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Students' Attitudes towards Peers with Disabilities: A review of the literature

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The trend towards inclusive education has led to an increase of studies focusing on peer attitudes. This review study presents an overview of studies describing attitudes of students, variables relating to students' attitudes, and the relationship between students' attitudes and the social participation of peers with disabilities. Based on a literature search we selected 20 studies that were conducted in seven different countries. 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 (i.e., gender, age, experience with and knowledge about disabilities, parental influence). Moreover, the results indicate that attitudes of peers relate to the social participation of students with disabilities. Implications of the findings are discussed in terms of promoting positive attitudes of peers.

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

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 (United Nations Educational, Scientific and Cultural Organization, 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 probably explained by the direct link between the main philosophy behind inclusive education and the social

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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 peers. Studies show that although the majority of students with disabilities seem to function well socially in regular schools, certain individuals experience difficulties in obtaining acceptance and friendship (Bramston, Bruggeman, & 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, such as 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 typically developing students. Stoneman (1993) states that negative attitudes may be just as obstructive as physical barriers, limiting those with disabilities from participating 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, such as depression and other mental health issues (Aluede, Adeleke, Omoike, & Afen-Akpaída, 2008; Lund et al., 2009).

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

The ongoing trend towards inclusive education and difficulties experienced by students with disabilities in social participation led to an expansion of studies focusing on the attitudes of students without disabilities over the last decade. An overview of these studies, including their outcomes and variables in relation to peer 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 students without disabilities and the social participation of students with disabilities. In order to broaden our knowledge about these three aspects, a review study was set up to describe: students' attitudes towards peers with disabilities, which variables relate to students' attitudes, and 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 of “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: “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). Attitudes are furthermore considered to consist of three components: cognitive, affective, and 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. Owing 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 Analysis of Studies section, more detailed explanation is given about the use of this framework.

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, such as 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 that 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*, and *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 that 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 focusing on general terms (e.g., disabilities).
- (4) Included an instrument to measure the attitudes of elementary school students which is considered to be psychometrically robust (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 1). However, it is likely that more than one

Table 1. Number of rejected studies according to the selection criteria, first filtering.

Criteria	<i>n</i>
Did not focus on attitudes of regular primary school students	351
Did not focus on the inclusion of students with special educational needs in regular primary education	50
Did not focus on attitudes of students towards one of the specified types of special educational needs	24
Did not include a measurement based on appropriate psychometric properties	0
Total	425

criterion was not met. The outcome of this first filtering resulted in 47 studies being assessed for further analysis. Of those studies, 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, 23 articles were deleted from the database because they did not satisfy the criteria. Some studies did not contain empirical data (seven studies), or did not focus on students in regular/primary education (six studies). 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. Lastly, six studies did not use an instrument that was psychometrically robust. Deleting the 23 articles led to a final database of 20 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.

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 special needs" were classified under the cognitive component. Items such as "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 five-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 five-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 the 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 five-point Likert scale). The reverse held for negative scores. Scores were counted as neutral if the percentage of positive scores was between 30% and 70%, or if the mean score was between 2.5 and 3.5. For questionnaires that did not use a five-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 ($p < 0.05$) are described in the Results section.

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 ($n = 14$). 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 2. The outcomes of the studies per attitude component are then described, and summarised in Table 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 summarises the studies that examined the relationship between students' attitudes and one of the themes of the social participation of peers with disabilities.

Results 1: Attitudes of 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 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, Mouratidou, Evaggelinou, Koidu, and Barkoukis (2011) indicated that students held positive attitudes towards peers with a physical disability. Moreover, the study of Beck, Fritz, Keller, and Dennis (2000) showed positive attitudes of students towards peers with language problems. Nikolarazi and De Reybekiel (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.

Table 2. Descriptive summary of the selected studies and outcomes of studies that described attitudes in general terms ($n = 6$).

Authors	Country	n	Age	Instrument	Type of disability ^a	Outcomes ^b	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 Nikolarazi et al. (2005)	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	+/-	

Notes: AATAAC = Attitudes Toward Augmentative/Alternative Communication; ASK-R = Acceptance Scale for Kindergarten—Revised; CAIPE-R = Children's Attitudes Towards Integrated Physical Education—Revised; CATCH = Chedoke McMaster's Attitudes Toward Children with Handicaps. ^aNot specified means that the general term "disabilities" is used in the instruments. ^bStudy 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 3. Descriptive summary of the selected studies and outcomes of studies that described attitudes according to (one of the) attitude components ($n = 14$).

Authors	Country	n	Age	Instrument	Type of disability ^a	Outcome per attitude component ^b			Attitudes and social participation
						C	A	B	
7 Campbell, Ferguson, Herzinger, Jackson, & Marino (2004)	USA	576	8–12	ACL/SAQ-SF	Autism	+/-		+/-	
8 Dyson (2005)	Canada	77	4–6	PSSHS	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 Morgan, Bieberich, & Walker (1998)	USA	120	9–12	SAQ	Physical	+/-		+/-	
14 Morton & Campbell (2008)	USA	296	8–12	ACL/SAQ-SF	Autism	+/-		+/-	
15 Nowicki (2006)	Canada	100	4–10	MRAS/PS/BIS	Physical, intellectual	+/-	+	+	
16 Okagaki, Diamond, Kontos, & Hestenes (1998)	USA	36	3–6	PS/SPST-R, dolls	Physical, language	+/-		+/-	X
17 Siperstein, Parker, Bardon, & Widaman (2007)	USA	5837	11–14	BIS	Intellectual			+/-	
18 Sliminger, Sherrill, & Jankowski (2000)	USA	79	8–11	ACL/BIS	Severe intellectual	+		+	
19 Swaim & Morgan (2001)	USA	233	8–12	ACL/SAQ	Autism	+		+/-	
20 Vignes et al. (2009)	France	1509	12–13	CATCH	Not specified	+/-	+/-	+/-	X

Notes: ACL = Adjective Checklist; BIS = Behavior Intention Scale; CATCH = Chedoke McMaster's Attitudes Toward Children with Handicaps; MRAS = Multi-Response Attitude Scale; NPAS = Nondisabled Peers' Acceptance Scale; PATHS = Peer Attitudes Toward the Handicapped Scale; PS = Pictorial Scale; PSSHS = Primary Student Survey of Handicapped Persons; SAQ-SF = Shared Activity Questionnaire-Short Form; SPST-R = Social Problem-Solving Test—Revised. ^aNot specified means that the general term "disabilities" is used in the instruments. ^bStudy 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. C = cognitive; A = affective; B = behavioural.

Students' Beliefs and Knowledge about Peers with Disabilities

A total number of 12 studies included the cognitive component, whereby students' beliefs and knowledge about peers with disabilities were examined. Eight 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 (nine studies). Two 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 Godreau et al. (2010) revealed positive outcomes, while Vignes et al. (2009) revealed neutral 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 hold positive feelings.

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. Eight studies revealed that students held neutral behavioural intentions, whereas four studies found positive behavioural intentions of students.

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. Owing to the fact that there was insufficient data per variable across the three attitude components per type of disability, the results are described in general terms. Table 4 presents an overview of the variables, relevant studies and overall outcomes.

Gender and Age

Seven studies addressed gender differences in attitudes 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.

Three studies examined the effect of age on students' attitudes. Two studies indicated that older students held more positive attitudes. The study of Swaim and Morgan (2001) found that younger students were more positive.

Type of Disability

Two studies 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 with peers with physical disabilities.

Table 4. Summary of variables examined in the selected studies.

Variable	Studies	Overall significant outcomes
Gender	2, 5, 12, 15, 17, 18, 20	Girls hold more positive attitudes
Age	15, 20	Older students are more positive
	19	Younger students are more positive
Experience ^a	3, 4, 5, 17, 18	Positive effect of experience on students' attitudes
	1, 10, 20	Negative effect of experience on students' attitudes
Knowledge	6, 7, 11, 20	Knowledge about disabilities showed positive effect
Parental influence	20	Positive parental attitudes are related to their children
Type of disability	12	Most positive attitudes: sensory and physical disabilities
	15	Least positive attitudes: behaviour problems
		Most positive: physical disability
		Least positive: intellectual disability

Note: ^aExperience is measured in terms of the presence of inclusive units in schools or the presence of a peer with a disability in class.

Other Variables

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. Five 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 that provided knowledge about disabilities within an educational project. By means of pre-tests and post-tests, differences in attitudes were examined. Both the studies by Kim, Park, and Snell (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. The studies by Campbell et al. (2004) and by Swaim and Morgan (2001) examined the effect of descriptive information about autism on students' attitudes. Campbell et al. showed that such information positively affected students' behavioural intentions but had no effect on the cognitive component.

The study by Vignes et al. (2009) examined whether receiving information about disabilities from parents relates to their children's attitudes and found a positive relationship between the two variables.

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

Three of the 20 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, Diamond, Kontos, and Hestenes (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.

Discussion

Proponents of inclusive education have argued that students with disabilities attending regular schools should lead to increasing opportunities for their social participation (United Nations, 2006). However, being physically included in regular schools does not automatically result in positive acceptance or friendships (Pijl, 2005). 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 that 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, this indicates that such neutral scores also imply a number of students with negative attitudes.

Regarding the three attitude components, this study showed that the majority of studies focused on the cognitive and the behavioural components 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 behavioural 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 that 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 the 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 five-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.

Regarding 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, such as gender and age, experience with inclusive education and knowledge about disabilities. It is interesting to note that the meta-analysis of Nowicki and Sandieson (2002) also found gender, age and experience as relating variables, but did not describe an effect of knowledge about disabilities on students' attitudes. This study showed that students become more accepting when their knowledge and understanding about peers with disabilities increase. It seems that more understanding has been gained in the past decade about how to improve attitudes using interventions. With respect to such interventions, it seems logical to focus on variables that can be used to manipulate attitudes such as knowledge about disabilities. This is a valuable result as it can be seen as a starting point for intervention, as proposed in recent intervention studies (Holtz, 2007; Krahe & Altwasser, 2006). Within the educational context it seems possible to use information about disabilities—such as storytelling, books, posters and videos—to foster more positive attitudes among typically developing children (Favazza, 1993). 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 in terms of negative attitudes of 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., 2012), 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 those outcomes it can be carefully concluded that positive attitudes of peers are important for successful social outcomes of inclusive education. However, it seems a challenging route to foster more positive attitudes among peers as their attitudes are influenced by different variables. Based on the outcomes of this current study we want to recommend focusing in future studies on interventions to improve the attitudes of students. Such intervention should incorporate different perspectives, such as parental involvement, knowledge about and experience with peers with disabilities. Ultimately, this may lead to effective interventions whereby students with disabilities can better participate socially in regular education.

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