Parental Attitudes Toward the Inclusion of Children With Profound Intellectual and Multiple Disabilities in General Primary Education in the Netherlands

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Abstract

Despite the growing introduction of inclusive education, children with profound intellectual and multiple disabilities (PIMD) are barely included. Because an underlying factor here may be the attitudes of those directly involved, the present study focuses on the attitude of parents and relating variables concerning experience with individuals with disabilities. A self-report questionnaire was completed by 190 parents of children attending general primary schools in the north of the Netherlands. Although parents showed an overall positive attitude, they were most negative about the inclusion of children with PIMD. In addition, no "experience with individuals with disabilities" was slightly negatively associated with the parents' attitudes. To overcome barriers of the inclusion of children with PIMD, such as negative parental attitudes, the outcomes of the present study are discussed in the light of possible interventions.

Keywords

inclusive education, children with profound intellectual and multiple disabilities, parents attitude

While children with disabilities have been educated in segregated settings in the past, recent developments in policy (such as the Salamanca Statement; United Nations Educational, Scientific, and Cultural Organization, 1994) and the United Nations (UN) Convention on the Rights of Persons with a Disability (UNCRPD; United Nations, 2006) have led to the growing introduction of inclusive education (Downing & Peckham-Hardin, 2007; Nakken & Pijl, 2002). Inclusive education refers to children with disabilities attending general education classrooms in neighborhood schools alongside their typically developing peers. To facilitate this, they need to be provided with the necessary services and support (Rafferty, Boettcher, & Griffin, 2001). The Netherlands is one of the countries that signed the UNCRPD, indicating that the Dutch government will facilitate the inclusion of children with disabilities in general classrooms in future.

In the progress toward the realization of inclusive education, parents of children with disabilities have played a key role. They are seen as a driving factor behind inclusive education because it is they who take the initiative to place their child with a disability in a general school (Warnock, 1979). While parents mention different motives for their choice, one recurring motive is the social participation of their child (Scheepstra, Nakken, & Pijl, 1999). However, critics describe a number of discrepancies between theory and

inclusive practice. Although children with disabilities may be physically included nowadays, social inclusion is not guaranteed (Pijl, 2005). On the contrary, children with disabilities in general schools often experience peer rejection, bullying, and victimization (Wendt, 1999; Yude, Goodman, & McConachie, 1998). In the end, poor peer relationships can lead to problems concerning emotional well-being (Hay, Payne, & Chadwick, 2004).

In contrast, other studies emphasize the benefits from inclusive education for both children with and without disabilities. Children with disabilities can have the opportunity to engage in social interaction more frequently and thereby be positively influenced in developing their social skills (Wendt, 1999). This is especially true for the development of communication skills (Fisher & Meyer, 2002). Furthermore, several studies describe gains in academic skills when children with disabilities are included in general school settings (Hunt, Soto, Maier, & Doering, 2003; Wendt, 1999). Similarly, inclusive education may also lead

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to positive outcomes in terms of social and academic skills for children without disabilities (Wehmeyer & Lee, 2007).

While parental support and involvement have been described as a facilitating factor in the realization of inclusion (Palmer, Fuller, Arora, & Nelson, 2001), two groups of parents are identified: those of children *with* disabilities and those of children *without* disabilities. As mentioned before, parents of children with disabilities have different motives regarding inclusive education and often prefer general schooling for their child. However, parents of children without disabilities hold neutral, though less positive, attitudes (Stoiber, Gettinger, & Goetz, 1998). This group of parents has worries about possible negative effects of unusual behavior of children with disabilities on their own children. Moreover, they also wonder whether teachers are qualified enough in educating children with disabilities (Rafferty et al., 2001). Consequently, the negative attitudes of parents may hinder the inclusion of students with disabilities. In addition, parents are role models for their children and attitudes can be transferred (Katz & Chamiel, 1989). When parents do not support inclusion, they might negatively influence a child's attitude and behavior (De Boer, Pijl, Post, & Minnaert, 2012). Negative attitudes of parents toward inclusion may also demotivate teachers to commit themselves to realizing inclusive practice.

In the current study, the term *attitude* is defined as "an idea charged with emotion which predisposes a class of actions to a particular class of social situation" (Triandis, 1971, p. 2). According to this definition, attitudes are considered to have three components: cognitive, affective, and behavioral (Triandis, 1971). With respect to attitudes of parents, the cognitive component reflects beliefs toward inclusive education, such as the rights of children with disabilities to be educated in general schools; the affective component reflects feelings, such as worries about the effect of including a child with a disability in their child's class; whereas the behavioral component reflects the intentions to behave in a particular way, such as inviting a child with a disability to their child's birthday party.

Parental attitudes are influenced by several factors, such as personal ones like education level (Balboni & Pedrabissi, 2000) and socio-economic status (Tafa & Manolitsis, 2003). To promote more positive attitudes, it seems better to focus on environmental factors that can be changed, or at least influenced, through interventions for instance. An important environmental factor to consider is "direct and indirect experience with individuals with disabilities." Research showed that parents with such experience, as well as with inclusion, hold more positive attitudes than those who do not (Kalyva & Agaliotis, 2009; Nowicki, 2006). Thereby, the type of contact (i.e., direct or indirect contact with individuals with disabilities) may influence attitudes differently. The effect of contact on people's attitudes can be underlined with the Contact Theory of Allport (1954) and it

is widely known as the "intergroup contact hypothesis." This theory states that, under appropriate conditions, interpersonal contact is one of the most effective ways to reduce prejudice. If people have the opportunity to communicate with others, they are able to learn from each others' points of view. Through this, appreciation and understanding develop whereby prejudice and stereotyping should diminish. This, in the end, should lead to better interaction between people. In the context of the present study, this means that parents with more direct contact (e.g., having a child with a disability) may hold more positive attitudes than parents with indirect contact (e.g., knowing someone with a disability). However, the differing effects on parental attitudes have not yet been examined.

Besides the influence of personal and environmental factors, parents' attitudes are influenced by the type of disability (Leyser & Kirk, 2004). Although attitudes toward children with motor or sensory impairments have been described as positive, parents had doubts about the inclusion of children with behavioral problems or more severe disabilities (De Boer, Pijl, & Minnaert, 2010). The latter group may be most difficult to include in general schools.

In line with these results, little has been achieved in including children with profound intellectual and multiple disabilities (PIMD) in general classrooms (Ward, 2006). Although the severity of PIMD may vary—sensory disabilities and health problems are also common in these children—all need pervasive support in their daily lives (Nakken & Vlaskamp, 2007). When children with PIMD are included in general classrooms, peers may be "frightened" by the severity of the disabilities (e.g., the use of a wheelchair, difficulties in talking, uncontrolled movements; Eckert et al., 2006; Vlaskamp, Poppes, & Zijlstra, 2005). Parents and teachers for their part see designing and providing a meaningful and inclusive curriculum to children of the target group as a critical issue (Wall, 2002; Weaver, Byers, Sears, Cohen, & Randall, 2002). In the scientific literature, only a small number of studies that describe inclusion of children with PIMD in general schools are available (Lazarus & Callahan, 2000; Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008).

Despite the importance of the attitude of parents toward the inclusion of children with PIMD in general schools, it is unknown to what extent parents differ in their attitudes toward children with PIMD and related disability types. Moreover, we wanted to understand whether direct and indirect experiences with children with disabilities were associated with parents' attitudes. This study attempts to fill in these two gaps of knowledge. To compare the attitude of parents toward the inclusion of children with PIMD with related groups of children, we focused on three disability groups: students with an intellectual disability, those with a motor disability, and those with PIMD.

The research questions of the present study were as follows:

Research Question 1: What attitudes do parents hold toward the inclusion of children with a motor disability, an intellectual disability, or PIMD in general primary education in the Netherlands?

Research Question 2: What direct and indirect experiences with children with disabilities relate to attitudes of parents toward the inclusion of children with a motor disability, an intellectual disability, or PIMD in general primary education in the Netherlands?

Method

Design and Procedure

The current study is part of a larger study, which investigated the attitudes of those directly involved in the inclusion of students with disabilities in Dutch general education (see De Boer, Pijl, Minnaert, & Post, 2014). For the present study, we focused on parents' attitudes toward students with a motor disability, an intellectual disability, or PIMD in general primary education in the Netherlands.

As this study was part of a larger study, we chose to use similar instruments for all three target groups (i.e., teachers, parents, and students). Hence, attitudes of parents were assessed by means of a self-report questionnaire. Before the data-collection started, parents were asked to give their consent about their child's participation. Moreover, the planned data collection among parents was also mentioned in the letter of consent. After collecting the data from the students, each student received an envelope for his or her parent(s)/caregiver(s). This envelop comprised a letter with more detailed information about the study, an invitation to participate, a questionnaire, and a return envelope.

Participants

We approached 12 general primary schools (students' age 4–12 years), which were randomly selected from a list of schools situated in the same district in the north of the Netherlands. A total number of eight schools agreed to participate. For the present study, all parents of the participating students were also invited to complete a questionnaire ($N = 494$). One hundred and ninety parents returned the questionnaire (response rate 38.5%). Table 1 presents the demographic characteristics of the parents.

Variables

Attitudes. We used the Attitude Survey toward Inclusive Education (ASIE) to measure parents' attitudes. The ASIE was a self-report questionnaire that consisted of demographic questions (e.g., gender, years of teaching

Table 1. Demographic Characteristics of Parents ($N = 190$).

Demographics[a]	Variables	N (%)
Gender	Male	48 (25)
	Female	141 (75)
Age	25–35 years	23 (12)
	36–45 years	120 (64)
	46–55 years	46 (24)
	55+ years	—
Education level	Low	14 (7.5)
	Average	91 (50)
	High	81 (43.5)
Having a child with a disability	No	150 (79)
	Yes	38 (21)
Attendance of a child with a disability in the class of own child	No	87 (48)
	Yes	93 (52)
Familiarity with someone with a disability	No	31 (17)
	Yes	156 (83)
Vignette	Motor disability	62 (33)
	Intellectual disability	67 (35)
	PIMD	61 (32)

Note. PIMD = profound intellectual and multiple disabilities.
[a]Due to missing values, the number sometimes does not correspond with the sample size.

experience, etc.), a vignette, and 23 attitude statements. The vignette described a hypothetical child with a disability.

Based on the purpose of our study, we developed three different vignettes: John, a child with a motor disability; Janet, a child with an intellectual disability; and Jacob, a child with PIMD (see the appendix). After the first author had drawn up these vignettes, an administrator with a degree in special needs education verified them in a second step. Parents randomly received a questionnaire, including one of these vignettes. After reading the vignette, parents were asked to indicate their degree of agreement with attitude statements based on a 5-point Likert-type scale (1 = *totally disagree*, 5 = *totally agree*). A higher score, thereby, reflected a more positive attitude.

The ASIE was constructed and evaluated in a study by De Boer, Timmerman, Pijl, and Minnaert (2012). The authors analyzed the item quality of each questionnaire using the Mokken model (Mokken, 1971), based on Item Response Theory. The outcomes of the analysis showed a satisfactory scalability coefficient ($H = 0.40$) and a high reliability coefficient ($\rho = 0.92$). For the current study, we tested the reliability of the questionnaire using Cronbach's alpha and showed a high internal consistency ($\alpha = .91$).

Experience. We used the following four demographic questions to measure direct and indirect experience with

Table 2. Statements Reflecting Parental Attitudes Toward Children With Disabilities Per Disability Type.

Statements	MD		ID		PIMD	
	M	*SD*	*M*	*SD*	*M*	*SD*
Beliefs of parents						
I believe including John is not beneficial for regular students (R).	4.55	0.66	4.05	0.96	3.92	1.01
Students like John have the right to be educated in the same classrooms as their counterparts without disabilities.	4.15	0.86	3.77	0.96	3.48	1.05
Regular schoolteachers cannot meet the individual needs of students like John appropriately (R).	3.09	0.95	2.58	1.15	2.41	1.15
Feelings of parents						
I wouldn't mind if my child invited John to his or her birthday party.	4.24	0.82	4.08	0.88	3.95	0.82
I would mind if John would be my child's best friend (R).	4.30	0.85	4.10	0.81	3.77	0.86
I would worry if John sat next to my child in class (R).	4.39	0.74	3.90	0.93	3.82	1.09
Behavioral intentions of parents						
I would let my child invite John to play at our house.	4.42	0.82	4.32	0.70	4.21	0.78
I would not know what to say to a child like John (R).	4.30	0.63	4.21	0.63	3.98	0.56
I would stick up for John if he was being teased (R).	4.30	0.70	4.16	0.73	4.26	0.66
Overall attitude score	4.14	0.41	3.91	0.51	3.77	0.44

Note. The name used in the statements depends on the vignettes (see the appendix). MD = motor disability; ID = intellectual disability; PIMD = profound intellectual and multiple disabilities; R = reverse coding.

disabilities, including (a) having a child with a disability, (b) child's type of disability, (c) attendance of a child with a disability in the class of own child, and (d) familiarity with someone with a disability. The first, third, and fourth questions could be answered by yes/no. To answer the second question, parents could tick a disability type(s).

Analysis

To gain more insight into parents' attitudes, we analyzed descriptive statistics such as means and standard deviations. The descriptive statistics are presented for several individual items reflecting the three attitude components (i.e., beliefs, feelings, and behavioral intentions). We performed ANOVA to analyze the possible effect of background variables such as gender, age, and education level (including interaction effects) on parents' attitudes. Moreover, we performed ANOVAs to analyze whether there were differences between parents' mean attitude scores for each vignette. When possible, we executed post hoc tests (Tukey).

To answer the second research question, we performed independent *t* tests with the variables measuring "experience" as a grouping variable (see Table 1). When analyzing the responses of parents, it turned out that, 20 of the 38 parents indicated having a child with a behavior problem such as attention deficit hyperactivity disorder or autism spectrum disorder (see Table 1). Besides these behavior problems, children were described as "typically developing" (indicating the absence of any other disability such as a sensory, motor, or intellectual disability). The responses of the remaining 18 parents were spread out over other disability types (e.g., sensory disability, intellectual disability). Hence, we decided to make a new variable including three groups: no child with a disability, having a child with a disability, and having a child with a behavior problem. An ANOVA was used to analyze whether parents' responses differed, including post hoc tests (Turkey). For all analyses, we applied a significance level of .05.

Results

Looking at the overall attitude of parents toward the three groups of children with disabilities, the results of the descriptive statistics revealed a mean attitude score of 3.95 (*SD* = 0.48). When analyzing individual items more in depth, it turned out that parents' beliefs about the inclusion of students with disabilities were positive. However, parents scored lower on the item about the preparedness of general schoolteachers, indicating that parents hesitate more about this aspect of inclusion. Regarding the feelings of parents, the descriptive statistics showed that parents are not very much worried about getting in contact with children with disabilities. For example, parents would not mind if their child would like to invite a child with a disability to his or her birthday party. The scores on the items reflecting behavioral intentions of parents show similar outcomes: Parents are quite positive and indicate that they would behave positively toward a child with a disability. Table 2 presents descriptive statistics of different attitude statements for the three attitude components.

Furthermore, several background variables were related to the attitudes. The analyses for gender revealed a

significant difference between male and female parents, $t(176) = -2.21$, $p = .028$, $d = -0.39$, indicating that mothers hold more positive attitudes than fathers. In addition, we found an overall significant effect of age, $F(2) = 4.52$, $p = .012$. Post hoc analysis showed that parents aged 25 to 35 years hold significantly more positive attitudes than parents aged 36 to 45 years ($p = .019$, $d = .62$). No differences between the other age groups were found, neither was there an effect of education level. Due to the small number of participants, no interaction effects could be analyzed.

When comparing the mean attitude scores of parents per vignette, the outcomes revealed a significant overall effect, $F(2) = 10.77$, $p < .000$. Post hoc analysis showed that parents are significantly more positive about including children with a motor disability than a child with an intellectual disability ($p = .014$, $d = 0.51$). Moreover, parents hold markedly more positive attitudes toward a child with a motor disability than one with PIMD ($p < .00$, $d = 0.88$). No difference was found between the attitude scores toward children with an intellectual disability and PIMD ($p = .211$, $d = 0.30$).

Looking at the effect of the variables measuring "experience with individuals with disabilities" on parents' attitudes, we found that parents who had a child with a disability showed slightly more positive attitudes than parents who do not. The mean attitude scores of parents having a child with a behavior problem was the most positive, compared with parents without a child with a disability and parents with a child with other disability types. Similarly, parents whose child already had a classmate with a disability or were familiar with someone with a disability had a slightly more positive attitude toward the inclusion of children with a disability than those who did not (see Table 3).

When testing the effects of the different variables measuring "experience," it turned out that only the variable "child's type of disability" revealed significant outcomes, $F(2) = 4.22$, $p = .016$. These tests revealed that parents having a child with a behavior problem hold significantly more positive attitudes than parents having no child with a disability ($p = .029$, $d = 0.60$), or parents with a child with other disability types ($p = .021$, $d = 0.95$). No difference was found between the attitudes of parents of children without disability and parents of children with other disability types ($p = .546$, $d = 0.31$). Due to the small number of participants, no interaction effects could be analyzed.

Discussion

The aim of the present study was to fill the gap of knowledge about the attitude of parents toward the inclusion of children with PIMD in general school settings in the Netherlands. Based on the responses of 190 parents to a self-report attitude questionnaire (ASIE), we conclude that parents are generally positive toward the inclusion of children with a disability. The results show that attitudes significantly differ for the different disability types (children with a motor disability, an intellectual disability, or PIMD). Parents were most positive about the inclusion of children with a motor disability and most negative about the inclusion of a child with PIMD. Analyzing the effect of background variables on parents' attitudes showed an effect of gender and age, indicating that mothers hold more positive attitudes than fathers and younger parents are more positive than older ones.

Moreover, we conclude that parents with some type of experience with an individual with disabilities hold slightly more positive attitudes about the inclusion of a child with disabilities. However, only one significant result has been found when looking at variables that relate to parents' attitude. Parents having a child with behavior problems showed most positive attitudes toward the inclusion of children with disabilities in general school settings.

Although parents' attitudes are generally quite positive, the results of this study show that this is not the case when it comes to the inclusion of children with PIMD. At the same time, the inclusion of children of this target group is a relatively new development. When inclusive education was introduced, the focus was on students with relatively mild disabilities: This focus shifted more and more toward the inclusion of students with PIMD only in recent years. Now a growing number of initiatives are being undertaken, which focus explicitly on the inclusion of children of this target group (De Boer et al., 2014; Lazarus & Callahan, 2000; Vignes et al., 2008). Yet, parents and teachers do wonder how to achieve inclusion that is also beneficial for a child with PIMD (Downing & Peckham-Hardin, 2007). Although some of these children may benefit from being taught in a general school, others may be overwhelmed by the large number of stimuli and may miss the extra attention from a teacher that they would receive in a segregated school setting (Foreman, Arthur-Kelly, Pascoe, & King, 2004). Consequently, full inclusion may not always be a desirable solution for all children with PIMD.

Furthermore, we found that fathers and older parents hold a more negative attitude toward the inclusion of children with PIMD in general classrooms. An explanation for this result might be that these groups of parents experienced less contact with individuals with disabilities in the past. Historically, mothers are often those mainly involved in the daily life of their children, whereas fathers spend a large amount of their time at work. When mothers pick their children from school or from a meeting with friends, this may lead to more direct contact with children with disabilities for mothers compared with fathers. The older parents, for their part, may only have experienced inclusion recently. Because inclusive education has only been introduced in the last decennia, those who went to school earlier may not

Table 3. Attitude Scores Compared for Parents With/Without Experience of Disabilities.

Demographics	Variables	Attitude M	SD
Having a child with a disability[a]	Yes	4.08	0.49
	No	3.92	0.47
Child's type of disability	None	3.93	0.47
	Behavior problem	4.23	0.52
	Other disability type	3.80	0.37
Attendance of a child with a disability in the class of own child	Yes	3.99	0.47
	No	3.93	0.49
Familiarity with someone with a disability	Yes	3.96	0.48
	No	3.93	0.48

[a]For the number of parents per group, we refer to Table 1.

be familiar with having contact with individuals with disabilities.

Zooming in on the parents' answers to the different attitude statements, our study showed that parents hesitate about teachers' competencies in terms of meeting the needs of children with PIMD in general education. Because teachers themselves also express similar doubts, teacher training programs to promote inclusive education have been developed and implemented over the past 10 years (Edwards, Carr, & Siegel, 2006; Leblanc, Richardson, & Burns, 2009; Sharma, Forlin, & Loreman, 2008). These programs focus on the teachers' attitudes, knowledge, and skills and appear to have had a positive effect on teachers. However, no teacher training program is available to prepare teachers for the inclusion of children with PIMD. At the same time, the special needs of the students of this target group and, for the Dutch situation, the new Inclusive Education Act in 2014 make it even more important to provide teachers with additional support. Therefore, training teachers on how to communicate effectively with such children is especially complex and also urgently needed (Arthur-Kelly, Foreman, Bennett, & Pascoe, 2008). Only if teachers and parents are convinced about the feasibility of inclusive education can children with PIMD be included in general school settings in the future.

Besides describing the attitudes of parents, we also aimed to find out whether direct and indirect experience with children with disabilities relates to parents' attitudes. We found a remarkable result when comparing parents who did not have a child with a disability, parents who had a child with a behavior problem, and parents who had a child with another disability type. Parents who had a child with a behavior problem were the most positive compared with the other two groups. For the other three tested variables, no significant outcomes were found. Although contact with people with disabilities is seen as one of the most effective ways to improve attitudes (see the Contact Theory of Allport [1954]), we did not apply this theory completely. According to Allport, four conditions should be met to reduce prejudice: equal group status in the situation, common goals, intergroup cooperation, and support of authorities, law, or custom. When applying the theory in the context of inclusive education, Slininger, Sherrill, and Jankowski (2000) suggest that structured contact between individuals with and without disabilities needs to be characterized by several other features as well. According to them, contact has to be frequent, interactive, pleasant, focused on common goals, meaningful, promoting respect, and long. Because we did not control for these features when investigating the impact of contact on the parents' attitudes in the present study, future studies need to test whether this theory holds for parental attitudes toward the inclusion of children with PIMD. Yet, investigating the relation between interventions including these features and attitude changes may remain a challenging goal.

Interventions such as disability awareness programs may add to the knowledge of parents about children with disabilities and thus help to promote a more positive attitude toward the inclusion of these children in general school settings. Although programs to teach children about their peers with disabilities are available for different target groups (e.g., children with a motor disability or children with an intellectual disability) and different ages, outcomes on the effects of these interventions are contradictory. Studies focusing on the same age, for example, revealed positive effects (Krahé & Altwasser, 2006; Rillotta & Nettelbeck, 2007), whereas others did not find positive effects (Bell & Morgan, 2000; Godeau et al., 2010). Programs focusing on children with PIMD are rarely available (De Boer et al., 2014). Furthermore, parents are often not part of these programs. However, because they influence their children's attitudes (Innes & Diamond, 1999), the effectiveness of such programs might increase when parents are more involved (e.g., by reading story books about children with disabilities at home). Based on the results of our study, we suggest in addition that a stronger emphasis should be given

to fathers and older parents in these programs, as they showed more negative attitudes.

When interpreting the results of the present study, some limitations have to be taken into account. First, we cannot exclude the effects of variables that are bi-directional. Although more contact of parents with children with disabilities can lead to a more positive attitude, parents with a more positive attitude may also facilitate more contact with children with disabilities. In general, the development of attitude has been described as a dynamic process including different variables interacting with each other (MacMillan & Morrison, 1984). Second, using a self-report questionnaire may have led to socially desirable answers of the parents (Paulhus & Vazire, 2010). Although parents may have indicated in the questionnaire that they would be willing to invite a child with PIMD to their homes, they may not do so when such a situation arises in their actual life. Therefore, an additional observation of actual behavior could have revealed information about the discrepancies between answers and behavior. However, to obtain similar data for all three target groups (i.e., teachers, parents, and students) involved in the larger study, we used the questionnaire. Yet, future studies including several measurements (such as questionnaires and observations) may complement the results of the present study.

In conclusion, our study shows that we are only at the beginning of the road toward including children with PIMD in general school settings. Based on the UNCRPD (United Nations, 2006), children of this target group have the right to attend school alongside their typically developing peers. However, the successful realization of this depends, among others, on effective interventions that focus on improving attitudes of those directly involved.

Appendix

Vignettes Used in the Attitude Survey Toward Inclusive Education (ASIE)

John: A boy showing aspects of a motor disability.
John is a boy of primary school age and has just moved to your town. He attends the same class as your child. John has difficulty in walking. He walks with leg braces, uses crutches, and sometimes needs a wheelchair for daytrips with his family. John is not always able to attend school as he often needs to visit a doctor who helps him with his walking. John is a good learner and has a sense of humor. At school, he uses a computer because he is a slow writer. Sometimes it is also difficult to understand what John says.

Janet: A girl showing aspects of an intellectual disability.
Janet is a girl of primary school age and has just moved to your town. She is in the same class as your child. Janet has just started to read and write but has difficulty with math. Although Janet can run and play like other children, she sometimes forgets the rules of certain games. She needs extra time to learn her work and can be forgetful in class. Sometimes it is difficult to understand what Janet says. She enjoys playing music. For part of the day, Janet receives extra learning assistance outside the classroom.

Jacob: A boy showing aspects of profound intellectual and multiple disabilities.
Jacob is a boy of primary school age and has just moved to your town. He attends the same class as your child. Jacob's hearing and sight are good, but he has difficulty with learning and talking. Jacob has his own teacher who helps him with his lessons. He uses a wheelchair which he drives himself, and can also walk short distances. Jacob has difficulty playing as he is easily distracted. Because he cannot talk, he often makes noises or smiles when he likes something. Jacob enjoys music and can play with a musical box for a long time.

Authors' Note

Declaration of Conflicting Interests

Funding

References

Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.

Arthur-Kelly, M., Foreman, P., Bennett, D., & Pascoe, S. (2008). Interaction, inclusion, and students with profound and multiple disabilities: Towards and agenda for research and practice. *Journal of Research in Special Educational Needs*, *8*, 161–166.

Balboni, G., & Pedrabissi, L. (2000). Attitudes of Italian teachers and parents toward school inclusion of students with mental retardation: The role of experience. *Education & Training in Mental Retardation & Developmental Disabilities*, *35*, 148–159.

Bell, S. K., & Morgan, S. B. (2000). Children's attitudes and behavioral intentions toward a peer presented as obese: Does a medical explanation for the obesity make a difference? *Journal of Pediatric Psychology*, *25*, 137–145. doi:10.1093/jpepsy/25.3.137

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*, 165–181.

De Boer, A. A., Pijl, S. J., Minnaert, A. E. M. G., & Post, W. J. (2014). Evaluating the effectiveness of an intervention program to influence attitudes of students towards peers with disabilities. *Journal of Autism and Developmental Disorders*, *44*, 572–583. doi:10.1007/s10803-013-1908-6

De Boer, A. A., Pijl, S. J., Post, W. J., & Minnaert, A. E. M. G. (2012). Which variables relate to the attitudes of teachers, parents, and peers towards students with special educational needs in regular education? *Educational Studies*, *38*, 433–448.

De Boer, A. A., Timmerman, M. E., Pijl, S. J., & Minnaert, A. E. M. G. (2012). The psychometric evaluation of a questionnaire to measure attitudes towards inclusive education. *European Journal of Psychology of Education*, *27*, 573–589.

Downing, J. E., & Peckham-Hardin, K. (2007). Inclusive education: What makes it a good education for students with moderate to severe disabilities? *Research and Practice for Persons With Severe Disabilities*, *32*, 16–30.

Eckert, T. L., Lovett, B. J., Rosenthal, B. D., Jiao, J., Ricci, L. J., & Truckenmiller, A. J. (2006). Class-wide instructional feedback: Improving children's academic skill development. In S. V. Randall (Ed.), *Learning disabilities (New research)* (pp. 167–185). Hauppauge, NY: Nova Science Publishers.

Edwards, C. J., Carr, S., & Siegel, W. (2006). Influences of experiences and training on effective teaching practices to meet the needs of diverse learners in schools. *Education*, *126*, 580–592.

Fisher, M., & Meyer, L. H. (2002). Development and social competence after two years for students enrolled in inclusive and self-contained educational programs. *Research and Practice for Persons With Severe Disabilities*, *27*, 165–174.

Foreman, P., Arthur-Kelly, M., Pascoe, S., & King, B. S. (2004). Evaluating the educational experiences of students with profound and multiple disabilities in inclusive and segregated classroom settings: An Australian perspective. *Research and Practice for Persons With Severe Disabilities*, *29*, 183–193.

Godeau, E., Vignes, C., Sentenac, M., Ehlinger, V., Navarro, F., Grandjean, H., & Arnaud, C. (2010). Improving attitudes towards children with disabilities in a school context: A cluster randomized intervention study. *Developmental Medicine & Child Neurology*, *52*, 236–242.

Hay, D. F., Payne, A., & Chadwick, A. (2004). Peer relations in childhood. *Journal of Child Psychology and Psychiatry*, *45*, 84–108.

Hunt, P., Soto, G., Maier, J., & Doering, K. (2003). Collaborative teaming to support students at risk and students with severe disabilities in general education classrooms. *Exceptional Children*, *69*, 315–332.

Innes, F. K., & Diamond, K. E. (1999). Typically developing children's interactions with peers with disabilities: Relationships between mothers' comments and children's ideas about disabilities. *Topics in Early Childhood Special Education*, *19*, 103–111.

Kalyva, E., & Agaliotis, I. (2009). Can contact affect Greek children's understanding of and attitudes towards peers with physical disabilities? *European Journal of Special Needs Education*, *24*, 213–220. doi:10.1080/08856250902793701

Katz, S., & Chamiel, M. (1989). Relationship between children's ages and parental attitudes, and their attitudes toward a child with a physical disability. *International Journal of Rehabilitation Research*, *12*, 190–192.

Krahé, B., & Altwasser, C. (2006). Changing negative attitudes towards persons with physical disabilities: An experimental intervention. *Journal of Community & Applied Social Psychology*, *16*, 59–69. doi:10.1002/casp.849

Lazarus, B., & Callahan, T. (2000). Attitudes towards reading expressed by elementary students diagnosed with learning disabilities. *Reading Psychology*, *21*, 271–282.

Leblanc, L., Richardson, W., & Burns, K. A. (2009). Autism spectrum disorder and the inclusive classroom: Effective training to enhance knowledge of ASD and evidence-based practices. *Teacher Education and Special Education*, *32*, 166–179.

Leyser, Y., & Kirk, R. (2004). Evaluating inclusion: An examination of parent views and factors influencing their perspectives. *International Journal of Disability, Development & Education*, *51*, 271–285.

MacMillan, D. J., & Morrison, G. M. (1984). Sociometric research in special education. In R. L. Jones (Ed.), *Attitudes and attitude change in special education: Theory and practice* (pp. 93–117). Reston, VA: Council for Exceptional Children.

Mokken, R. J. (1971). *A theory and procedure of scale analysis*. The Hague, The Netherlands: Mouton.

Nakken, H., & Pijl, S. J. (2002). Getting along with classmates in regular schools: A review of the effects of integration on the development of social relationships. *International Journal of Inclusive Education*, *6*, 47–61.

Nakken, H., & Vlaskamp, C. (2007). A need for a taxonomy for profound intellectual and multiple disabilities. *Journal of Policy and Practice in Intellectual Disabilities*, *4*, 83–87.

Nowicki, E. A. (2006). A cross-sectional multivariate analysis of children's attitudes towards disabilities. *Journal of Intellectual Disability Research*, *50*, 335–348.

Palmer, D. S., Fuller, K., Arora, T., & Nelson, M. (2001). Taking sides: Parent views on inclusion for their children with severe disabilities. *Exceptional Children*, *67*, 467–484.

Paulhus, D. L., & Vazire, S. (2010). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Kruger (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). New York, NY: Guilford.

Pijl, S. J. (2005). Interventies gericht op sociale integratie: Training van sociale vaardigheden voor leerlingen met beperkingen in het reguliere onderwijs [Interventions which aim at social integration: Social skills training for pupils with disabilities in mainstream education]. In B. F. van der Meulen, C. Vlaskamp, & K. C. van den Bos (Eds.), *Interventies in de orthopedagogiek* [Interventions in Special Needs Education] (pp. 122–135). Rotterdam, The Netherlands: Lemniscaat b.v.

Rafferty, Y., Boettcher, C., & Griffin, K. W. (2001). Benefits and risks of reverse inclusion for preschoolers with and without disabilities: Parents' perspectives. *Journal of Early Intervention*, *24*, 266–286.

Rillotta, F., & Nettelbeck, T. (2007). Effects of an awareness program on attitudes of students without an intellectual disability towards persons with an intellectual disability. *Journal of Intellectual and Developmental Disability*, *32*, 19–27.

Scheepstra, A. J. M., Nakken, H., & Pijl, S. J. (1999). Contacts with classmates: The social position of pupils with Down's

syndrome in Dutch mainstream education. *European Journal of Special Needs Education*, *14*, 212–220.

Sharma, U., Forlin, C., & Loreman, T. (2008). Impact of training on pre-service teachers' attitudes and concerns about inclusive education and sentiments about persons with disabilities. *Disability & Society*, *23*, 773–785.

Slininger, D., Sherrill, C., & Jankowski, C. M. (2000). Children's attitudes toward peers with severe disabilities: Revisiting contact theory. *Adapted Physical Activity Quarterly*, *17*, 176–196.

Stoiber, K. C., Gettinger, M., & Goetz, D. (1998). Exploring factors influencing parents' and early childhood practitioners' beliefs about inclusion. *Early Childhood Research Quarterly*, *13*, 107–124.

Tafa, E., & Manolitsis, G. (2003). Attitudes of Greek parents of typically developing kindergarten children towards inclusive education. *European Journal of Special Needs Education*, *18*, 155–171.

Triandis, H. C. (1971). Attitudes measurement and methodology. In H. C. Triandis (Ed.), *Attitudes and attitude change* (pp. 26–59). New York, NY: John Wiley.

United Nations. (2006). *Convention on the rights of persons with disabilities and optional protocol*. New York, NY: Author.

United Nations Educational, Scientific, and Cultural Organization. (1994). *The Salamanca statement and the framework for action on special needs education*. Paris, France: Author.

Vignes, C., Coley, N., Grandjean, H., Godeau, E., & Arnaud, C. (2008). Measuring children's attitudes towards peers with disabilities: A review of instruments. *Developmental Medicine & Child Neurology*, *50*, 182–189.

Vlaskamp, C., Poppes, P., & Zijlstra, R. (2005). *Een programma van jezelf: een opvoedingsprogramma voor kinderen met zeer ernstige verstandelijke en meervoudige beperkingen* [A program for yourself: An individual educational program for children with profound intellectual and multiple disabilities]. Assen, The Netherlands: Koninklijke Van Gorcum.

Wall, R. (2002). Teachers' exposure to people with visual impairments and the effect on attitudes toward inclusion. *Re:View*, *34*(3), 111–120.

Ward, J. (2006). Review of inclusion in action. *Educational Psychology*, *26*, 595–598.

Warnock, M. (1979). Children with special needs: The Warnock Report. *British Medical Journal*, *1*, 667–668.

Weaver, A. D., Byers, K. S., Sears, H. A., Cohen, J. N., & Randall, H. E. S. (2002). Sexual health education at school and at home: Attitudes and experiences of New Brunswick parents. *Canadian Journal of Human Sexuality*, *11*(1), 19–32.

Wehmeyer, M. L., & Lee, S. H. (2007). Educating children with intellectual disability and autism-spectrum disorders. In A. Carr, G. O'Reilly, P. N. Walsh, J. McEvoy, & J. McEvoy (Eds.), *The handbook of intellectual disability and clinical psychology practice* (pp. 559–605). New York, NY: Routledge.

Wendt, L. H. (1999). A survey of regular education teachers' attitudes toward their included students. *Humanities and Social Sciences*, *60*, 343.

Yude, C., Goodman, R., & McConachie, H. (1998). Peer problems of children with hemiplegia in mainstream primary schools. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *39*, 533–541.