both parents and peers relates to their personal involvement with a SEN student, we expected to find a positive effect of parent attitudes on their children's attitudes. This hypothesis was confirmed by the outcomes of the analyses. Although we realize that this relationship is bidirectional, it certainly shows the existence of a positive relationship between the attitudes of parents and their children. As argued by De Boer, Pijl and Minnaert (2010), children of parents who hold a positive attitude might become more accepting to the inclusion of SEN students in regular classrooms. This parental influence is often neglected in, for example, intervention studies to improve the attitudes of peers towards SEN students (Favazza, Phillipson, & Kumar, 2000; Kim, Park, & Snell, 2005). Based on the outcomes of this study we argue widening the perspective of attitude change by including parents in intervention studies in future research.

In conclusion, this study showed that AD/HD students are particularly vulnerable for experiencing segregation in regular primary education. Changing the attitudes of parents and peers might be a starting point to creating more acceptance, leading to more social benefits for such students in regular primary schools.

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Chapter 7

Peer acceptance and friendships of students with disabilities in regular education: the role of child, peer and classroom factors

This chapter is accepted for publication as: De Boer, A. A., Pijl, S. J., Post, W. J., & Minnaert, A. E. M. G. Peer acceptance and friendships of students with disabilities in regular education: the role of child, peer and classroom factors. *Social Development*.

Abstract

To understand the difficulties students with disabilities experience in their social participation in regular education, this study examined which child, peer and class variables relate to their acceptance and friendships. In a cross-sectional study, sociometric data were gathered for students ($N= 1050$), together with personal related variables of students with disabilities, attitudes of peers towards students with disabilities and classroom information. Using separate social networks for both boys and girls, the findings of the logistic multilevel regression analyses showed different outcomes for peer acceptance of boys and girls with disabilities. The implications of the findings are discussed in the light of possible interventions to improve peer acceptance and friendships of students with disabilities in regular primary education.

Keywords: social participation, attitudes, inclusive education, behaviour disorders, autistic spectrum disorders

7.1 Introduction

The inclusion of students with disabilities in regular primary schools has become increasingly important in education policy and practice over the last 25 years. The declaration of the Salamanca Statement in 1994 forms an important basis for the start of inclusion policies across the world (UNESCO, 1994). This Statement is based on several aspects which underline the importance of education for all, like a child's fundamental right to education, accessibility to regular education for students with disabilities, and the acceptance of students with disabilities in regular education and society. About the latter, the Statement notes: "regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all" (p. 8). It is clear that the social participation of students with disabilities in regular education and society is an important issue in the development towards inclusive education.

According to Koster, Nakken, Pijl & Van Houten (2009), the social participation of students with disabilities consists of four themes: interaction, peer acceptance, friendships and social self-perception. This study focuses on two of these themes: peer acceptance and friendships. Research focusing on the themes of social participation often indicates that it is not obvious for students with disabilities to have friends at school or in their class (Pijl, Skaalvik, & Skaalvik, 2010). Students with disabilities often experience difficulties in being accepted by peers (Smoot, 2004; Symes & Humphrey, 2010) and acquiring friendships (Koster, Pijl, Nakken, & Van Houten, 2010). Pijl, Frostad and Flem (2008) showed that approximately 30% students with disabilities have significant fewer friends and are less accepted by their classmates than their typically developing peers. These outcomes seem to indicate that inclusive education is not always fulfilling its promise that students with disabilities benefit socially in regular schools (Gresham & MacMillan, 1997; Symes & Humphrey, 2010).

These outcomes raise the question why students with disabilities experience difficulties in their social participation. Here, different angles may be considered, like child, peer and classroom related factors. This study sets out to apply these different angles by relating such factors to peer acceptance and friendships of students with disabilities who are included in regular primary education. In this, we particularly focused on factors which have the potential to be changed through interventions.

With respect to *child related factors* it has been suggested that physical appearance, socioeconomic status, cognitive ability, aggression and withdrawal predicted the sociometric status of students with learning disabilities (Frederickson & Furnham (1998). Yet, Erhard and Hinshaw (1994) found that externalized behaviour predicted the sociometric status of students with Attention Deficit/Hyperactivity Disorders (AD/HD), while intelligence, academic achievement and physical attractiveness did not predict their sociometric status. Jones and Frederickson (2010) found that pro-social behaviour of students with autistic spectrum disorders (ASD) predicted their peer acceptance. Based on these studies it seems that the behaviour of students with disabilities is important in peer acceptance.

The attitude of peers towards children with disabilities is a *peer related factor* which is predominantly mentioned as playing a role in peer acceptance and friendships of students with disabilities (MacMillan & Morrison, 1984; Okagaki, Diamond, Kontos, & Hestenes, 1998; Scruggs & Mastropieri, 1996; Stoneman, 1993). An increasing number of studies have been performed describing the attitudes of peers towards children with different types of disabilities over the last decade (see review studies of Nowicki & Sandieson, 2002; De Boer, Pijl, & Minnaert, 2012), showing that student attitudes are predominantly neutral to negative. These studies resulted in knowledge about student attitudes, but omitted the question whether attitudes actually relate to the social participation of students with disabilities. As stated by De Boer, Pijl and Minnaert, further work is needed to broaden our knowledge about the relationship between attitudes and the acceptance and friendships of students with disabilities.

Another peer related factor which should be considered is the effect of gender on acceptance and friendships with other children. Classic literature on social relationships of boys and girls clearly points out the same-sex preferences of children when building friendships (Aboud & Mendelson, 1998). Maccoby (1988; 1990) stated that boys and girls particularly segregate into same-sex groups in social situations. When observing playground behaviour of primary school children there are clear differences between boys and girls. For example, boys play football in large groups while small groups of girls cluster together. During the school years, boys and girls increasingly tend to avoid each other (Dunn, 2004). It seems that same-sex play is more compatible, than mixed-group play. Based on this, it is likely that gender also plays a significant role in the acceptance and friendship of students with disabilities.

With respect to *classroom related factors* it has been suggested that resources, like materials and teacher assistance, are important for successful inclusive education (Groom & Rose, 2005; Meijer, 2003). For some time it has been assumed that teacher assistance

results in increased teacher satisfaction and better student outcomes (Blatchford, Bassett, Brown & Webster, 2009; Howes, 2003). It is reasonable to believe that students with disabilities benefit from teacher assistance. Yet, that notion has been superseded in recent years. Several recent studies have shown a negative correlation between teacher assistance and student participation (Ring & Travers, 2005; Wendelborg & Tøssebro, 2011), suggesting more hindrance than support with regard to the social participation of students with disabilities.

Despite the knowledge currently available about acceptance and friendships of students with disabilities in regular primary education, there is still a lack of knowledge about various variables which possibly relate to this outcome of inclusive education. Following the line of reasoning of researchers that further work is needed to increase our knowledge about factors which promote the social outcomes of inclusive education (Charmberlain, Kasari, & Rotheram-Fuller, 2007), we designed a cross-sectional study to examine which child, peer and classroom factors relate to the acceptance and friendships of students with disabilities in regular primary education. In this, we particularly focused on factors which are likely to be changed by future interventions, like the behaviour of students with disabilities in the classroom, attitudes of peers and teacher assistance. Hence, this study may lead to entries for developing effective interventions to promote the social participation (i.e. acceptance and friendships) of students with disabilities in regular primary schools.

7.2 Method

Procedure

This current study is part of a wider study aimed at the attitudes of peers towards students with cognitive disabilities and behaviour disorders (i.e. AD/HD) and ASD in regular primary schools in the Netherlands. Because this current study focuses particularly on students with behaviour disorders, we formulated the following inclusion criteria:

- The school has at least one student with a disability in grade 5, 6 or 7 (age range 8-11);
- The student with a disability in the school has been formally assessed for AD/HD or ASD (including Pervasive Developmental Disorder-Not Otherwise Specified, PDD-NOS).

Based on the inclusion criteria and experience with previous research in the Netherlands, we expected a non-response of at least 75% (Koster, Timmerman, Nakken, Pijl, & van Houten, 2009). Taking, this into account we decided to select a large sample of regular primary schools in the north of the Netherlands ($N= 300$).

All schools were invited to participate in the study by means of a letter sent by post and email in February 2010. The letter included a standardized return form, whereby schools were asked to indicate if they wanted to participate and whether they met both aforementioned inclusion criteria. Twenty-four schools met the criteria and wanted to participate. Some schools indicated that more than one class met the criteria, which resulted in a total sample of 45 classes.

All measures were collected using a self-report survey. The first author and three research assistants visited the schools to administer the survey to the students with disabilities and their peers in the relevant classrooms. Using a standardized instruction the student surveys were administered per class, which took a maximum of 45 minutes.

Participants

A total number of 45 classes were part of the study, resulting in a total sample of 985 students without disabilities and a sample of 65 students with a disability ($n= 31_{AD/HD}$, $n= 34_{ASD}$). The students attended grades 5 to 8 ($M_{age}= 10.0$, $SD= 1.0$): the demographic characteristics of the two student samples are presented in Table 7.1.

Table 7.1 Demographic characteristics of the two student samples

Demographics ¹		Students without disabilities (N= 985)		Student with disabilities (N= 65)	
		<i>n</i>	%	<i>n</i>	%
Gender	Boys	469	48	49	75
	Girls	508	52	16	25
Grade	5	225	24	15	23
	6	381	40	24	37
	7	259	27	20	31
	8	83	9	6	9
Age	8	86	9	1	1
	9	298	31	22	34
	10	292	31	20	31
	11	214	23	17	26
	12	56	6	5	8

Note. ¹ Due to missing data the number sometimes does not correspond with the sample size.

Measures

Acceptance and friendships. Using a nomination procedure all students (with and without disabilities) were asked to list the classmates considered to be best friends. Following Pijl, Frostad and Flem (2008), students could nominate a maximum of five classmates. Using the data of each individual student, we analysed whether peers nominated the student with disability as friend. Using the terminology of social network analysis, this is often defined as an ‘outdegree’ and indicates a student’s degree of acceptance by others (Iacobucci, 2009). Additionally, we analysed whether peers had a reciprocal friendship with the student with a disability. This applied when both students (i.e. the student with a disability and his/her peer) nominated each other as friends (Bukowski, Motzoi, & Meyer, 2009). We created two dichotomy variables indicating 0= no acceptance/no friendship, 1= acceptance/friendship, which were used as dependent variables in the analysis.

Age. Each participating student indicated his/her age (range 8-11), which was then used as continuous independent variable in the analysis.

Type of disability. Each class teacher provided information about the student with a disability in his/her class. We also obtained information about the formal assessment the student had received. Based on this we made two categories indicating 1) AD/HD and 2) ASD (including PDD-NOS and Asperger Syndrome). This variable was included as independent variable in the analysis.

Internalizing and externalizing behaviour problems. Each teacher completed the Dutch version of the Teacher Report Form (TRF) (developed by Achenbach & Rescorla, 2001) to indicate the occurrence of internalizing and externalizing behaviour problems of each student with a disability in his/her class. We selected four subscales of the TRF to measure each student's behaviour in class in relation to being withdrawn ($\alpha = 0.79$), having social problems ($\alpha = 0.74$), attention problems ($\alpha = 0.86$) and being aggressive ($\alpha = 0.95$). Teachers indicated to what extent the behaviour described for each item was present in each student with a disability (0 = behaviour not present, 1 = sometimes present/absent, 2 = behaviour is present). A higher score indicates greater occurrence of the behaviour in the student. We calculated the total score of each subscale and included these scores as independent variables in the analysis.

Attitudes of peers towards students with disabilities. The attitudes of peers were assessed using the Attitude Survey towards Inclusive Education (ASIE). This Dutch questionnaire was constructed and evaluated in the study of De Boer, Timmerman, Pijl and Minnaert (2012). The item quality of the questionnaire was analyzed using the Mokken model (Mokken, 1971), based on Item Response Theory (IRT). The outcomes of the analyses resulted in a satisfactory scalability coefficient of $H = 0.50$. The reliability coefficient of the scale was $\rho = 0.92$.

The ASIE consisted of two parts: a vignette and attitude statements. The first part presented a vignette of a hypothetical student with a disability. Because this study was part of a wider study, we originally developed three different vignettes focusing on a student with AD/HD, ASD and a cognitive disability. The vignettes were developed by the first author and verified by an administrator with a degree in special education. All students randomly received a questionnaire, including one of the vignettes. The second part of the questionnaire consisted of attitude statements about the inclusion of the student presented in the vignette. Students were asked to read the vignette and answer statements about the student presented in the vignette. By means of a 4-point Likert scale students indicated their degree of agreement (1 = totally disagree to 4 = totally agree), in which a higher score reflected a more positive attitude. The individual mean attitude score was included in the analysis as independent variable, as well as the mean attitude score per class.

Teacher assistance. The teacher of each participating class obtained information on the presence of teacher assistance. A dichotomy variable was created indicating 0 = no assistance and 1 = assistance, which was included as independent variable in the analysis.

Analyses

Preliminary analysis

Due to theories about the same-sex preferences of boys and girls in friendships, we performed a preliminary analysis to examine the effect of peer gender on the acceptance and friendships of students with disabilities. As boys and girls often associate with those of the same sex, we wanted to check whether to consider boys and girls as separate networks within one class.

Main analyses

We performed multilevel logistic regression analyses with peer acceptance and friendships as dependent variables. Because we were dealing with hierarchically nested data, a general linear model could not be used (Snijders & Bosker, 1999) and multilevel modelling was preferred. In this kind of analysis, different levels are distinguished like school, class/student and peer level. We distinguished two levels in the current study: level two were students with disabilities and level one were their peers. We executed the analysis in the programme MLwiN 2.23 (Rasbash, Steele, Browne, & Prosser, 2005), which is specifically designed to analyse hierarchical data.

We started the main analyses by executing an empty logistic multilevel regression model (a model without any independent variables). Subsequently, we performed univariate analysis (for each variable separately) to explore which independent variables were most relevant to include in the final models. The variables which were relevant or showed a significant relationship with the dependent variables (i.e. peer acceptance and friendship) were included in the final models. The empty model and the final models are presented in the results section. In all models a p -value of 0.05 was considered statistically significant. The effects were estimated using the Markov Chain Monte Carlo method (MCMC). The Deviance Information Criterion (DIC) diagnostic was used (Browne, 2009) to compare the empty model with the final models.

7.3 Results

Outcomes of the preliminary analysis

The outcomes of the preliminary analysis showed that a very small percentage of peers nominated a student with a disability of the opposite gender as a friend, or had a mutual friendship with a student of the opposite gender (< 5%). These results indicated that including gender as independent variable in the model would lead to unreliable estimates due to the small numbers of nominations and friendships. Therefore, we decided to consider the boys and girls as separate networks in the class. This resulted in two samples which were based on a selection of peers with the same gender as the student with a disability in class ($n_{\text{boys with SEN}}/n_{\text{peers}} = 566$ and $n_{\text{girls with SEN}}/n_{\text{peers}} = 173$).

Peer acceptance of boys with disabilities

The outcomes of the univariate analysis for each *child related factors* separately revealed that none of the variables had a significant effect on peer acceptance of boys with disabilities. These outcomes indicate that the relationship between peer acceptance of boys with disabilities and their individual characteristics could not be shown (i.e. type of disability, age and behaviour in class).

Additionally we explored whether boys' *individual attitudes* and the *mean class attitude* towards boys with disabilities was related to peer acceptance of boys with disabilities. The outcomes of the analysis showed that the individual attitude of boys is not related to peer acceptance. These results indicate there is no relationship between the attitude of boys and the acceptance of boys with disabilities. In fact, the outcomes revealed that the mean class attitude of boys significantly relates to peer acceptance of boys with disabilities when controlling for the individual attitude ($p= 0.04$) (see Table 7.2). Boys with disabilities are more likely to be accepted in classes where the mean class attitude of boys is higher.

Table 7.2 Model estimates for peer individual and class attitudes and the acceptance of boys with disabilities

	Empty model		Final model	
	β	SE	β	SE
Intercept	-1.166	0.139	-1.169	0.146
Individual attitude			0.099	0.170
Class attitude			1.098*	0.534
Random part	Variance	SE	Variance	SE
Level two	0.350	0.272	0.313	0.318
DIC ¹	552.37		506.35	

Note. * $p < 0.05$ ** $p < 0.01$. ¹ DIC= deviance information criterion.

We executed another model in which we explored whether *teacher assistance* and the mean class attitude of boys relate with peer acceptance of boys with disabilities. Univariate analysis – with boys' mean class attitude and teacher assistance as independent variables – showed a significant effect of both variables. We then included both teacher assistance and the mean class attitude of boys in one model (see Table 7.3). The outcomes showed that teacher assistance was negatively related to the acceptance of boys with disabilities when controlling for boys' mean class attitude ($p= 0.03$). These outcomes indicate that it is less likely for boys with disabilities to be accepted in classes with teacher assistance.

We executed the same models for boys (empty model, univariate analyses and final models) with friendship as dependent variable. The outcomes revealed that none of the child-related factors related to the friendships of boys with disabilities. When applying the model reported in Table 7.2, we found that the mean class attitude of boys is not related to friendships of boys with disabilities. Executing the model presented in Table 7.3 revealed that teacher assistance is significantly negative related to friendships of boys ($p < 0.05$), indicating that it is less likely for boys with disabilities to acquire friendships in classes with teacher assistance.

Table 7.3 Model estimates for class attitudes and teacher assistance and the acceptance of boys with disabilities

	Empty model		Final model	
	β	SE	β	SE
Intercept	-1.166	0.139	- 0.981	0.154
Class attitude			0.804	0.482
Teacher assistance: yes ¹			-0.786*	0.374
Random part	Variance	SE	Variance	SE
Level two	0.350	0.272	0.266	0.246
DIC ²	552.37		505.01	

Note. * $p < 0.05$ ** $p < 0.01$. ¹ Reference group= no. ² DIC= deviance information criterion.

Peer acceptance of girls with disabilities

Examination of the univariate analyses with *child related factors* for girls with disabilities revealed that the presence of more social problems in class is negatively related to peer acceptance of girls with disabilities ($p = 0.02$). This means it is less likely for girls with disabilities to become accepted when they show more social problems in class. The other child-related variables (i.e. type of disability and age) did not reveal any significant outcomes (see Table 7.4).

We also executed a model in which we explored whether girls’ *individual attitudes* and the *mean class attitude* of girls is related to peer acceptance of girls with disabilities. The outcomes revealed that girls’ individual attitudes are significantly related to peer acceptance of girls with disabilities, while their mean class attitude showed no significant effect ($p = 0.04$) (see Table 7.5). These outcomes indicate that girls with disabilities are more likely to be accepted by girls with a more positive attitude. The mean class attitude of girls does not affect peer acceptance of girls with disabilities.

Table 7.4 Model estimates for peer individual attitudes and social behaviour and the acceptance of girls with disabilities

	Empty model		Final model	
	β	SE	β	SE
Intercept	-1.551	0.365	-1.679	0.337
Individual attitude			0.770	0.399
Social problems			-0.221*	0.095
Random part	Variance	SE	Variance	SE
Level two	1.122	1.194	0.487	0.778
DIC ¹	148.62		136.80	

Note. * $p < 0.05$ ** $p < 0.01$. ¹ DIC= deviance information criterion.

Initially we wanted to execute a model with teacher assistance as independent variable, but due to the small sample of girls with disabilities for which this information was available, along with missing data, it was not possible to perform this analysis.

To establish which factors were related to the friendships of girls with disabilities, we executed an empty model, univariate analysis and the final models with friendship as

dependent variable. The outcomes of these analyses revealed that none of the variables showed a significant effect. Due to this, no further attention was given to this outcome.

Table 7.5 Model estimates for peer individual and class attitudes and the acceptance of girls with disabilities

	Empty model		Final model	
	β	SE	β	SE
Intercept	-1.551	0.365	-1.651	0.431
Individual attitude			0.886*	0.433
Class attitude			-0.608	1.773
Random part	Variance	SE	Variance	SE
Level two	1.122	1.194	1.635	1.802
DIC ¹	148.62		140.20	

Note. * $p < 0.05$ ** $p < 0.01$. ¹ DIC = deviance information criterion.

7.4 Discussion

In this study we explored factors which relate to peer acceptance and friendships of students with disabilities (i.e. AD/HD and ASD). Using the social networks of boys and girls we found that several child, peer and classroom factors significantly relate to peer acceptance of students with disabilities.

Due to the literature on relationships of primary school boys and girls we expected to find an effect of gender on peer acceptance of students with disabilities. The outcomes of a preliminary analysis confirmed this hypothesis, indicating that hardly any boys and girls nominated a student with a disability of the opposite gender as a friend. This analysis made clear that a classroom should consist of (at least) two networks: one of boys and the other of girls. Based on this outcome we decided to perform further analyses for boys and girls with disabilities separately, resulting in some major outcome differences outlined below.

Regarding child related factors we can conclude that girls with disabilities are less accepted by their same-sex peers when they show social issues in class (e.g. ‘the student can’t get along with the classmates’ or ‘the student complains about feeling lonely’). In this, we expected to find a difference between students with AD/HD and ASD, but the outcomes of this current study do not support this hypothesis. This indicates that the type of disability is no indicator for peers to accept/ not accept a girl with AD/HD or ASD. These findings support the assumption that the social behaviour of girls with disabilities is responsible for peer initiatives to become more accepting (Erhardt & Hinshaw, 1994). Conversely, we found different outcomes for boys with disabilities, indicating that more or less social issues of boys with disabilities do not seem to be important in being accepted by same-sex peers.

Different outcomes were also found for the effects of peer attitudes on the acceptance of boys and girls with disabilities. Girls’ individual attitudes were found to relate to the acceptance of girls with disabilities, while no effect of the mean class attitude was found. For boys, we found the exact opposite outcomes. It seems that girls and boys use different indicators in their peer acceptance, in which girls tend to be driven by factors which are intrinsic and more personal. Boys, on the other hand, seem to be more concerned and

influenced by the attitudes held by their peer group in class. This indicates that boys might be more sensitive for the need of social inclusion and approval, which is considered to be an important motive for people's thoughts and attitudes (Briñol & Petty, 2005).

Despite the differences in peer attitudes, this study shows that there is a relationship between attitudes and peer acceptance of students with disabilities in regular primary education. This is an important finding, as for a long time it has only been suggested that positive attitudes of peers result in successful implementation and outcomes of inclusive education (MacMillan & Morrison, 1984; Nowicki, 2006). The outcomes of this study can be seen as a basis for developing interventions to improve attitudes of peers which may lead to better acceptance of students with disabilities. Until now, research on attitudes has shown that peer attitudes improve when they learn more about disabilities (Favazza & Odom, 1997; Godeau et al., 2005). Yet, the question whether such an intervention also affects peer acceptance of students with disabilities is often neglected. Future intervention studies should aim to include both aspects: attitude change of peers and improvement of peer acceptance of students with disabilities. Differences between boys' and girls' attitudes should also be taken into account to ensure more effectiveness.

With respect to classroom related factors, this study showed that teacher assistance negatively affects peer acceptance of students with disabilities. This outcome is in line with other studies (Glashan, Mackay, & Grieve, 2004; Howes, 2003; Wendelborg & Tøssebo, 2011). For some time it has been assumed that support staff are a necessary condition to meet the needs of students with disabilities in regular education (Howes, 2003), but this notion has been questioned in recent years. Although teachers report an increase in their job satisfaction and effectiveness (Blatchford et al., 2009), the outcomes at student level (both academic and social) present a more negative picture (see for example Howes, 2003). It is likely that teacher assistants in class are primarily deployed in working with students with disabilities. The teacher assistant in class thus reduces the possibility of contact between the student with a disability and his/her peers and thereby sets the student apart. Although there might be more reasons resulting in the negative impact on peer acceptance, it is clear that simply providing teacher assistance is not a guarantee that students with disabilities benefit socially from this (Symes & Humphrey, 2011). This stresses the importance for policy makers to rethink the deployment of support for teachers in future in order to meet the needs of students with disabilities in regular classrooms.

In this study we attempted to gain more understanding about factors influencing friendships of students with disabilities. Yet, it was found that only teacher assistance related significantly, and negatively, to friendships, but none of the child-related variables did. Aboud and Mendelson (1998) indicated that similarity is important in establishing early friendships. This means that children become friends based on similar interests, activities, demographic or personal characteristics. In this light it is not surprising that we did not find an effect of the child-related factors we explored (i.e. social behavior and type of disability). The difficulties in social behaviour and the type of disability may emphasize the differences between students with disabilities and their peers, resulting in less peer initiative to become friends. Based on the similarity-hypothesis there seems to be a task

here for teachers to highlight the similarities between students with disabilities and their peers.

This study makes some important contributions to understanding the difficulties students with disabilities experience in their social participation in regular primary education. Some limitations of this study should be noted, however. One concerns the possible bi-directionality of our findings. For example, it is likely to assume that social behaviour issues of students with disabilities lead to less peer acceptance. Yet, less peer acceptance may also result in social behaviour issues. This example shows it is important to realize that the independent and dependent variables of this study interact with each other. As argued by MacMillan and Morrison (1984), the social participation of students with disabilities in regular education is a dynamic process in which different variables interact with each other. Another limitation of this study is the omission of the influence of others directly involved, like teachers and parents. Initially, we wanted to include classroom climate and the teacher-student relationship as independent variables in the analysis, but outcomes revealed multicollinearity so that these variables were excluded from further analysis. Nonetheless, based on the study of Frederickson and Furnham (1998) we underline the importance of a positive classroom climate and a supportive teacher-student relationship. Furthermore, based on a study of De Boer, Pijl, Post and Minnaert (2011) it is known that parent attitudes are related to the attitudes of their child. Thus we can safely assume parents have an indirect effect on the social participation of students with disabilities. Promoting positive attitude among parents seems a worthwhile goal for teachers and administrators. A final limitation of the study concerns the sample of students with disabilities included in this. Because the study focused on a (relatively small) sample of students with AD/HD and ASD, the question remains whether the outcomes can be generalized to include students with other types of disabilities. Future research is needed to establish this.

The findings as well as the limitations of this current study show the complexity of understanding the social participation of students with disabilities in regular education. Based on the outcomes it seems difficult to point out one variable as ‘the best’ predictor. It is likely that the variables examined in this study interact with each other in one classroom. Yet, based on the outcomes of this current study, some directions for future research can be drawn, like alleviating the social issues of - particularly - girls with disabilities in class, interventions to change peer attitudes and creating support teams, for instance, in schools. As the inclusion of students with disabilities becomes increasingly important in education policies in many countries of the world, future research is needed to improve their social participation in regular primary education.

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Chapter 8

The long-term effects of an intervention to promote attitudes of students towards children with disabilities

This chapter is submitted for publication as: De Boer, A. A., Pijl, S. J., Minnaert, A. E. M. G., & Post, W. J. *The long-term effects of an intervention to promote attitudes of students towards children with disabilities.*

Abstract

An increased number of children with disabilities attend regular schools nowadays. These children are often confronted with negative or neutral attitudes of typically developing students. The aim of this study was to examine the effectiveness of an intervention to promote attitudes among these students. The study focused specifically on the long-term effects of the intervention. A quasi-experimental longitudinal study was designed with an experimental group consisting of two schools ($n= 98$) and a control group consisting of three schools ($n= 195$). In order to promote attitudes, an intervention was developed for kindergarten and elementary school students. This intervention consisted of a three-week education project and included six lessons. The project aimed to provide students with knowledge about physical, cognitive and severe multiple disabilities. To establish the effects of the intervention, attitudes were measured at three moments in time: prior to the intervention, immediately after and one year later. The outcomes of the multilevel analysis showed that the intervention had a positive effect on attitudes of kindergarten students. Yet, no long-term effects could be demonstrated. Moreover, the outcomes showed that the intervention had no effect on elementary school students' attitudes. The implications of the results are discussed in which particularly focus is given to future directions for research to strengthen the effectiveness of intervention to promote positive attitudes.

Keywords: attitudes, peers, severe multiple disabilities, inclusive education, intervention

8.1 Introduction

Traditionally, children with severe multiple disabilities have been educated in settings which are physically and socially segregated from their typically developing peers (Wisniewski & Alper, 1994). With the trend towards education policies that advocate the inclusion of children with disabilities in regular education settings, this approach is changing. Inclusion policies like the Salamanca Statement (UNESCO, 1994) and the UN Convention on the Rights of Persons with a Disability (United Nations, 2006) underline the importance of 'education for all' and students with disabilities being educated alongside their typically developing peers.

Following international developments in inclusion policies, inclusive education is also an on-going trend in the Netherlands. Recent education policies have focused particularly on including children with auditory, speech and language, physical and cognitive disabilities as well as those with behavioural problems in mainstream schooling (MinOCW, 2011). However, including children with severe multiple disabilities in regular education settings is often seen as 'a bridge too far'. However, some initiatives have been set up to include such children in regular schools as well. Several authors believe that these children can benefit from contact with typically developing students in integrated settings in a communicative (Fisher & Meyer, 2002), academic (Hunt, Soto, Maier, & Doering, 2003) and social skills/ interactive sense (Cole & Meyer, 1991).

The physical inclusion of children with severe multiple disabilities in regular education does not automatically lead to acceptance of these children by typically developing peers.

Research has shown that children with disabilities often experience difficulties in being accepted by their classmates (Koster, Pijl, Nakken, & Van Houten, 2010; Smoot, 2004). Additionally, children with disabilities are often confronted with negative attitudes of their typically developing peers (Gannon & McGilloway, 2009; Laws & Kelly, 2005; Yude, Goodman, & McConachie, 1998). Several studies showed that these attitudes are influenced by variables like gender and age. It has been shown that boys hold significantly more negative attitudes than girls while younger peers hold more positive attitudes (Campbell, Ferguson, Herzinger, Jackson, & Marino, 2004; Nowicki, 2006).

Those negative outcomes of attitude studies raise the question how teachers and other staff can promote more positive responses among typically developing students. According to Nikolarazi et al. (2005), negative attitudes of students are a result of feelings of fear and lack of information. Attitude theorists have suggested that people have 'a need to know' in order to form attitudes. As stated by Briñol and Petty (2005, p. 575), this refers to "the desire to possess knowledge about and understanding of the social world". It seems that knowledge gives people predictability and control about their social environment. With respect to including children with disabilities in regular education, such knowledge may be focused on understanding the needs of children with disabilities to reduce misunderstandings and feelings of pity. An essential question is whether providing knowledge about disability to typically developing students will lead to more positive attitudes.

Providing such knowledge has been recently used in interventions which aim to promote positive attitudes among primary school students towards children with disabilities (Holtz, 2007; Ison et al., 2010; Krahe & Altwasser, 2006; Swaim & Morgan, 2001). The results of these studies present a confusing picture about the effectiveness of the interventions. For example, Krahe and Altwasser (2006) concluded that their intervention showed positive effects on the attitudes of regular primary school students. Other studies in which similar interventions were undertaken showed that the intervention did not promote attitude changes among students of the same age and school setting (Bell & Morgan, 2000; Godeau et al., 2010). With respect to regular kindergarten students, Favazza and Odom (1997) developed an intervention and established positive effects of this on the attitudes of these students.

Despite the knowledge acquired on students' attitudes towards children with disabilities and attitude changes through interventions over the last decade, certain questions remained omitted and unanswered. First, results of the performed studies show mixed outcomes for primary school students. For kindergarten students there is little knowledge available on the effects of interventions on their attitudes. Second, the question whether such interventions result in long-term effects is often neglected or cannot be ensured (Godeau et al., 2010; Hunt & Hunt, 2004). This study was set up in an attempt to fill these gaps in knowledge in order to promote more positive attitudes of students towards children with disabilities. Ultimately, this type of study may go some way to alleviating the scepticism of including children with severe multiple disabilities in regular education.

8.2 Method

Design and procedure

In order to answer the research questions we designed a quasi-experimental longitudinal study with three repeated measures. Two schools were assigned to participate in the experimental group and three schools participated in the control group. The two schools were selected for the study because they were about to set up a community school (September 2011) comprising different facilities, including a pre-school, day-care centre and an education and care centre for children with severe multiple disabilities. The intervention was designed for the students of the two schools in the experimental group in order to prepare them for their future contact with children with disabilities attending the education and day care centre.

A total number of 10 schools in the same district were invited to participate in the control group: three schools were willing to participate in the study (response rate 50%). All participating schools were in a rural area. Prior to the study, all parents received an information letter about it and were asked if their child could participate in the study. All parents gave their consent.

The study took between November 2009 and May 2011. There were three time measurements: prior to the implementation of the intervention (Time 1), immediately after (Time 2) and a follow-up one year later (Time 3).

Intervention

The intervention consisted of an educational project aimed at increasing the knowledge of typically developing students towards peers with disabilities. We designed two lessons per week focusing on three types of disabilities: physical, cognitive and severe multiple disabilities. These disabilities were chosen based on the target group of the education and care centre. One of the three types of disability was discussed twice weekly. Thus six, sixty-minute lessons were designed resulting in a project of three weeks.

The first lesson was particularly aimed at explaining the particular type of disability. For example, a story about a child with physical disability was either read (book) or shown (video) by the teacher. This was followed by a group discussion. For the second lesson, we designed an activity in which the impact of a physical disability in daily life was central (i.e. a sport activity in which the students used a wheelchair). Each lesson was clearly explained for the teachers while background information and teaching aids on for the lessons and types of disabilities were provided.

In order to achieve the commitment and encouragement of the teachers we organized a meeting about the project prior to its development in which teachers gave us their feedback. This was then used in the design of the intervention. To ensure implementation efficacy the lessons were structured and teachers were asked to complete an evaluation form after the intervention had been implemented.

Due to the differences in the attainment level of students, we developed different lessons for younger (kindergarten) and older (primary school) students. The structure and content of the lesson was the same for all grades, but again differentiated according to age

group. For example, kindergarten children were read stories, including one about a child with severe multiple disability, while for older students we selected a movie about a child with the same disability.

At the start of the intervention parents received an information package including: background information on the project, a timetable about its duration and information about the three types of disabilities that were to be.

Participants

A total number of 293 students participated in the study. Because we used different measures for kindergarten and primary school students, we will discuss both samples separately. Due to the more individualized administration of the kindergarten questionnaire, we disturbed the teachers in the daily curriculum. In order to limit the disturbance in the classroom, we randomly selected half the kindergarten students per class to participate in the study, resulting in sixty-nine kindergarten children. Kindergarten students were in grades 2 or 3 and were 5 or 6 years old. Two-hundred twenty four elementary school students participated in the study (see Table 8.1). These students attended grades 5 to 8 and ranged in age from 8 to 12 years ($M= 9.9$, $SD= 1.2$).

Measures

Attitudes of kindergarten children towards peers with disabilities. The Acceptance Scale for Kindergarten – Revised version (ASK-R, developed by Favazza & Odom, 1996) was used to assess attitudes of kindergarten students (age 4-6). The scale was administered in small groups of three students by reading instructions and questions verbatim from a standardized protocol designed by Favazza and Odom (1996). The administration of the questionnaire took about 30 minutes per group.

The questionnaire was printed on coloured sheets showing three smileys per question. Students were asked to record their responses by marking an ‘X’ on either the happy smiley (for YES), the sad smiley (for NO), or the ‘Maybe Smiley’ (for MAYBE).

Table 8.1 Number of students in both samples: kindergarten students and elementary school students per gender and grade

		Kindergarten students		Primary school students	
		Experimental group (n= 22)	Control group (n= 47)	Experimental group (n= 76)	Control group (n= 148)
		n	n	n	n
Gender	Boys	14	24	27	75
	Girls	8	23	49	73
Grade	2	12	24	--	--
	3	10	23	--	--
	5	--	--	20	31
	6	--	--	16	37
	7	--	--	24	41
	8	--	--	16	39

Each response category yielded a score, namely: 0= no, 1= maybe, 2= yes. The original ASK-R consists of 18 items resulting in a score range of 0-36 ($\alpha = 0.79$). An example of an item is: 'I would like to be friends with a child who cannot see.'

Because we used the Dutch version of the ASK-R for the first time in our education setting, we analysed whether the scale had appropriate reliability. Reliability analysis revealed that four statements (after recoding) negatively formulated showed low correlations with the other statements in the scale. This made us decide to exclude these statements from the main analysis, resulting in a final scale of 14 statements ($\alpha = 0.84$). The scores of the scale range was 0 to 28, in which a higher score reflected a more positive attitude. The total score of each student was included in the analysis as dependent variable.

Attitudes of primary school students towards children with disabilities. The attitudes of primary school students were assessed using the Attitude Survey Towards Inclusive Education (ASIE) (age 8-12). The ASIE was constructed and evaluated in a study by De Boer, Timmerman, Pijl and Minnaert (2012). The item quality of the questionnaire was analysed using the Mokken model (Mokken, 1971), based on Item Response Theory (IRT). The outcomes of the analyses resulted in a satisfactory scalability coefficient of $H = 0.50$. The reliability coefficient of the scale was $\rho = 0.92$.

The ASIE consisted of two parts: a vignette and attitude statements. The first part presented a vignette about a hypothetical child with a disability. Due to the aim of this study, we developed three different vignettes focusing on a child with a physical, cognitive and severe multiple disabilities. The vignettes were developed by the first author and verified by a research assistant with a degree in special education. All students randomly received a questionnaire, including one of the vignettes. The second part of the questionnaire consisted of attitude statements about the inclusion of the child presented in the vignette. Students of Grade 4 were initially included in the study. However, during the administration of the ASIE it turned out that the students found the questionnaire statements too difficult to answer. It was necessary to read the statements aloud whereby the reliability of students' answers can be questioned. Hence, we decided to exclude students from Grade 4 from further analysis.

Students were asked to indicate their level of agreement with the statements via a 5-point Likert scale (1= totally disagree to 5= totally agree), in which a higher score reflected a more positive attitude. The mean score of each student was included in the analysis as dependent variable.

Vignette. The type of vignette was included as independent variable in the analyses of primary school students towards: 1) physical, 2) cognitive and 3) severe multiple disabilities.

Age. For elementary school students we included age as independent variable in the analysis.

Condition. The condition of the schools was defined as: 0) control group or 1) experimental group and was included as independent variable in the analysis.

Time. The three time measurements were included as two independent dummy variables with time 1 as reference category in the analysis.

Analysis

We performed multilevel analyses with the attitude scores as dependent variables. Because we were dealing with hierarchically nested data (i.e., measurements within students within classes), a general linear model could not be used (Snijders & Bosker, 1999) so multilevel modeling was preferred. We executed the analyses in the program MLwiN 2.23 (Rasbash, Steele, Browne & Prosser, 2005), which is particularly designed for analysing hierarchical data.

We started the analyses by executing a three level empty model (a model without any independent variables), with classes as highest level, students as second level and repeated measures as lowest level. Since it appeared that there was no significant variability between classes within schools, a multilevel with two levels was considered: students at the highest level and repeated measures as lowest level. Subsequently, we included each time measurement as dummy variable in the model and considered random slopes. This approach results in more information about the variance structure per time measurement (Snijders & Bosker, 1999). In the end, we tested whether there were differences in attitudes scores between the control and the experimental group at each time point.

Additionally, we added possible covariates (such as age and gender) separately in the model, and explored which interactions were present. The variables which were relevant or showed a significant relationship with the dependent variable (i.e. students' attitude score) were included in the final model. In the results section we present the empty model, a model including time and condition, but without covariates (model 1), and the final model with covariates (final model). In all models a p -value of 0.05 was considered statistically significant. We examined the differences in deviance between the models to establish whether there is an improvement. The significance of an increase in deviance was tested by a chi-square test, with the number of degrees of freedom equal to the number of extra model parameters in the largest model.

8.3 Results

The effects of the intervention on kindergarten students

Descriptive statistics showed that kindergarten students had an attitude score of 8.43 ($SD=6.35$), 40% of which had a score < 7 , while the other 60% held more positive attitudes (a score between 7 and 21). Table 8.2 presents an overview of the scores per condition and measurement.

Conducting the multilevel analysis showed that there was no main effect of condition (see model 1 in Table 8.3), indicating that there was no significant difference in attitude scores between the two conditions at Time 1. Moreover, the outcomes of the analysis

revealed a significant interaction effect between condition and Time 2. This outcome indicates that the attitudes of students in the experimental condition were significantly more positive immediately after the intervention was carried out.

Table 8.2 Attitudes of kindergarten students per condition and measurement

	Time 1 ¹		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
Experimental (<i>n</i> = 22)	6.81	6.28	14.00	5.77	12.28	6.15
Control (<i>n</i> = 47)	9.20	6.32	10.58	7.04	13.54	7.40

Note. ¹ There was no significant difference between the two conditions at Time 1.

No significant interaction effect was found between condition and Time 3, indicating that there was no difference in the attitudes of both conditions at Time 3. In addition, the results revealed a significant overall effect of Time 3 for the control group, indicating that students' attitudes were significantly more positive at Time 3 compared to Times 1 and 2 (see Table 8.3: model 1). For the experimental group we found a significant difference between Time 1 and Time 2, but no difference between Time 2 and Time 3.

Table 8.3 Model estimates for the variable effects on kindergarten students' attitudes for different models

Model	Empty model	Model 1	Final model
Fixed part	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Intercept</i>	11.074 (0.624)	9.211 (0.931)	10.622 (1.045)
Gender ¹			
Boys			-2.894 (1.170)*
Condition ²			
Experimental		-2.503 (1.635)	-2.016 (1.549)
Measurement ³			
Time 2		1.303 (1.139)	1.181 (1.146)
Time 3		4.532 (1.148)**	4.572 (1.152)**
Condition * Time 2 ⁴		5.792 (1.958)**	5.822 (1.966)**
Condition * Time 3		1.117 (1.987)	0.942 (1.993)
Random part	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Variance</i>			
Between students	14.457 (4.811)		
Within measurements	33.446 (4.298)		
Time 1		38.471 (6.742)	33.932 (5.950)
Time 2		42.386 (7.525)	41.778 (7.423)
Time 3		46.910 (8.375)	46.889 (8.371)
<i>Covariance</i>			
Time 1 * Time 2		13.290 (5.369)	10.424 (4.951)
Time 1 * Time 3		15.574 (5.799)	13.050 (5.401)
Time 2 * Time 3		24.406 (6.434)	23.687 (6.362)
Deviance	1259.78	1220.08	1214.63

Note. * is significant at $p < 0.05$. ** is significant at $p < 0.01$. ¹ Girls= reference group. ² Control= reference group. ³ Time 1= reference group. ⁴ Condition * Time 1= reference group.

Subsequently, we added gender as independent variable to establish whether there were differences between boys' and girls' attitudes. The outcomes revealed an overall significant difference between boys and girls (see Table 8.3: final model). No interaction effect was found between gender and condition, gender and time and gender, condition and measurement.

A comparison of deviance between the empty model and the final model revealed a significant improvement of the final model, $\chi^2(10) = 45.15, p < 0.001$.

The effects of the intervention on primary school students

Descriptive statistics showed a mean attitude score of 3.69 ($SD = 0.60$) of elementary school students. Three per cent of students indicated to have a negative attitude (score < 2.5). The majority of students showed a score of > 3.5, indicating a positive attitude. The descriptive statistics for both conditions and measurement are presented in Table 8.4.

	Time 1 ¹		Time 2		Time 3	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Experimental ($n = 66$)	3.66	0.65	3.55	0.72	3.65	0.61
Control ($n = 127$)	3.71	0.58	3.67	0.57	3.57	0.76

Note. ¹ There was no significant difference between the two conditions at Time 1.

Conducting the multilevel analysis showed that there was no main effect of condition (see model 1 in Table 8.5), indicating that there was no significant difference in attitude scores between the two conditions at Time 1. The results showed no interaction effect between condition and Time 2, indicating that there is no difference in attitudes between both conditions at Time 2. Additionally, nearly negative difference in attitudes between both conditions was established at Time 3. Furthermore, no overall effect of time was found in both conditions (see Table 8.5: model 1).

In order to establish whether age, gender and the type of vignette had an effect on students' attitudes, we included those variables in the model (see Table 8.5: final model). No effect of age was found and therefore excluded from further analysis.

The outcomes revealed an overall significant difference between boys and girls, indicating that boys hold significant more negative attitudes than girls. No two- and three-way interaction effects were found between gender, condition and measurement. A significant overall effect of vignette was found, indicating that students hold most negative attitudes towards children with severe multiple disabilities and cognitive disabilities. We established a significant difference between those two types of disabilities and the physical disability. No differences between the cognitive and the severe multiple disabilities were found. Again, no interaction effects were found.

A comparison between the deviance of the empty model and the final model revealed a significant improvement of the final model, $\chi^2(12) = 46.16, p < 0.001$.

Table 8.5 Model estimates for the variable effects on attitudes of elementary school students for different models

Model	Empty model	Model 1	Final model
Fixed part	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Intercept</i>	3.646 (0.035)	3.720 (0.052)	4.034 (0.097)
Gender ¹			
Boys			-0.295 (0.068)
Vignette ²			
Cognitive			-0.186 (0.089)*
Severe multiple			-0.194 (0.090)*
Condition ³			
Experimental		-0.062 (0.089)	-0.168 (0.092)
Measurement ⁴			
Time 2		-0.046 (0.051)	-0.051 (0.051)
Time 3		-0.142 (0.075)	-0.150 (0.075)*
Condition * Time 2 ⁵		-0.068 (0.088)	-0.057 (0.088)
Condition * Time 3		0.106 (0.122)	0.124 (0.123)
Random part	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Variance</i>			
Between students	0.191 (0.028)		
Within measurements	0.227 (0.018)		
Time 1		0.365 (0.037)	0.356 (0.036)
Time 2		0.392 (0.038)	0.356 (0.034)
Time 3		0.505 (0.057)	0.482 (0.055)
<i>Covariance</i>			
Time 1 * Time 2		0.218 (0.031)	0.196 (0.029)
Time 1 * Time 3		0.166 (0.038)	0.151 (0.037)
Time 2 * Time 3		0.175 (0.038)	0.148 (0.035)
Deviance	1013.91	989.81	967.75

Note. * is significant at $p < 0.05$. ** is significant at $p < 0.01$. ¹Girls= reference group. ²Physical= reference group. ³Control= reference group. ⁴Time 1= reference group. ⁵Condition * Time 1= reference group.

8.4 Discussion

In this study we explored the possibilities of promoting more positive attitudes of kindergarten and primary school students towards children with physical, cognitive and severe multiple disabilities through an intervention based on acquired knowledge. We examined the short- and long-term effectiveness of the intervention compared to a control group. Based on the findings, we conclude that the attitudes of kindergarten students were significantly more positive immediately after the intervention. No long-term effect of the intervention could be established. Students in the control group as well as students in the intervention group had an increasing attitude. For primary school students we did not find any effect of the intervention, nor an improvement in their attitudes. An overall effect over the type of vignette was found, indicating that primary school students hold most negative attitudes towards children with cognitive or severe multiple disabilities. For both kindergarten and elementary school students we found an overall significant difference in attitude between boys and girls. The outcomes were not in line with our expectations.

Effects of the intervention on kindergarten students' attitudes

A remarkable outcome was the low baseline scores we observed in kindergarten students. Compared to the study of Nikolarazi et al. (2005), the kindergarten group in our study had mainly negative attitudes. A possible explanation might be unfamiliarity with the notion of disability of this age group, despite the on-going trend towards inclusive education. This was also observed when we assessed their attitudes. When students were asked to respond to the question 'Do you know what a disability is?' they had difficulty expressing their ideas about it.

Based on these low baseline scores, we expected that attitudes would improve in the experimental condition. The results of the second time measurement confirmed this hypothesis by showing a positive improvement of the students' attitudes. After one year, the attitudes of these students were not improved. However, the third time measurement showed a particular increase in attitudes in the control group. This improvement in the control group might be an effect of regression to the mean (Kazdin, 2003). Another explanation might be the effect of maturation. This effect refers to processes changing over time, like growing older, wiser, tired or bored. As stated by Goodman (1989), students become more knowledgeable as they become older. The increase in attitudes in the control group can also be explained from a different perspective. Since talking about disabilities is not common for kindergarten students, the assessment of the questionnaire can be seen as an intervention in itself. It might be that students were stimulated to think and talk about disabilities for the first time in their lives. This may suggest that talking about disabilities is a first step in forming the attitudes of these young students.

The effects described above point to certain difficulties in realizing interventions to promote more positive attitudes among kindergarten students. Moreover, the small sample size of the kindergarten group is clearly a limitation of the study so that the results should be carefully interpreted. Despite the limitations, the results show a positive trend in attitude change of kindergarten students. Innes and Diamond (Innes & Diamond, 1999) pointed out that early childhood years might be a particular fruitful time to teach students about diversity in relation to disability.

Effects of the intervention on primary school students' attitudes

With respect to primary school students, the findings of this study show that providing knowledge about disabilities had limited influence on their attitude. This is in line with other studies which also reported non-significant outcomes (Bell & Morgan, 2000; Godeau et al., 2010; Swaim & Morgan, 2001). A possible explanation for these results might be the stigma associated with disability, since it has been suggested that older students are more affected by this (Bell & Morgan, 2000). For example, as a consequence of the intervention students might have realized what it means to have a disability in daily life and how this would affect them when coming into contact with a person with an impairment. Corresponding with other studies, the outcomes of this study raise the question whether short term intervention, such as ours, can achieve the intended objectives among elementary school students.

In line with other studies, the findings of our study underline that boys hold more negative attitudes than girls. The outcomes of this study indicate that boys and girls do not change differently, as no interaction effects were found. To ensure more effectiveness in boys and girls, De Boer, Pijl, Post and Minnaert (2012) suggest taking the differences between boys' and girls' attitudes into account.

Based on the outcomes of this study it can be concluded that primary school students hold most negative attitudes towards children with cognitive or severe multiple disabilities. This is a disappointing result, as there is an on-going trend to include the latter group of children in regular schools. It is likely that the behaviours typical for children with severe multiple disabilities (e.g., wheelchair bounded, difficulties in talking, uncontrolled movements) (Vlaskamp, Poppes & Zijlstra, 2005), may frighten students. This underlines the importance of explaining the behaviour of such children, in order to remove students' fear.

With respect to elementary school students it should be mentioned that the knowledge acquired by the students was not specifically measured in the study. The measurement included in this study focused particularly on attitudes rather than the knowledge acquired. It might be that students' acquired knowledge about disability through the intervention, which can then be seen as a starting point for attitude change over time. It is highly recommended to include a measurement or structured interview in future research to establish what students learned from the intervention.

Implications of the study

The results of this study clearly point out the potential of the intervention to promote more positive attitudes, particularly on kindergarten students. However, improvements to the intervention seem necessary in order to strengthen long-term effects. A possible improvement might be the inclusion of parents in the intervention. It has been argued that parents are important in developing the attitudes of young students (Bricker, 1995). The significant relationship between the attitudes of parents and children (De Boer, Pijl, Post & Minnaert, 2011; Innes & Diamond, 1999), suggests that parental involvement may lead to stronger effectiveness of interventions to improve attitudes (Favazza & Odom, 1997). For example, parents can be included in the intervention by reading storybooks about disability at home. Another improvement of the intervention concerns a longer period or a repetition of the intervention at different moments (Bell & Morgan, 2000). Structured exposure to peers with disabilities early in life can lead to more positive attitudes (Voeltz, 1982). For example, including organized play or cooperation between typically developing students and children with disabilities in different settings might strengthen the effectiveness of the intervention.

This study made a first attempt to promote more positive attitudes towards children with disabilities among kindergarten and primary school students in a Dutch education setting. More specifically, we attempted to prepare typically developing students in their future contact with children with severe multiple disabilities. The intervention evaluated in this study demonstrated the potential of preparing students for such future contact. However,

the route towards improving the intervention to establish stronger effectiveness and more long-term effects is a challenging one.

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Chapter 9

General discussion

9.1 Introduction

The development to include students with special educational needs (SEN) in regular education is based on the wish to create ‘education for all’. It is believed that students with SEN have more opportunities for social contacts with typically developing peers in regular education compared to special education. As stated by the Salamanca Statement (UNESCO, 1994), regular education should combat discriminatory attitudes. Research has followed the development of inclusive education closely and over the past decade has increasingly dealt with the social dimension of inclusive education. Koster, Nakken, Pijl and Van Houten (2009) described the social dimension using the umbrella term ‘social participation’, which includes four themes: interaction, acceptance, friendships and social perception. Research on the social participation of students with SEN showed disappointing results. Students with SEN are less accepted and have fewer friends compared to their typically developing peers. These negative outcomes suggest that physical placement of students with SEN in regular classrooms does not automatically lead to social participation. This indicates that inclusive education is not always fulfilling its promise of the social benefits for students with SEN. The outcomes resulted in questions about the causes of the difficulties students with SEN experience in socially participating. It has often been argued that attitudes of those directly involved (i.e. teachers, parents and peers) play a role in the implementation of inclusive education. The attention given to their attitudes has resulted in a growing number of studies on attitudes over the last decade. An overview of these studies is lacking and it is unclear whether *attitudes* can be *described* as negative, neutral or positive and by which variables they are influenced. Moreover, different approaches in measuring this resulted in the question of how *attitudes* can best be *measured*. Although it has been suggested that attitudes play a role in the success of inclusive education, it is unknown whether *attitudes* are *related* to the social participation of students with SEN. This knowledge may lead to interventions whereby *attitudes* of typically developing students can be *improved* and ultimately better social participation of students with SEN in regular education. Hence, the study’s aim was to broaden our knowledge about describing, measuring, relating and improving attitudes of teachers, parents and typically developing students towards the inclusion of students with SEN in regular education. The relationship between attitudes and the social participation (i.e. acceptance and friendships) of students with SEN in regular education took a prominent role in this dissertation. The last chapter outlines the study’s major findings, describing its limitations and strengths, and concludes with certain reflections.

9.2 Major findings

9.2.1 Describing attitudes of teachers, parents and students towards inclusive education

We started this study by *describing attitudes* of teachers, parents and students towards students with SEN in regular primary schools. A systematic search regarding the attitudes of the three target groups resulted in three different review studies for each group, describing 1) attitudes towards students with SEN in regular primary education, 2)

variables relating to attitudes and 3) the relationship between attitudes and the social participation of students with SEN. Using the three-component theory (Eagly & Chaiken, 1993; Triandis, 1971), we attempted to describe attitudes according to the cognitive (beliefs and knowledge), affective (feelings) and behaviour component (intentions/willingness).

The outcomes of the three review studies show that teachers, parents and students hold predominantly neutral attitudes. This neutral outcome may raise the impression that there are no reasons for concern because this is at least not negative. It is, however, important to consider that there is considerable variance in the described attitude scores. This indicates there are also teachers, parents and peers holding far more positive and far more negative attitudes.

In order to promote more positive attitudes, one of the aims of the review studies was to describe which variables relate to the attitudes of teachers, parents and students. With respect to *teachers* it was found that teacher training relates to their attitudes, indicating that teachers who received special needs training hold more positive attitudes. Without training, teachers do not feel competent and confident in teaching students with different special educational needs. Teacher training could overcome this through improved knowledge and positive feelings. Studies focusing on these aspects reported positive effects of teacher training on attitudes (Rae, McKenzie, & Murray, 2011; Sharma, Forlin, & Loreman, 2008), indicating that exposure to students with SEN or training could be a starting point for interventions at teacher level.

With respect to attitudes of *parents*, it was found that parents with a special needs child hold less positive attitudes than parents with a typically developing child. The latter recognized the benefits of inclusive education for their children (i.e. increased acceptance of differences among children), while parents of a child with SEN are concerned about the consequences of inclusive education for their offspring (i.e. emotional development, lack of assistance/recourses). Positive attitudes of this group of parents are particularly important because they are seen as the driving factor behind inclusive education. After all, their children were traditionally excluded from regular education. Hence, these concerns among parents with a special needs child may lead to less progress in realizing inclusive education.

When describing attitudes of *students* it became clear that boys hold more negative attitudes than girls, just like younger students were less positive. Girls hold more positive attitudes, while boys tend to be more negative. It has been argued that this difference only emerges when the target child presented in the questionnaire has the opposite gender (Nowicki & Sandieson, 2002). For example, when girls are asked to respond on statements describing a boy with SEN (e.g. 'I would like to play with John') it is likely their responses are negative because of the gender of the child presented. Due to the way attitudes are measured students' responses seem to bias. This should be taken into account when using student attitude questionnaires.

Reviewing the literature revealed two shared outcomes for all three studies. First, the overall impression that teachers, parents and students hold the least positive attitudes

towards the inclusion of students with behaviour problems and cognitive disabilities. It is not so surprising that their attitudes are particularly negative towards students with these types of SEN. After all, both these types of SEN students demand more attention and support and their behaviour is challenging for the teacher. Parents may therefore believe that the inclusion of students with more demanding needs will be at the expense of their own child. Moreover, the behavior characteristic for students with behavior problems, like problems in social interaction, hinders contacts with peers in class directly. Based on these outcomes we conclude that such students are particularly vulnerable for negative attitudes of teachers and parents and for rejection by their typically developing peers.

The second overall finding is the limited empirical evidence for the relationship between attitudes and the social participation of students with SEN in regular schools. Three studies were found indicating a relationship between acceptance and interactions with students with SEN and attitudes of typically developing students. These outcomes can be seen as a first indication that positive attitudes of typically developing students are important for the social participation of students with SEN. However, the attitudes of teachers and parents were not taken into account in the studies, so it is unknown to what extent they affect their students//children.

9.2.2 Measuring attitudes towards students with SEN in regular education

The three review studies resulted in an overview of recently published studies describing attitudes towards inclusive education. It also resulted in an overview of instruments and designs to measure attitudes. Based on this, a number of issues are worthy discussing here. First, it turned out that all available questionnaires were made for use in English spoken settings. Second, only a minority of the studies defined the theoretical framework of their instrument and composed their items according to this. Third, quite a few studies did not report the psychometric properties of the instrument used. Developing new questionnaires to *measure attitudes* of Dutch teachers, parents and students was the next aim of the study. During the process of developing, evaluating and using the questionnaires, however, we faced some problems.

Using existing scales as ‘donor’ of items, we developed three questionnaires and evaluated their psychometric properties. We used the three component theory (Eagly & Chaiken, 1993; Triandis, 1971) as theoretical framework, whereby each questionnaire included statements reflecting beliefs, feelings and behavioural intentions. The evaluation of the psychometric properties revealed that teacher and parent questionnaires consisted of appropriate discriminative power and good reliability coefficients. The analysis did not provide empirical evidence for the three component theory: *teacher* and *parent questionnaires* resulted in a single-component model, including a mix of items originally belonging to the cognitive, affective and behavioural component. In addition, the outcomes of the first stage analysis showed that teachers and parents had difficulties in answering because the term ‘disability’ was used in the items. Because the meaning of the term ‘disability’ can differ from person to person, it was necessary to include a clear description about a target child. Hence, we included a vignette in the questionnaire and referred in the

items to the child described in the vignette. The vignettes were based on those already included in student questionnaires. Including the vignettes in teacher and parent questionnaires resulted in a more complete picture as it enabled us to examine whether attitudes differentiated according to the type of vignette.

Evaluating the *student* questionnaire showed appropriate psychometric properties for the items reflecting the affective and behavioural component, but insufficient scalability coefficients of the items reflecting the cognitive component. Hence, we deleted these items from the questionnaire and then found a single-component model for the student questionnaire consisting of a mix of items related to the affective and behavioral component. High correlations indicated that a distinction between the attitude components is difficult to make so that it is better to talk about general attitudes than about attitudinal components.

When measuring students' attitudes it became clear that boys/girls answers were biased when they received a questionnaire with a vignette describing a peer with SEN of the opposite gender. For example, when girls were asked to answer the items according to a vignette about Mark with AD/HD, they responded negatively on items like 'I would invite Mark to my birthday party'. These negative answers were rather based on gender than on the specified type of SEN. To overcome this problem we developed gender-specific vignettes resulting in a clearer picture of student attitudes.

9.2.3 Describing attitudes towards inclusive education from a national perspective

Although the review study resulted in an extensive overview of studies performed in the past decade, several questions remained. First, the review study made clear that only a few studies were performed in which attitudes of peers towards different types of SEN were examined. None of the studies focused on students with behaviour problems, or compared attitudes towards students with behaviour problems or autistic spectrum disorders (ASD). Second, reviewing the literature indicated that hardly any studies were performed in which the relationship between teachers/parents attitudes and their student/children attitudes was examined. In this study we attempted to answer those questions by *describing attitudes* of teachers, parents and students and examining which variables related to their attitudes.

Overall, we found that Dutch teachers, parents and students held neutral to positive attitudes, which are slightly higher than the international data (see 9.2.1). However, certain nuances can be made here. Due to the purpose of our study we selected classes which included at least one student with SEN. The applied criteria to select the schools may have resulted in a bias, since we might have included a sample of teachers who were predominantly positive about inclusive education. Moreover, it is known that experience with inclusive education results in more positive attitudes among teachers, parents and typically developing students (Avramidis & Kalyva, 2007; Balboni & Padrabissi, 2000; Siperstein, Parker, Bardon, & Widaman, 2007), which also might have affected the attitudes of our three target groups.

Dutch teachers reported to feel confident and competent about educating students with SEN, which is contrary to the outcome of the review study. One could argue that Dutch

teachers feel prepared to include students with SEN. However, Pijl (2010) stated that teachers' hesitation to accept students with SEN in their class is one of the problems in the process of implementing inclusive education. This is underlined in a study of De Moor and Bakker (2009), who concluded that teachers hold more reserved attitudes when it concerns the inclusion of a student with SEN in their own class. Moreover, based on a study among 304 Dutch regular primary school teachers, de Moor and Bakker reported that 79% of the teachers indicated a need for additional training to educate students with SEN appropriately. These outcomes are in line with those of the review study.

In addition, a trend was found, although not significant, showing that both Dutch teachers and parents are least positive about the inclusion of students with AD/HD or a cognitive disability. Students' attitudes were clearly least positive towards those with AD/HD. It is obvious that these students' behaviours cause restraint in their environment. This makes students with behaviour problems particularly vulnerable for rejection by peers. The growing number of students with behaviour problems in Dutch primary education (Ministry of Education, 2011) suggests that particular attention should be given to this group of student attending regular schools.

By means of the national study we attempted to establish whether teacher/parent attitudes are related to their students'/children's attitudes. Developmental theories and educational studies already state the influence of teachers and parents on different developmental areas of typically developing students. Yet, until now no empirical evidence was available showing a relationship between teacher/parent attitudes and those of their students/children towards students with SEN. In contrast with our expectations, a negative relationship was found between teachers' and students' attitudes. This outcome can be explained from different perspectives. First, one could argue about the use of a teacher questionnaire. As explained in chapter 6.4, the items of teacher and student questionnaires were formulated from different perspectives. For example, the items for teachers reflected their profession as teacher, while the student questionnaire reflected more personal involvement. It is obvious that both groups hold different rationales behind their attitudes, which possibly explains the discrepancy. However, based on the extensive review study and the construction and evaluation of the teacher questionnaire it is unlikely the question of the quality of the teacher scales. This leads us to the second explanation. It is reasonable to believe that due to the positive attitudes of teachers they accept a student with SEN in class more easily than those with an already negative attitude. Yet, the inclusion of a student with SEN, and particularly the ones with behaviour problems, negatively affects the attitudes of typically developing students. Because our study is the first study in which this relationship is examined, further research is needed to explore this complex relationship.

In addition, a positive relationship was established between parent attitudes and their children's attitudes, which was in line with our expectations. This parental influence was already established for kindergarten students (Innes & Diamond, 1999; Katz & Chamiel, 1989), but for primary school students it was unknown. It is reasonable to believe that the way parents talk about other people at home affects the way their children think. Our study

suggests the importance of parental involvement in interventions to promote positive attitudes from their children.

In relating variables to student attitudes we made a first attempt to examine whether being friends with a student with SEN affects student attitudes. In line with Vignes et al. (2009), a significant relationship was found, indicating that befriending a student with SEN affects peers' attitudes (or visa versa). Together with the outcomes of the review study, this outcome confirmed that attitudes of typically developing students are important in the social participation of those with SEN in regular education.

9.2.4 Relating attitudes to the social participation of students with SEN

Gaining more understanding about the causes of the difficulties students with SEN experience in their social participation was the next aim of this study. More specifically, we aimed to *relate factors* to the acceptance and friendships of students with Attention Deficit/Hyperactivity Disorders (AD/HD) and Autistic Spectrum Disorders (ASD). Several child, peer and classroom factors were considered in which we focused on those which could be used in developing interventions. We particularly aimed at *relating attitudes* of peers to the acceptance and friendships of students with SEN. Due to the same-sex preference of students in friendships, we considered the classroom networks of boys and girls separately, which resulted in different outcomes for the acceptance of boys and girls with SEN.

With respect to *child factors*, the type of SEN was found not to have an effect, indicating that the acceptance of students with AD/HD and ASD did not differ. Due to the behaviours typical of students with AD/HD (e.g. disruptive), we expected this would affect the acceptance by peers. The non-significant effect made us realize that other aspects of personality and behaviour might influence the acceptance of students with SEN, like leadership in games and group activities (Avramidis, 2010). Avramidis established these aspects are especially attributed to play a role in peer acceptance of boys with SEN. For girls with SEN it seems that more intrinsic aspects play a role in the acceptance by same-sex peers. Our study showed that social problems in class (e.g. loneliness and bullying) affect the acceptance of girls with SEN, but this effect was not found among boys with SEN. Based on this outcome, it could be argued that a social skills programme might enhance social behaviour and the acceptance of girls with SEN especially. It is likely that such an intervention is not so effective for boys with SEN, as we found that their acceptance particularly relies on their peer group. The limited effectiveness of social skills programmes on the acceptance of students with SEN (Forness & Kavale, 1996; Kavale & Forness, 1996) might relate to the differences between girls and boys in accepting a student with SEN.

Again, the differences in acceptance between boys and girls with SEN became clear when relating attitudes of same-sex peers. As *peer factor*, we found that girls' individual attitudes were positively related to the acceptance of same-sex students with SEN, while the mean class attitude of boys was positively related to the acceptance of same-sex student with SEN. These outcomes clearly point out that boys are particularly driven by group

aspects to accept a same-sex student with SEN. These differences in boys and girls should be taken into account when aiming to promote positive attitudes and acceptance of students with SEN.

Promoting positive attitudes of peers is not the only factor in which the acceptance of students with SEN can be improved. As *classroom factor*, this study showed that the presence of a teacher assistant in class is negatively related to the acceptance of students with SEN. This finding is in line with other recent studies, showing negative effects of teacher assistance on both students' academic and social performance (Howes, 2003; Wendelborg & Tøssebro, 2011). Giangreco and Doyle (2007) even stated that teacher assistants have detrimental effects for students with SEN (i.e. isolation, stigma and interference with peer interactions). However, it is likely believable that the positive attitudes of teachers result in an inclusion of students with relatively severe SEN. For these teachers it might be of great value to have an extra pair of hands in class, leading to better job satisfaction and positive outcomes for typically developing students. This means that a teacher assistant may have a positive effect as well. Yet, the fact that little research is available in the Netherlands about the effectiveness of teacher assistance at teacher, peer and SEN student level may give the impression that teacher assistance positively affects students with SEN. Hence, in newly developed education policies (e.g. the upcoming Dutch policy 'Appropriate Education') it should be seriously considered how to support teachers.

In this study we attempted to gain more understanding about factors relating to the friendships of students with SEN in regular classrooms. Yet, this is not as easy as it seems. None of the child and peer related factors we examined showed an effect, which seems to indicate that a friendship between students is based on other factors. As stated by Aboud and Mendelson (1996), there are two general hypotheses which play a role in selecting a friend. The first hypothesis is that people tend to select friends who are similar to themselves. The second hypothesis is that people select friends having desirable attributes (e.g., social skill, ideal personality). Based on the outcomes of this study it seems that the opposite of both hypotheses applies to students with SEN. The behaviour typical for students with AD/HD and ASD makes them different from their peers. Moreover, these students are not seen as having desirable attributes by their peers, resulting in less perceived attractiveness to associate with them. This study used a quantitative approach, whereby in-depth information about reasons of students to accept/reject a student with SEN was omitted. Such an approach might lead to more insight into the friendships of students with SEN in regular classrooms.

In conclusion, this study shows the complexity of understanding (one of the themes of) the social participation of students with SEN in regular classrooms. Describing the social participation of students with SEN is a first step, which was already considered to be important in the early eighties (MacMillan & Morrison, 1984). MacMillan and Morrison suggested rather asking the question *why* students with SEN are accepted or rejected, than describing the social participation. It is striking that after 20 years of research only few studies are available in which this question is examined. Although for different types of

SEN some research has been performed (see for example Chamberlain, Kasari, & Rotherham-Fuller, 2007; Erhardt & Hinshaw, 1994; Frederickson & Furnham, 1998). Hence, there is a need for more research on this topic.

9.2.5 Improving attitudes of students towards peers with SEN

In the last study we made a first attempt to *improve attitudes* of typically developing students towards peers with SEN. An intervention was developed aimed at improve attitudes of kindergarten and primary school students by teaching them about peers with a physical, cognitive and severe multiple disability. For *kindergarten students* we found this had an immediate positive effect on their attitudes, but this decreased over time (follow-up). There are several possibilities to strengthen the long-term effects of the intervention. One concerns repetition of the intervention, whereby the knowledge may last longer and attitudes will eventually change. Another possibility concerns parental involvement in future research. We established earlier (Chapter 6) that the significant relationship between parent attitudes and their children's showed the importance of parental involvement. At the time we established this relationship, the intervention study had already started so that we could not include parents. As stated by Stoneman, Rugg and Rivers (1996), parental responses to children's questions about disabilities are an important mechanism in transferring knowledge and values from parents to children. This indicates that parental involvement in future interventions for young students in particular, might be promising for long-term effects.

With respect to *primary school students*, we did not find an effect of the intervention on their attitudes. Previous intervention studies showed mixed outcomes on the attitudes of primary school students (e.g. Bell & Morgan, 2000; Godeau et al., 2010; Krahé & Altwasser, 2006), so that the non-significant outcome was not surprising. A possible explanation for this can be found in the stigmatizing effect of the intervention on attitudes. Knowledge about disability may have resulted in more awareness about this, thereby making it less attractive to associate with someone with special needs. It is suggested that attitudes are influenced by direct experience with a person with a disability (Triandis, Adamopoulos, & Brinberg, 1984), suggesting that an intervention based on direct contact between a student with and without a disability is more appropriate for primary school students, like a buddy-system or cooperative learning programmes. Further investigation of the effect of such interventions on the attitudes of typically developing students and the acceptance of students with AD/HD and ASD is recommended.

9.3 Limitations and strengths of the study

While researchers have already noted for some time the importance of the social participation of students with SEN in regular education, there is little research about the reasons. In this study an attempt was made to obtain knowledge about describing, measuring, relating and improving attitudes towards students with SEN in regular education. There were some limitations, which should need to be taken into account when interpreting the outcomes of the study.

First, using self-report measurements may have resulted in social desirable replies. For example, it is likely that the responses of the participating teachers were more positive than their attitude actually is. This means that the slightly positive attitude is biased, suggesting that here the average Dutch teacher holds a less positive stance. Hence, it can be expected that teachers will persist when Dutch government wants to implement new education policies focusing on the inclusion of students with SEN in regular education.

Second, due to the design of our study (particularly Chapter 7) no causal inferences can be made. The results show relationships between variables rather than causal connections. For example, it is likely that positive attitudes of typically developing students relate to the acceptance of students with SEN. Yet, it is also possible that an already existing friendship between a student with and without SEN resulted in more positive attitudes of their peers.

Despite the limitations described above, this study resulted in more knowledge about describing, measuring, relating and improving attitudes towards students with SEN in regular education. By means of the extensive overview of recently published studies, attitudes of teachers, parents and typically developing students could be described. More importantly, the three review studies pointed out which gaps should be filled in future research. This knowledge was of great value in designing the follow-up studies.

Moreover, the use of vignettes in the attitude questionnaires made it possible to measure attitudes towards different types of SEN. The lack of knowledge about attitudes towards students with behaviour problems and ASD, and the growing number of students receiving a referral for behaviour problems (Batstra et al., in press) make clear that our study filled this gap. Additionally, this is the first study which examined the relationship between teacher/parent and student/child attitudes. The outcomes point to parental involvement being especially important in future intervention studies to improve attitudes.

Third, to the best of our knowledge this is the first study in which factors at child, peer and classroom level are related to two themes of social participation (acceptance and friendships) of students with AD/HD and ASD in regular schools. The knowledge obtained resulted in starting points for the development of future interventions.

Finally, the intervention study provided initial knowledge about the possibility of improving attitudes of typically developing kindergarten and primary school students towards peers with SEN. The uniqueness of the study is the development and implementation of the intervention and the examination of the long-term effects.

9.4 Reflections

The growing number of studies on attitudes suggests there is a lot of knowledge available about the attitudes of teachers, parents and typically developing students towards students with SEN. However, certain questions arise about the studies performed so far. When describing attitudes of the three target groups it became clear that the designs of the studies differed from one to another. Mixed approaches were used, making the comparison of outcomes troublesome. While researchers want to denote the attitudes towards students with SEN, one can question whether this is what was actually measured. For example, our study showed that teachers and parents had difficulty answering statements in which the

broad term ‘disability’ was used in statements, so that a vignette was added in our questionnaire. Previous studies often did not specify the type of SEN (see for example Table 2.2), so that the reliability of teachers’ and parents’ responses is doubtful. It seems imperative to take this into account when designing future studies.

In describing attitudes it became clear that those of teachers, parents and students are influenced by several variables. Previous studies examined the relationship between attitudes and several variables which resulted in more understanding, for example, of high-risk groups holding more negative attitudes (e.g. boys/adult males and younger students). Nonetheless, due to the research method some variables might misrepresent reality. For example, the relationship between experience with inclusive education/people with disabilities and attitudes of teachers, parents and students is often examined using group comparison (i.e. experience versus no experience). Comparing the attitudes scores of two groups often indicated a significant difference in attitude scores between groups (Chapter 2.3 and 3.3). Based on this, it can be concluded that experience is related positively to attitudes. On the one hand, it could be argued that this is a positive outcome, because implementing inclusive education should then automatically lead to positive attitudes of directly involved. On the other hand, the limitation of cross-sectional studies is that the development of an effect of a variable is not taken into consideration. In the field of inclusive education, quantitative longitudinal designs are scarce (Frostad, Mjaavatn, & Pijl, 2011), but is a worthwhile goal for future research.

Some remarks can be made about measuring attitudes in inclusive education. First, the increases in studies on attitudes give the impression that this is a relatively easy route to take. Yet, this is obviously not the case. When using the three-component model (Triandis, 1971) to measure attitudes this results in cognitive, affective and behavioral responses of participants. The high correlations between the responses suggest rather talking about the general term ‘attitude’ instead of three attitudinal components in cross-sectional designs. However, it is likely that the three-component model is appropriate to use in longitudinal designs aiming to change attitudes. This leads us to the second remark. Research has shown positive outcomes of teacher training on teachers’ knowledge and concerns about inclusive education (Rea, McKenzie, & Murray, 2011; Sharma, Foreman, & Loreman, 2008). This indicates that improving teachers’ knowledge about special educational needs might be a first step in changing their general attitude. Subsequently this may lead to a change in teachers’ feelings, behavioral intentions and ultimately their actual behavior in class. Hence, this suggests that the three-component model can be seen as a hierarchical model. Although such research demands time, a verification of such a hierarchical model is recommended.

The negative consequences of poor acceptance or peer rejection on the development of children (Laursen, Bukowski, Aunola, & Nurmi, 2007; Lund et al., 2009) suggest the importance of understanding the difficulties students with SEN experience in their social participation. So far, studies have described the acceptance and friendships of students with SEN rather than asking the question *why* students with SEN are less accepted or have fewer friendships than their typically developing peers. For some time the social

participation of students with SEN was attributed to the type of SEN or other personal traits (MacMillan & Morrison, 1984). By means of this study we gained more understanding about the relationship between both personal and environmental factors and the two themes of social participation, namely: acceptance and friendships.

Based on the outcomes of our study, we wish to suggest a conceptual model which can be used in research on the acceptance of students with SEN in regular education. This model is presented in Figure 9.1 and discussed below. It consists of two columns of independent variables. Column A shows variables which relate to attitudes of typically developing students towards peers with SEN while Column B shows child, peer and classroom variables relating to the acceptance of students with SEN. The variables presented in this model should be controlled or manipulated when aiming to improve the acceptance of students with SEN.

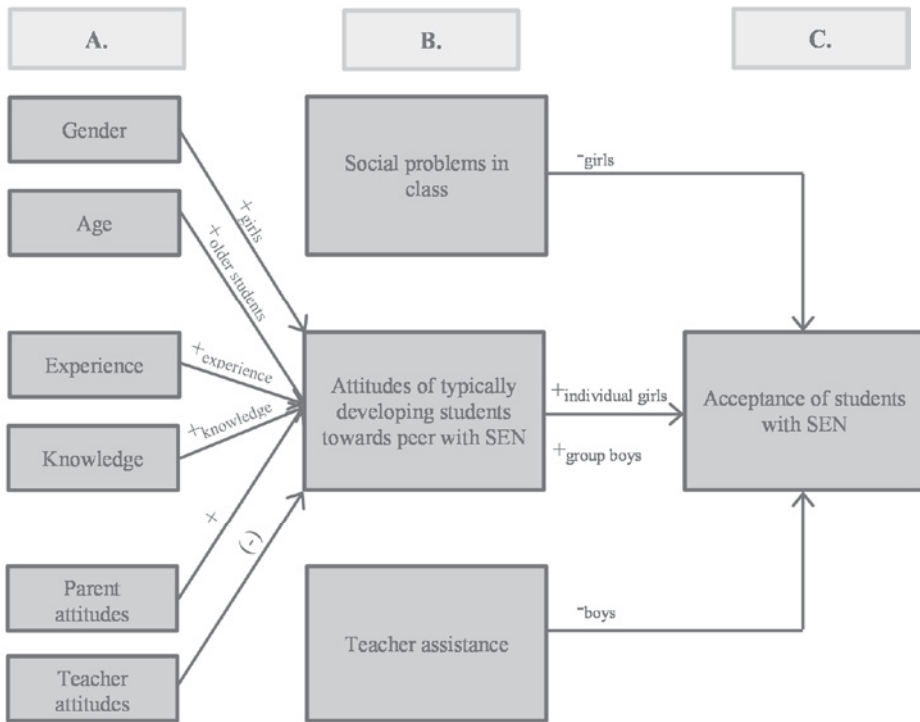


Figure 9.1 A conceptual model for research on the acceptance of students with SEN in regular education

The possible bi-directional effect and the interactive nature of the variables are not shown in this model, but should be taken into account. Moreover, the effect of some variables should be elucidated in further research. For example, in our study we only established the effect of teachers' attitudes on the attitudes of typically developing students so that the direct effect of teachers on the acceptance of students with SEN remains unanswered. Based on outcomes of previous studies on the effect of teachers on both students' social

and academic development (Hamre & Pianta, 2001; Mercer & DeRosier, 2008), it is likely that teachers' behaviour or interaction directly affects the acceptance of students with SEN. Elaborating on the supportive role of teachers seems a challenging goal for further research.

Embroidering further on the conceptual model, some directions for interventions can be formulated aimed at improving the acceptance of students with SEN. Interventions have usually been solely aimed at students with SEN (i.e. social skills training) and have shown limited effects (Bierman & Powers, 2009). This limited effect might be attributed to the fact that boys and girls hold different motives to accept a peer with SEN (see Figure 9.1). For example, when carrying out social skills training for both boys and girls it is likely that this is not affecting the acceptance of boys with SEN, but rather the acceptance of girls with SEN. The effect of gender should be taken into account when implementing interventions to improve the acceptance of boys and girls with SEN.

When aiming to improve the acceptance of students with SEN by changing attitudes of typically developing students, the differences between boys and girls should also be considered. Our study showed that the peer group of (typically developing) boys is particularly important in their acceptance of peers with SEN. So far, research only attempted to change attitudes of typically developing students through interventions by providing knowledge about disabilities (Bell & Morgan, 2000; Godeau et al., 2010; Krahe & Altwasser, 2006), but did not examine the effects of such interventions on acceptance. By means of our supposed model, new insights are given for developing, implementing and evaluating interventions which ultimately lead to better acceptance of students with SEN in regular education.

9.5 Inclusion: a question of attitudes?

Social participation is regarded as an important outcome measure in the field of inclusive education. Research started to examine this aspect over the last decades but showed disappointing results for students with SEN. Being accepted and having friends in class is important in the development of children, which raises the question whether inclusive education is fulfilling its promise that students with SEN socially benefit from this. Until now, there is little understanding about what causes students with SEN to be less accepted and have fewer friends than their typically developing peers. This study attempted to contribute to this.

Based on the outcomes of this study it is impossible to identify one best predictor and it is too simple to say that attitudes will make or break inclusive education. However, this study clearly showed that attitudes are a key factor in the acceptance of students with SEN in regular education. It has been shown that attitudes of teachers/parents play a role in their students'/children's attitudes and that the latter are related to the acceptance of peers with SEN. This indicates that we should not be satisfied with the neutral attitudes found in this study. Striving for more positive attitudes will ultimately lead to a better acceptance of students with SEN in regular schools.

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Summary

Background

The inclusion of students with special educational needs (SEN) in regular education became an important topic in education policy and practice over the last decade. As evidenced in international statements, including students with SEN in regular education should maximize their academic and social development and ultimately lead to an inclusive society and positive attitudes towards persons with disabilities. It is clear that the social dimension is important when implementing inclusive education. It has been suggested that the umbrella term ‘social participation’ can be best used when describing social dimension, since it refers to contacts between students with SEN and their peers; acceptance; friendships; and the self-perception these students have socially of themselves. Research describing one of the themes of social participation showed worrying outcomes so far. It is often stated that students with SEN experience difficulties in being accepted and building friendships with typically developing peers. Why students with SEN experience social difficulties is not quite clear. It is claimed that the attitudes of those directly involved (i.e. teachers, parents and peers) might play a role in this. However, until now research has merely focused on describing the social participation so that the question about causes is often left out. The central aim of this study was to describe, measure, relate and improve attitudes towards students with SEN in regular education. Consequently, in this dissertation the relationship between attitudes of teachers, parents and typically developing students and the social participation of students with SEN in regular education has a prominent role.

Summary of the chapters

The first phase of this study describes attitudes of teachers, parents and students towards students with SEN in regular primary education. For each target group a review study is presented and aimed to describe: 1) attitudes, 2) variables relating to attitudes and 3) the relationship between attitudes and the social participation of students with SEN in regular education. Generally, attitudes are described according to three components, namely: a cognitive (beliefs/knowledge), affective (feelings) and behavioural (behavioural intentions) component. The results of the review studies are described according to those three attitudinal components.

The results of teachers’ attitudes are described in *Chapter 2*. Based on 26 studies it was found that teachers hold predominantly neutral attitudes towards the inclusion of students with SEN in regular education. It was found that several variables relate to their attitudes, like gender, years of teaching experience, experience with inclusive education, training in special needs and type of SEN. Female teachers’ responses were found to be more positive than males. Moreover, we found that teachers are less positive when they have more years of teaching experience than those teachers that do not. Again, teachers having experience with inclusive education or training in special needs hold more positive attitudes than teachers without experience or less training. Few studies examined whether teachers’ attitudes differentiate according to the type of SEN and showed that teachers hold most positive attitudes towards students with physical disabilities or sensory impairments. Least

positive attitudes were found towards students with learning disabilities, behaviour problems and cognitive disabilities. With respect to the third aim of the study, none of the selected studies examined whether teachers' attitudes relate to the social participation of students with SEN.

Based on a selection of 10 studies, *Chapter 3* describes the attitudes of parents towards inclusive education. Although we initially aimed to describe attitudes according to the three attitude components, the distinction into three components could not be made. Hence, the results are described in terms of general attitudes. The results show that parents held neutral to positive attitudes. Parents of children with disabilities hold more neutral attitudes than parents of typically developing children. The first group were shown to have concerns about their child's emotional development, instruction and available services in regular schools. Parents of typically developing children recognised the benefits of inclusive education, like accepting differences among people and developing sensitivity to others. Several variables were found to relate to parents' attitudes. The review study also showed that parents with a higher socio-economic status (SES) hold more positive attitudes than parents with a lower SES. Moreover, it was found that the lower the parents' education level and lack of experience of inclusive education, the less positive was the attitude. In addition, parents' attitudes were least positive about the inclusion of children with behaviour problems and cognitive disabilities. In none of the selected studies it was examined whether parents' attitudes relate to the social participation of students with SEN.

Chapter 4 describes the attitudes of students towards peers with SEN. Twenty-two studies were selected in which the majority focused on the cognitive and the behavioural component. The results showed that students held neutral to positive attitudes. Several variables were found relating to students' attitudes, like gender, grade, experience with inclusive education, knowledge about SEN, parental influence and the type of SEN. It was found that girls and older students held more positive attitudes than boys and younger students. Moreover, students with more experience with inclusive education and more knowledge about SEN held more positive attitudes. In addition to this, one study showed that parents' knowledge about disabilities was related to their children's attitudes. Attitudes of students were found to differentiate according to the type of SEN. It was found that they held more positive attitudes towards peers with cognitive disabilities than towards peers with behaviour problems. With respect to the third aim of the study, we cautiously conclude that there is a relationship between the acceptance of students with SEN and the attitudes of typically developing students.

An additional outcome of describing attitudes of teachers, parents and students was knowledge about instruments used to measure attitudes. The literature reviews showed that numerous scales were available to measure attitudes, but these were all made for use in English spoken settings. Moreover, not all of these scales used the three-component theory as theoretical framework and did not show appropriate psychometric properties. This made us decide to develop three attitude questionnaires for the Dutch education setting so that attitudes of teachers, parents and students could be measured. The process of developing and evaluating the questionnaires is described in *Chapter 5*. In developing questionnaires

we used ‘donor scales’, resulting in three different questionnaires to measure attitudes of Dutch teachers, parents and students. By means of a Mokken scale analysis (MSA) we established the psychometric properties of all three scales. Moreover, the separability of the subscales (i.e. attitude components) was examined using the automatic item step procedure (AISP) of MSA.

Regarding the *teachers’* and *parents’* questionnaire, the outcomes showed that several items were unreliable whereby these were deleted from the scale. Moreover, it turned out that teachers and parents had difficulty in answering the items because the general term ‘disability’ was used. Based on this, it was decided to add a vignette, in which a description of a student/child is given showing characteristics of a specific type of SEN. The final questionnaire for teachers and parents included 19 and 24 items with a high reliability. The AISP showed that a single-component model applies, indicating that a distinction between the three attitude components could not be made.

Regarding the *students’* questionnaire, the outcomes showed that it is important to include gender specific vignettes. Hence, we changed the vignettes so that girls received a questionnaire with a vignette about a girl with SEN (for boys the same). Moreover, it turned out that the items of the cognitive component had inappropriate psychometric properties whereby these were all deleted. The final questionnaire consists of 14 items showing a high reliability. The AISP showed that a single-component model applies including the affective and behavioural component.

Using the newly developed questionnaires, attitudes of Dutch teachers, parents and students are described in **Chapter 6**. A cross-sectional study among teachers ($N= 44$), parents ($N= 508$) and peers ($N= 1113$) was set up to describe attitudes towards students with AD/HD, ASD or a cognitive disability. The study describes variables relating to attitudes and examines the relationship between attitudes of teachers/parents and students’ attitudes. The results showed that all three target groups hold predominantly neutral attitudes. None of the examined variables in the teachers’ sample was found to relate to their attitudes (i.e. gender, years of teacher experience, type of vignette, type of SEN in class). Among parents it was found that mothers as well as those parents having a child with SEN hold more positive attitudes. Results of peers’ attitudes showed that girls and older students hold more positive attitudes. Moreover, being friendly with a student with SEN was found to relate to peers’ attitudes. In addition, peers’ attitudes differed according to type of vignette: most positive attitudes were reported for students with a cognitive disability and least positive attitudes were reported for those with AD/HD. Regarding the third aim, this study showed that teachers’ attitudes are negatively related to students’ attitudes, while parents’ attitudes are positive related to their children’s attitudes.

The focus of **Chapter 7** is on relating attitudes and other relevant factors to the acceptance and friendships of students with SEN. More specifically, by means of a cross-sectional study it was examined which child, peer and classroom factors relate to the acceptance and friendships of students with AD/HD and ASD ($N= 65$). The outcomes showed that a very small percentage of peers nominated a student with SEN of the opposite gender as their friend, indicating that including gender in the model would lead to

unreliable estimates. Hence, we decided to consider the boys and girls in a class as separate networks. Different outcomes were found for boys and girls with SEN. With respect to *child related factors* it was found that the social behaviour of girls with SEN relates to their acceptance. None of the other factors examined were found to relate to their acceptance (i.e. age and type of SEN). It was found that none of the factors related to the acceptance of boys with SEN. Attitudes of peers were examined as a *peer related factor*. It was found that the girls' individual attitude related to the acceptance of same-sex students with SEN, while boys' individual attitude did not. The opposite result was found for the class attitude of boys and girls. The results showed that girls' class attitude did not relate to the acceptance of same-sex students with SEN, while boys' class attitude did. Regarding the *classroom related factor* it was examined whether teacher assistance in class relates to the acceptance of students with SEN. The results showed that the presence of teacher assistance in class negatively relates to the acceptance of boys with SEN. Due to the small sample size, this effect could not be examined for girls. Only teacher assistance was found to relate to friendships of students with SEN, as none of the other factors examined showed a significant relationship.

Chapter 8 describes an intervention study aimed at improving attitudes of kindergarten and primary school students towards children with physical, cognitive and severe multiple disabilities. In order to promote positive attitudes an intervention comprising six lessons on the aforementioned disabilities were given to these students over a three-week period. The immediate and long-term effects were examined by means of a quasi-experimental longitudinal study with two and three schools consisting of the experimental and control group ($N=98$ and $N=195$). Using multilevel analysis it was found that the intervention had an immediate positive effect on the attitudes of kindergarten students, although no long-term effects could be established. The results showed that the intervention had no effect on the attitudes of primary school students.

The last chapter, **chapter 9**, gives a summary of the most important outcomes of the study and answers the aim of the study. The main findings of each chapter are outlined, as well as the strengths and the limitations of the study. Additionally, some reflections on the study are described. The chapter ends with presenting a conceptual model for research on the social participation of students with special educational needs in regular education. This model can be used to formulate entries for future research and to set up intervention studies to improve the social participation of students with special educational needs in regular primary education.

Samenvatting

(Summary in Dutch)

Achtergrond

De opname van leerlingen met een beperking in het reguliere onderwijs is een belangrijk onderwerp van discussie geworden in de afgelopen decennia. Deze ontwikkeling wordt veelal aangeduid met de term ‘inclusief onderwijs’ en verwijst naar het handhaven van leerlingen met beperkingen in het reguliere onderwijs, in plaats van hen te verwijzen naar het speciaal onderwijs. Internationale verdragen hebben benadrukt dat de opname van leerlingen met beperkingen in het reguliere onderwijs zou moeten resulteren in het optimaliseren van de academische en sociale ontwikkeling van deze leerlingen. Dit zou uiteindelijk moeten leiden tot een inclusieve maatschappij en positieve attitudes tegenover mensen met beperkingen. De internationale verdragen over inclusief onderwijs maken duidelijk dat de sociale dimensie belangrijk is. Eerder onderzoek heeft aangegeven dat de overkoepelende term ‘sociale participatie’ deze sociale dimensie het best beschrijft. Deze term verwijst naar vier aspecten, namelijk: de contacten tussen leerlingen met beperkingen en leeftijdsgenoten zonder beperkingen, acceptatie door leeftijdsgenoten, vriendschappen en de sociale zelf-perceptie van leerlingen met beperkingen. Onderzoek naar deze aspecten laat zorgelijke uitkomsten zien: leerlingen met beperkingen ervaren moeilijkheden in de acceptatie en het opbouwen van vriendschappen met leeftijdsgenoten zonder beperkingen. Hoe het komt dat kinderen met beperkingen deze moeilijkheden ervaren is onduidelijk. Er wordt verondersteld dat de attitudes van direct betrokkenen (bijvoorbeeld leerkrachten, ouders en klasgenoten) hierin een rol spelen. Echter, empirisch bewijs voor deze veronderstelling is niet voorhanden. Het doel dat centraal staat in dit onderzoek is het 1) *beschrijven*, 2) *meten*, 3) *relateren* en 4) *verbeteren* van attitudes ten opzichte van leerlingen met beperkingen in het reguliere basisonderwijs.

Samenvatting per hoofdstuk

Het eerste deel van dit onderzoek geeft een overzicht van de bestaande literatuur omtrent de attitudes van leerkrachten, ouders en klasgenoten ten opzichte van kinderen met een beperking in het reguliere basisonderwijs. Voor elke doelgroep is een overzichtsstudie van internationaal gepubliceerde studies gemaakt waarin de volgende aspecten zijn *beschreven*: 1) attitudes, 2) variabelen die gerelateerd zijn aan de attitudes en 3) de relatie tussen de attitude en de sociale participatie van kinderen met een beperking in het reguliere onderwijs. De resultaten zijn beschreven met behulp van de drie componenten theorie. Volgens deze theorie bestaat een attitude uit een cognitieve- (overtuigingen), affectieve- (gevoelens) en gedragscomponent (gedragsintenties). De resultaten van de overzichtsstudie naar de attitude van leerkrachten zijn beschreven in **hoofdstuk 2**. In totaal werden 26 studies geselecteerd en beschreven. De uitkomsten geven aan dat leerkrachten een overwegend neutrale attitude hebben ten aanzien van de opname van kinderen met een beperking in het reguliere basisonderwijs. De attitude van leerkrachten wordt echter beïnvloed door verschillende variabelen, waaronder geslacht, aantal jaren leservaring, ervaring met inclusief onderwijs, training in het onderwijzen van kinderen met een beperking en het type beperking. De uitkomsten geven aan dat leerkrachten de meest positieve attitude hebben ten opzichte van kinderen met lichamelijke of sensorische

beperkingen. Leerkrachten zijn het meest negatief ten opzichte van kinderen met leerproblemen, gedragsproblemen en verstandelijke beperkingen. Met betrekking tot het derde doel van het onderzoek kan er geconcludeerd worden dat geen enkele studie de relatie tussen de attitude van leerkrachten en de sociale participatie van kinderen met beperkingen heeft onderzocht.

De attitudes van ouders ten opzichte van inclusief onderwijs worden beschreven op basis van 10 geselecteerde studies in **hoofdstuk 3**. In eerste instantie poogden we de attitudes te beschrijven volgens de drie componenten van attitude. Echter, het bleek niet mogelijk te zijn om de resultaten op deze manier te onderscheiden van elkaar waardoor de uitkomsten zijn beschreven in termen van algemene attitudes. De resultaten van het onderzoek laten zien dat ouders neutrale tot positieve attitudes hebben. Ouders van kinderen met beperkingen zijn minder positief in vergelijking met ouders van kinderen zonder beperkingen. Ouders van kinderen met beperkingen hebben zorgen over de emotionele ontwikkeling van hun kind, de instructie en beschikbare ondersteuning die geboden kan worden in het reguliere onderwijs. Ouders van kinderen zonder beperkingen onderstrepen de voordelen van inclusief onderwijs, zoals het accepteren van verschillen tussen kinderen. De attitude van ouders wordt beïnvloed door diverse variabelen; ouders met een hogere sociaaleconomische status hebben een positievere attitude dan ouders met een lagere SES. Daarnaast blijkt dat hoe lager het opleidingsniveau van ouders en hoe minder ervaring ouders hebben met inclusief onderwijs, des te negatiever de attitudes van ouders. Tevens blijkt dat ouders het meest negatief zijn over de opname van kinderen met gedragsproblemen en verstandelijke beperkingen in de reguliere klas. Wat betreft het derde doel van het onderzoek kan er geconcludeerd worden dat geen enkele studie de relatie heeft onderzocht tussen de attitude van ouders en de sociale participatie van kinderen met beperkingen in het reguliere onderwijs.

Hoofdstuk 4 beschrijft de attitudes van klasgenoten ten opzichte van leeftijdsgenoten met beperkingen. Tweeëntwintig studies werden geselecteerd waarvan het merendeel zich richtte op de cognitieve- en gedragscomponent. De resultaten laten zien dat klasgenoten een neutrale tot positieve attitude hebben. Echter, deze attitude wordt beïnvloed door diverse variabelen zoals geslacht, ervaring met inclusief onderwijs, kennis over beperkingen, ouders en het type beperking. De resultaten geven aan dat de attitude van meisjes positiever is dan de attitude van jongens. Daarnaast heeft meer ervaring met inclusief onderwijs en kennis over beperkingen een positieve invloed op attitudes. Één studie liet zien dat de kennis van ouders over kinderen met beperkingen gerelateerd is aan de attitude van hun kind. Het type beperking is tevens gerelateerd aan de attitude van klasgenoten; leerlingen zijn meer positief over kinderen met verstandelijke beperkingen dan tegenover kinderen met gedragsproblemen. Met betrekking tot het laatste doel zijn er drie studies die eerste aanwijzingen geven dat er een relatie is tussen de acceptatie van kinderen met beperkingen en de attitude van klasgenoten.

Na het beschrijven van de attitudes van leerkrachten, ouders en leerlingen vanuit een internationaal perspectief trachtten we de attitudes van de drie doelgroepen te beschrijven vanuit een nationaal perspectief. De overzichtsstudies hadden laten zien dat er diverse

vragenlijsten beschikbaar waren om attitudes te meten, maar deze vragenlijsten waren allen voor Engelse onderwijssettingen. Daarnaast waren deze vragenlijsten niet allemaal gebaseerd op de drie componenten theorie en lieten de psychometrische eigenschappen te wensen over. Deze redenen leidden tot de keus om drie nieuwe attitude vragenlijsten te ontwikkelen voor de Nederlandse onderwijssetting waarmee we de attitudes van leerkrachten, ouders en leerlingen konden *meten*. Het proces van vragenlijstontwikkeling en evaluatie is beschreven in **hoofdstuk 5**. Op basis van zogeheten ‘donor’ vragenlijsten zijn er drie nieuwe vragenlijsten ontwikkeld. De psychometrische eigenschappen van de drie vragenlijsten zijn geanalyseerd met behulp van de Mokkenanalyse. Daarnaast is er gekeken of de drie attitude componenten empirisch ook als drie subschalen onderscheiden konden worden. Hiervoor is er gebruik gemaakt van de ‘automatic item step procedure’ (AISP) van de Mokkenanalyse.

De uitkomsten van de analyses van de *leerkracht- en ouder vragenlijst* gaven aan dat diverse stellingen niet betrouwbaar waren waardoor deze stellingen zijn verwijderd uit de vragenlijst. Daarnaast bleek dat leerkrachten en ouders moeite hadden om de stellingen te beantwoorden wanneer de algemene term ‘beperking’ werd gebruikt in de stellingen. Dit resulteerde in de ontwikkeling van een situatieomschrijving die werd toegevoegd aan de vragenlijsten. Een situatieomschrijving is een kort verhaaltje over een leerling/kind met kenmerken van een bepaald type beperking. De definitieve vragenlijst voor leerkrachten en ouders bevat respectievelijk 19 en 24 stellingen die allen een hoge betrouwbaarheid bevatten. Op basis van de AISP kan er geconcludeerd worden dat er sprake is van een single-componenten model, wat betekent dat de drie attitude componenten niet als subschalen onderscheiden kunnen worden.

Op basis van de uitkomsten van de *vragenlijst voor leerlingen* kan er geconcludeerd worden dat het belangrijk is om geslachtsspecifieke situatieomschrijvingen te hebben. Dit resulteerde in situatieomschrijvingen voor meisjes (omschrijving over meisje) en jongens (omschrijving over jongen). Daarnaast bleek dat de stellingen van de cognitieve component niet betrouwbaar waren. Deze stellingen zijn verwijderd uit de vragenlijst, waardoor de definitieve vragenlijst 14 stellingen bevat die allen een hoge betrouwbaarheid laten zien. Op basis van de AISP kan er geconcludeerd worden er sprake is van een single-component model die bestaat uit de affectieve- en gedragscomponent.

De nieuwe attitude vragenlijsten zijn gebruikt om de attitudes van Nederlandse leerkrachten, ouders en leerlingen te *beschrijven*. De uitkomsten hiervan zijn weergegeven in **hoofdstuk 6**. Een cross-sectioneel onderzoek onder leerkrachten ($N= 44$), ouders ($N= 508$) en klasgenoten ($N= 1113$) is opgezet om de attitudes te beschrijven ten opzichte van kinderen met AD/HD, Autisme Spectrum Stoornis (ASS) of een verstandelijke beperking. In de studie relateren we variabelen aan de attitudes en onderzoeken we de relatie tussen de attitudes van leerkrachten/ouders en de attitude van hun leerling/kind. De resultaten geven aan dat alle drie doelgroepen voornamelijk neutrale attitudes hebben. Geen van de geanalyseerde variabelen bleek gerelateerd te zijn aan de attitudes van leerkrachten. Voor zowel ouders bleek dat vrouwen een positievere attitude hebben dan mannen. Daarnaast hebben ouders van een kind met een beperking een positievere attitude

dan ouders van kinderen zonder beperkingen. Met betrekking tot de attitudes van klasgenoten blijkt dat meisjes en oudere leerlingen een meer positievere attitude hebben. In deze studie werd tevens vastgesteld dat de acceptatie van een kind met een beperking samenhangt met de attitude van klasgenoten. Naast deze uitkomsten bleek dat de attitude van leerlingen beïnvloed wordt door het type beperking; leerlingen zijn het meest positief over kinderen met een verstandelijke beperking en het minst positief ten opzichte van kinderen met gedragsproblemen. Tevens bleek dat de attitude van leerkrachten negatief gerelateerd is aan de attitude van leerlingen, terwijl de attitudes van ouders en hun kind positief gerelateerd zijn aan elkaar.

Hoofdstuk 7 beschrijft een onderzoek waarin diverse factoren *gerelateerd* worden aan de acceptatie en vriendschappen van kinderen met een beperking. In een cross-sectioneel onderzoek is er gekeken naar de invloed van persoonlijke-, klasgenoten- en klasfactoren op de acceptatie en vriendschappen van kinderen met AD/HD en ASS ($N=65$). De uitkomsten lieten zien dat een klein percentage van de leerlingen een klasgenoot van het tegenovergestelde geslacht nomineert als vriend(in). Op basis hiervan concludeerden we dat het opnemen van geslacht in de analyses zou leiden tot onbetrouwbare uitkomsten. Dit heeft ertoe geleid dat we de netwerken van jongens en meisjes apart geanalyseerd hebben. Met betrekking tot de *persoonlijke factoren* bleek dat het sociale gedrag van meisjes met een beperking van invloed is op hun acceptatie door klasgenoten. De andere factoren (leeftijd en type beperking) hadden geen invloed op de acceptatie. De acceptatie van jongens met een beperking werd door geen van hun persoonlijke factoren beïnvloedt. De attitudes van jongens en meisjes is als *klasgenoten factor* geanalyseerd. We vonden verschillende uitkomsten voor jongens en meisjes: de individuele attitude van meisjes is gerelateerd aan de acceptatie van meisjes met een beperking, terwijl deze relatie bij jongens niet gevonden werd. Hoewel de groepsattitude van jongens was gerelateerd aan de acceptatie van jongens met een beperking, was deze relatie bij meisjes niet gevonden. Met betrekking tot de *klasfactoren* is er gekeken naar de invloed van de aanwezigheid van de klas-assistent op de acceptatie van jongens en meisjes met een beperking. De uitkomsten hebben uitgewezen dat de aanwezigheid van een klas-assistent een negatieve invloed heeft op de acceptatie van jongens met een beperking. Vanwege een te kleine steekproef kon deze relatie niet worden vastgesteld voor meisjes. De aanwezigheid van een klas-assistent heeft tevens een negatieve invloed op de vriendschappen van jongens met een beperking. De overige factoren waren niet van invloed op de vriendschappen van zowel jongens als meisjes met een beperking.

In **hoofdstuk 8** staat een interventieonderzoek centraal met als doel het *verbeteren* van de attitudes van basisschoolleerlingen ten opzichte van kinderen met een lichamelijke, verstandelijke en ernstige meervoudige beperking. Om de attitude te verbeteren werd er een interventie ontwikkeld voor kleuters en basisschoolleerlingen. Deze interventie bestaat uit een project van drie weken en bevat in totaal zes lessen over de drie eerdergenoemde type beperkingen. De onmiddellijke en lange termijn effecten van het project op de attitudes van leerlingen werden onderzocht in een quasi-experimenteel longitudinaal onderzoek. In totaal hebben er twee scholen meegedaan als experimentele groep ($N=98$)

en drie scholen als controlegroep ($N= 195$). De uitkomsten van het onderzoek geven aan dat de interventie een positief effect heeft op de attitude van kleuters, maar dat er geen lange termijn effecten zichtbaar waren. De interventie had geen onmiddellijke en lange termijn effecten op de attitude van basisschoolleerlingen.

Het laatste hoofdstuk, **hoofdstuk 9**, beschrijft de belangrijkste uitkomsten van het onderzoek en geeft antwoord op de centrale vraag in het onderzoek. Het bevat in de eerste plaats de voornaamste bevindingen die beschreven zijn in de verschillende hoofdstukken. Daarnaast beschrijft het hoofdstuk de beperkingen en sterke punten van het onderzoek. Er wordt gereflecteerd op het onderzoek en vooruitgeblikt op toekomstig onderzoek. Het hoofdstuk presenteert een model waarin de meest belangrijke uitkomsten van het onderhavige onderzoek zijn weergegeven. Dit model geeft aanknopingspunten voor toekomstig onderzoek en het opzetten van interventiestudies om de sociale participatie van leerlingen met een beperking in het regulier basisonderwijs te verbeteren.

Dankwoord

(Acknowledgements)

*Geloof in dat wat je prettig doet voelen.
Geloof in wat je gelukkig maakt.
Geloof in de dromen
die je altijd gekoesterd hebt
En geef ze alle kans om uit te komen.*

*Het leven doet geen beloftes
over wat je ten deel zal vallen.
Je moet naar je eigen idealen zoeken
en werken aan het realiseren daarvan.
Het leven geeft geen garanties
voor wat je zult hebben of bezitten.
Het geeft je louter de tijd om keuzes te maken
en kansen te wagen
En te ontdekken wat voor geheimen
je op je weg zult tegenkomen.*

*Als je bereid bent
de kansen te grijpen die je geboden worden
en de vermogens te benutten die je bezit,
Zullen zich in je leven
speciale momenten en
onvergetelijke tijden aaneenrijgen.
(Dena Dilaconi)*

Zonder Doel in het Leven is ook de Weg niet van Belang

Toen ik ongeveer vier jaar geleden op Schiphol was om mijn eerste buitenlandse reisje als AiO te maken zag ik een kaart hangen met de bovenstaande tekst erop. De tekst raakte me gelijk; dit om verschillende redenen. Ten eerste omdat het aangeeft dat het belangrijk is om een doel te hebben in het leven. Ten tweede laat de tekst zien dat ‘een doel op zich’ niet alleen belangrijk is. De weg die leidt naar het doel is minstens zo belangrijk. Mijn ogen vielen destijds vooral op de eerste woorden: *zonder doel in het leven*....Een paar maanden voor de start van mijn promotieonderzoek kwam ik plotseling op een kruispunt te staan en moest ik op zoek naar een nieuw doel in mijn leven. Door te solliciteren op het promotieonderzoek ‘de sociale participatie van kinderen met een beperking in het reguliere basisonderwijs’ ontstond er (zonder dat ik het wist!) een nieuw doel en daarmee een nieuwe weg: mijn AiO-weg.

We zijn nu vier jaar later, en inmiddels weet ik dat ‘het doel op zich’ niet het belangrijkste is. Hoewel ik blij ben dat ik de laatste meters van mijn AiO-weg bijna ga afleggen, ben ik vooral erg blij met de weg die ik in de afgelopen jaren heb bewandeld en me naar het doel heeft geleid. Ik kijk terug op een zeer zonnige weg en heb genoten van alle kansen en mogelijkheden die ik heb gekregen! Veel mensen ben ik dankbaar voor dit feit, want zonder hen was het nooit zo’n zonnige weg geworden. Er zijn namelijk nogal wat mensen die met mij mee hebben gewandeld tijdens het afleggen van mijn AiO-weg. Sommige van hen hebben de hele route intensief met mij meegewandeld (mijn complimenten voor het uithoudingsvermogen!), anderen stonden aan de kant van de weg om me aan te moedigen en weer anderen hebben een bepaald stuk van de route met me meegewandeld. In dit dankwoord wil ik hen graag op persoonlijke wijze bedanken.

Sip Jan, als eerste promotor heb jij waarschijnlijk het meest intensief met mij meegewandeld (jij krijgt dus de meeste complimenten voor het uithoudingsvermogen!). In de afgelopen jaren is het mij opgevallen dat je regelmatig de volgende uitspraak liet vallen:

“Uiteindelijk staan we allemaal in de rij bij de bakker”

Oftewel: ook wetenschappers zijn maar heel gewoon. Als nuchtere noorderling spraken deze woorden me erg aan en hebben ze ervoor gezorgd dat ik mezelf ben gebleven in de afgelopen jaren. Ik heb jouw vele relativerende uitspraken en woorden dan ook als erg leerzaam ervaren. Als ik weer eens enthousiast je kamer binnen stormde met een idee, wist jij altijd de juiste vragen te stellen waardoor het idee uiteindelijk (vaak) beter werd. Maar, soms probeerde je me ook een stapje langzamer te laten lopen omdat ik weer eens neiging had om een sprintje te trekken en daardoor te veel hooi op mijn vork nam. Dank je wel daarvoor! Daarnaast heb je me wegwijs gemaakt in een voor mij nieuwe wereld: de wereld van de wetenschap. De vrijheid die ik heb gekregen om mezelf te ontwikkelen als onderzoeker heb ik enorm gewaardeerd. Jouw inhoudelijke kennis rondom ‘Inclusief Onderwijs’ heeft me geïnspireerd en door de vele inhoudelijke discussies heb ik geleerd om ‘beide kanten van de medaille te bekijken’ (soms tot vervelends toe). Een tijdje geleden vroeg een goede bekende van jou aan mij hoe ik het vond om jou als begeleider te hebben en hij grapte daarbij het volgende: “Well, there are good and bad things in life.” Well, Sip

Jan, bij deze kan ik je zeggen: ‘this was a good thing.’ Ik had me geen betere begeleider voor kunnen stellen en heb me – mede dankzij jouw begeleiding – heel erg gelukkig gevoeld in de afgelopen jaren. Er zijn dan ook geen woorden voor om mijn dank volledig uit te drukken. Daarom maar heel eenvoudig: dank je wel! Dank je, voor het intensief meewandelen, het aanmoedigen en voor de nieuwe wegen die hierdoor zijn geopend.

Alexander, jij bent in de rol van tweede promotor ook erg betrokken geweest bij de weg die ik heb bewandeld in de afgelopen jaren. Als ik weer eens met 80 km/u door de bocht wilde gaan zorgde jij ervoor dat ik op tijd terug schakelde of soms zelfs weer een stukje terug moest lopen (lees: analyse opnieuw uitvoeren of artikel aanpassen ☺). Ik ben je erg dankbaar voor de methodologische en inhoudelijke kennis die je me hebt meegegeven in de afgelopen jaren. Ik heb genoten van de (weliswaar kritische) overleggen met z’n drieën, waarin een brede glimlach altijd kenmerkend was. Jouw vragen tijdens onze overleggen waren altijd erg scherp en prikkelend. Je hebt veel vertrouwen naar me uitgestraald en mijn initiatieven altijd ondersteund. Dit heb ik erg gewaardeerd. Dank je wel, voor het meewandelen en het aanmoedigen in de afgelopen jaren.

Ook zonder mijn lieve AiO-collega’s had de zon niet zoveel geschenen tijdens het bewandelen van mijn AiO-weg. Ik ben jullie allemaal erg dankbaar voor de fantastische tijd die ik met jullie door heb gebracht. De gezellige lunches, uitjes, spellenavonden, inhoudelijke discussies of gewoon koffiedrink momenten zal ik niet vergeten! Carolien, bedankt voor de gezellige salsa-avonden en de tomtom functie die bij jou altijd aanstond om me door te stad te leiden ☺. Tim, jij hebt als een soort fysiotherapeut gefunctioneerd in de afgelopen jaren. Door jouw vasthoudendheid om mensen mee te krijgen voor de lunch is menig nek-, rug- en schouderklacht minder geworden. Dank hiervoor! Aafke, bedankt voor je betrokkenheid, de gezellige gesprekken en (niet te vergeten) de spelletjesavonden. Mijntje, wat heerlijk en gezellig dat de koffie ‘s ochtends vaak al klaar stond/staat! Dank je wel hiervoor. Jantine, bedankt voor de gezelligheid tijdens de ORD, de stimulerende gesprekken en de betrokkenheid die je altijd toont! Het is altijd gezellig als jij binnen wandelt. Annemiek, met jou als kamergenoot heb ik het erg getroffen. Bedankt voor de inhoudelijke discussies, adviezen, APA-helpdesk, keus uit vele theesmaken en ijsbonbons. Maar bovenal wil ik je bedanken voor de gezelligheid en het feit dat we ongestoord met oordopjes door konden werken ☺.

De AiO’s van de differentiatie leerproblemen – Arnout, Kim, Marlous, Bé en Barry – wil ik bedanken voor de betrokkenheid en de leuke gesprekken tijdens onze AiO-leerproblemen overleggen. Arnout, in het bijzonder wil ik jou bedanken voor je betrokkenheid in de afgelopen jaren. Dank je wel voor de gezellige koffiedrink momenten, de borrels, de entjes, het lenen van je auto en je vriendschap.

Ook de andere collega’s van de afdeling Orthopedagogiek, en in het bijzonder de collega’s van de differentiatie leerproblemen, wil ik bedanken voor de fijne tijd die ik heb gehad met jullie. Laura, een speciaal bedankje aan jou: bedankt voor het meegaan in mijn

enthousiasme (!), je betrokkenheid en de gezellige tijd als clubje ‘inclusief onderwijs’ ☺. De fijne sfeer op de afdeling Orthopedagogiek en binnen de differentiatie leerproblemen heeft er mede voor gezorgd dat het voor mij een zeer zonnige AiO-weg is geworden. Dank jullie wel allemaal!

Marloes, helaas sloeg jij halverwege mijn AiO-weg een andere weg in. Toch hebben we de eerste twee jaren een stuk met elkaar opgetrokken en hebben we onder andere een aantal leuke conferenties bezocht. Als we niet samen naar Vienna waren gegaan, hadden we deze stad waarschijnlijk nooit gevonden ☺. Ondanks dat je nu niet meer een directe collega bent, hebben we altijd goed contact met elkaar gehouden. Bedankt voor de gezelligheid en de betrokkenheid die je in de afgelopen jaren hebt getoond.

Wendy, deze uitspraak is voor jou:

Makkelijker kunnen we het niet maken....wel leuker ☺.

Hoewel ik het uitvoeren van statistische analyses in eerste instantie als een obstakel zag, heb jij er voor gezorgd dat zelfs de zon scheen bij deze onderdelen van mijn AiO-weg. Jij bent in staat om de donkere wolken vol cijfers en onzekerheid boven iemands hoofd weg te halen en dat is een bijzondere eigenschap. *Ik* durf in ieder geval met 95% zekerheid te zeggen dat mijn AiO-weg veel zonniger is geworden door jou. Dank je, voor de statistische kennis die je me hebt bijgebracht, je tijd, je oprechtheid, je geduld, je aanstekelijke lach, je enthousiasme, het mee-stuiteren (!) en de gezellige tijd tijdens het onderzoekspracticum!

Marieke Timmerman, ook jou wil ik bedanken voor de aanmoedigingen die je me hebt gegeven tijdens het uitvoeren van het onderzoek naar de vragenlijstconstructie en de evaluatie ervan. Die aanmoedigingen zijn heel erg nodig geweest, want wat heb ik zitten mokken op de Mokkenanalyse! Zonder jouw vele aanmoedigingen, tijd en geduld was hoofdstuk 5 er misschien wel nooit gekomen. Dank je wel voor de prettige samenwerking, je kritische opmerkingen en de statistische kennis die je me hebt gegeven!

I would like to say some special words to some colleagues abroad. First of all I would like to thank Prof. Paddy Favazza. Dear Paddy, when I sent you an email about your research and possibilities for collaboration you responded very enthusiastic. When I visited you at the Rhode Island College in Providence (RI, USA) we spent time talking about research interests, collaboration and ideas for future research. My visit has led to more knowledge about the Special Friends program, which was imperative for my intervention study and future ideas. Thank you. I hope our paths will cross again in near future. God bless you! Secondly, I would like to thank Prof. Per Frostad from the University of Trondheim in Norway. Thank you, Per, for teaching me how to work with UciNet and Negopy. It was a pleasure to stay some days in Trondheim and see the beauty of your country.

Goele, ik wil ook graag een persoonlijk woord van dank aan jou richten. Onze onderzoeken hebben veel raakvlakken waardoor we in de afgelopen jaren regelmatig contact met elkaar hebben gehad. Een spontaan ideeetje tijdens een conferentie heeft er

uiteindelijk toe geleid dat we een internationale vergelijking hebben kunnen uitvoeren wat heeft geresulteerd in een erg leuk artikel. Dank je wel, voor de gezelligheid tijdens de conferenties, de prettige samenwerking en de tijd die je in Groningen hebt doorgebracht. Ik hoop dat we onze samenwerking kunnen voortzetten in de toekomst. Katja, ook jou wil ik bedanken voor het prettige contact in de afgelopen jaren. Daarnaast wil ik je bedanken voor je deelname aan de beoordelingscommissie. In verband met de afronding van dit proefschrift wil ik ook jullie, Wied Ruijsenaars en Dolf van Veen, bedanken voor jullie deelname aan de beoordelingscommissie.

Er zijn in de afgelopen jaren veel basisscholen geweest die aan een bepaald onderdeel van mijn onderzoek hebben meegedaan. Via deze weg wil ik jullie graag bedanken voor jullie medewerking. Zonder jullie had dit onderzoek nooit uitgevoerd kunnen worden. Een bijzonder woord van dank wil ik uitspreken naar de – inmiddels – Brede School 't Sterrenpad in Nuis. Het is geweldig om te zien hoe jullie proberen 'inclusief onderwijs' vorm te geven. Zonder jullie had de interventiestudie nooit plaatsgevonden. Bedankt voor jullie medewerking!

Naast alle basisscholen is mijn dank ook groot aan alle studenten die in de afgelopen jaren betrokken zijn geweest bij mijn onderzoek. Bedankt voor de gezelligheid en inzet die jullie hebben getoond. Ik heb veel plezier beleefd aan de begeleiding die ik jullie mocht geven.

Friendship doubles joys, and cuts grief in halves

Elaine, I also would like to say some special words of thanks to you. We met each other during my master research which I (partly) performed in Brasília in 2006. You were there to guide me through Brasília when I was there for the first time. You were also there when my life turned upside down and supported me at the time everything in my life changed. When you visited us in Groningen last year, we both realized that if we would not have met each other some years ago, my life would have been completely different. More importantly, I never would have started my PhD-research. So, thank you! Thank you for being there 6 years ago...and thank you for still being my friend!

Inge, we kennen elkaar al heel wat jaren waardoor je een heel stabiele factor in mijn leven bent. Jouw verhalen over de weerbarstige orthopedagogische praktijk maken me er altijd van bewust dat onderzoek op het gebied van de orthopedagogiek heel hard nodig is. Bedankt voor de belangstelling en betrokkenheid die je in de afgelopen jaren hebt getoond. Maar bovenal bedankt voor je vriendschap, de gezellige momenten en dat je er altijd voor me bent.

In het bijzonder wil ik nog wat woorden van dank richten tot mijn lieve vriendinnen Anna-Lynn, Alie en Itty (in het Fries): wat bin ik in ryk minske mei jimme as leave freondinnen! As fjouwer musketiers kinne we altyd fan elkoar op oan. Alle gesellige jûnsjes fuort, saunabezoekjes, de wykeintsjes en de fekânsje op Kreta hawwe soarge foar in hearlike

ôfleiding yn de ôfrûne jieren. Efkes lekker los gean, it gefoel ‘ik hald fan de wrâld’ krije ☺ en net oan it wurk tinke: dat kin by én mei jimme! It hat my goed dien en bin jimme dêr hiel tankber foar. Itty, dy wol ik graach yn it bysunder noch betankje. Do rinst as freoninne al hiel wat jieren intensyf mei op myn wei. Do wiest’ der tiidens in protte moeilike mominten yn de ôfrûne jieren. Do hast my altyd oanmoedige, stipe en bist der altyd foar my. Bedankt, foar dyn stipe, freonskip en dyn leafde!

Other things may change us, but we start and end with the family

Familie De Vries, ik wil jullie bedanken voor de gezellige weekenden die Erik en ik de afgelopen jaren bij jullie hebben gehad. In de trein nog even efficiënt werken/studeren, en daarna in het Brabantse alles loslaten. Het is heerlijk om tijd bij jullie door te brengen en weg te zijn van alles thuis. De gezelligheid van jullie allemaal, Max & Ria, Bart & Lizet en kleine Tijn natuurlijk, Stephanie & Joep, heeft voor veel zonnestrallen gezorgd. Dank jullie wel!

Als orthopedagogen weten we als geen ander hoe belangrijk de opvoeding van een kind is. Daarom mijn grootste dank en waardering voor mijn lieve ouders (ook weer in het Fries).

Leave heit en mem; doe't ik fjouwer jier lyn op in krúspunt stie wisten ek jimme net hokker wei ik it bêste ynslaan koe. It wie in tiid dy't foar ús allegeare net maklik wie. Mar jim wiene der foar my en dat wie genôch. Jim hawwe my altyd de freiheit jûn om mysels te ontwikkeljen en 100% fertrouwen útstrale yn de keuzes dy't ik makke (hoe moeilijk se soms ek wiene foar jimme). Ik bin jimme der hiel tankber foar. Ek yn de ôfrûne jieren hawwe jim in protte belutsenhyd toand foar it wurk; efkes in mailtsje fan heit, in smske tiidens konferinsjes, of in tillifoantsje om te hearren hoe't it mei de studenten giet. Mar ek jimme doar stiet altyd iepen wêtroch't it echt thúskommen is yn Ferwert. Bedankt dêr foar. Boppe dat wol ik jim betankje foar jimme ûnfoarwaardlike stipe en leafde. Dêrsûnder wie ik nea de persoan wurden dy't ik no bin!

Mei myn twa leave broers, Steven en Dirk-Jelke, ha'k it bot troffen. Jim binne der altyd foar my en we kinne fan elkoar op oan. It is hearlik om mei syn allen thús te wêzen, by te praten en lekker gek te dwaan. Tanke foar jim belutsenhyd en dat jimme dêr altyd foar my binne.

Ek myn beppes wol ik betankje foar hun belutsenhyd yn de ôfrûne jieren. Ik fiel my in ryk minsk mei twa geweldige beppes yn myn libben. Jim binne altyd belangstellend en belutsen by wat ik doch. Betanke dêr foar!

Beter een goede buur(man) dan een verre vriend

Lieve Erik, wat ben ik blij dat onze wegen samen zijn gekomen! Gelukkig heb jij een goede conditie en ben je altijd opgewekt en positief. Al deze dingen waren noodzakelijk, want jij hebt erg intensief met mij mee gewandeld in de afgelopen jaren. Jij bent niet zomaar iemand die met me mee wandelde. Nee, jij was mijn zonnetje tijdens de donkere

dagen. Als er een wolkje boven mijn hoofd dreef, zorgde jij er altijd voor dat deze verdween. Je hebt me de afgelopen jaren geweldig gesteund en aangemoedigd om mezelf verder te ontwikkelen. Ik ben je hier erg dankbaar voor. Een luisterend oor, afleiding door het spelen van Scrabble (of een van de vele andere spelletjes), lekkere maaltijd, kritische toehoorder en vragen steller, of helpdesk voor Excel....ik kon voor alles bij je terecht. Dank je wel! Ik kijk er naar uit om onze weg samen voort te zetten want met jou is het leven altijd zonnig!

Er zijn nog twee mensen die ik in het bijzonder als laatste wil bedanken omdat zij de laatste meters van mijn AiO-weg met mij mee zullen lopen, in de vorm van paranimf.

There is no way to happiness – happiness is the way

Lieve Vera, onze AiO-wegen zijn al vrij snel bij elkaar gekomen waardoor we het grootste gedeelte van de weg intensief met elkaar samen hebben gewandeld. We hebben veel aan elkaar gehad in de afgelopen jaren en elkaar regelmatig aangemoedigd. 's Ochtends de computer opstarten en ondertussen koffie/thee drinken, even snel binnenlopen voor een vraagje, inhoudelijke discussies, ideeën uitwisselen over (toekomstig) onderzoek, praktische handigheidjes over Word of Excel delen, worstelen met vraagstukken rondom data en analyses, of gewoon als een (figuurlijke) boksbal fungeren: niks was te veel voor jou. Bedankt voor de vele zonnestrallen die er door jou zijn ontstaan! Maar bovenal bedankt voor je betrokkenheid, aanmoedigingen, steun, vriendschap en dat je de laatste meters mee wilt lopen in de vorm van paranimf.

With a friend at your side no road seems too long

Lieve Marlous, wat ben ik blij dat we elkaar vier jaar geleden hebben leren kennen! Vanaf het begin van de AiO-weg hebben we veel met elkaar opgetrokken en hebben we lief en leed met elkaar gedeeld. Je bent er in de afgelopen jaren altijd voor mij geweest en daar ben ik je erg dankbaar voor. Je hebt me erg geholpen tijdens de eerste 'kilometers' van mijn AiO-weg door me wegwijs te maken in de academische wereld, en hebt me daarnaast erg gesteund in een voor mij moeilijke tijd. Ik wil je bedanken voor de vele gezellige koffie- theedrink momenten, de stapavonden, de vrijdagmiddag borrels (uiteraard met Rosé(bier) en bitterballen ☺), etentjes, heerlijke gebakjes bij de Kosterij en de gezellige dagjes weg. Maar bovenal wil ik je bedanken voor de goede gesprekken, de aanmoedigingen, de steun, en de vele momenten waarop we samen verschrikkelijk hebben gelachen. Bedankt voor je vriendschap en dat je er altijd voor me bent! Ik voel me een heel rijk mens met jou als collega, maatje en lieve vriendin. Nu mijn AiO-weg hier stopt, ben ik dan ook erg dankbaar dat je de laatste meters met mij meeloopt in de vorm van paranimf.

Mijn dank is groot aan jullie allemaal!

