Social Participation of Students with Special Needs in Regular Primary Education in the Netherlands

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This study addresses the social participation of young students (Grades One to Three) with special needs in regular Dutch primary schools. More specifically, the focus lies on four key themes related to social participation: friendships/relationships, contacts/interactions, students’ social self-perception, and acceptance by classmates. The outcomes of the study revealed that the majority of students with special needs have a satisfactory degree of social participation. However, compared with students without special needs, a relatively large portion of the students with special needs experience difficulties in their social participation. In general, students with special needs have a significantly lower number of friends and are members of a cohesive subgroup less often than their typical peers. In addition, students with special needs have fewer interactions with classmates, have more interactions with the teacher, and are less accepted than students without special needs. The social self-perception of both groups of students does not differ. A comparison between students with different categories of disability regarding the four themes of social participation revealed no significant differences.

Keywords: inclusive education; social participation; special needs

Introduction

Educating students with special needs in inclusive classrooms is an important objective of the educational policy of many countries. Inclusion of students with special needs is increasingly promoted worldwide. Recent data show that a growing number of parents have opted for regular education for their child with special needs, and the number of students with special needs attending regular education has increased substantially in recent decades (Ferguson, 2008). Parents often name academic advantages as positive benefits of their child’s regular school placement (Frederickson, Dunsmuir, Lang, & Monsen, 2004). However, parents’ main motive for sending their child with special needs to a regular school and blocking referral to a special school seems to be the increased social opportunities for the child (Scheepstra, 1998, cited in Nakken & Pijl, 2002; Sloper & Tyler, 1992). They hope their child can build positive relationships with typically developing peers in their neighbourhood school.

International studies have repeatedly shown, however, that including students with special needs does not automatically lead to an increase of friendships between students with special needs and their counterparts; that is, students without special needs (Buysse, Davis Goldman, & Skinner, 2002; Guralnick, Neville, Hammond, & Connor, 2007; Lee,

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A study by Frostad and Pijl (2007) of Norwegian inclusive classrooms suggests that nearly one-quarter of students with special needs have serious difficulties forming relationships with their peers, while this situation is true for only 8% of their typically developing peers. Several studies have found that within the group of students with special needs, students diagnosed as having autistic spectrum disorders and students diagnosed as having serious behavioural disorders find it particularly difficult to build relationships with typical peers and are at risk of becoming isolated in the classroom (Chamberlain, Kasari, & Rotheram-Fuller, 2007; De Monchy, Pijl, & Zandberg, 2004; Garrison-Harrell, Kamps, & Kravits, 1997). However, students with mild disabilities also report a higher degree of social dissatisfaction with their peer relationships, when compared with their typical counterparts (Taylor, Asher, & Williams, 1987, cited in Gresham & McMillan, 1997), and show significantly higher loneliness scores (Heiman & Margalit, 1998; Lackaye & Margalit, 2006; Pavri & Monda-Amaya, 2000; Williams & Asher, 1992).

The experience of segregation in the early school years seems to threaten children’s social development directly. They lack contacts with peers, do not develop age-appropriate social skills and may develop negative self-concepts (Bender & Wall, 1994; Cambra & Silvestre, 2003), which might lead to externalising (e.g., aggression) and internalising problems (e.g., anxiety; Durrant, Cunningham, & Voelker, 1990). Frostad, Mjaavatn and Pijl (in press) found that children with special needs tend to hold separated social positions in the classroom over time, which implies that isolation is a fairly stable phenomenon. From an intervention perspective, it is important to monitor and evaluate the social outcomes of inclusion in the early school years and, if needed, to develop interventions geared to preventing children from becoming isolated.

One problem with evaluating the social aspects of inclusion is the ambiguity of the concepts used by researchers. As described by Koster, Nakken, Pijl, and Van Houten (2009), different concepts are adopted to describe the social dimension of inclusion. Three umbrella concepts – namely, social participation, social integration and social inclusion – are used frequently by researchers. However, there is a lack of clarity about their meaning. A review by Koster et al. (2009) of 62 articles published in international scientific journals, aimed at elucidating the social dimension of inclusion in primary education, showed that the three concepts are often described loosely, with only a few researchers providing explicit definitions or descriptions. In the majority of articles, implicit descriptions could be derived from the instruments used to measure the concepts. When researchers elaborated the concepts they often overlapped, and in research practice they hardly differed from each other. Koster et al. (2009) therefore recommend using the concept of “social participation”. In addition, the review further made clear that several researchers describe social participation as the number of friendships between students (e.g., Harper, Maheady, Mallette, & Karnes, 1999; Hunt, Alwell, Farron-Davis, & Goetz, 1996), whereas others emphasise the importance of interactions between students or their social self-concept (e.g., Kamps, Dugan, Potucek, & Collins, 1999; Luette-Stahlman, 1995; Pavri & Luftig, 2000), or tend to restrict their description of social participation to typical peers’ acceptance of students with special needs (e.g., Odom, 2000; Stanovich, Jordan, & Perot, 1998). The analysis of the literature revealed that four key themes central to social participation could be identified: student’s social self-perception, acceptance by classmates, friendships/relationships, and contacts/interactions. This resulted in the following description of social participation:

Social participation of students in regular primary education is the presence of positive social contact/interaction between them and their classmates; acceptance of them by their classmates; social relationships/friendships between them and their classmates, and the students’ perception that they are accepted by their classmates. (Koster et al., 2009, p. 135)
In most studies that assess the social participation of students with special needs, only one or two of these themes are included. However, it does seem important to encompass all four key themes, in order to have a balanced view of the students’ social participation.

The current study examines the social participation of students with special needs in regular Dutch primary schools. The focus is on students in Grades One to Three (US grade level notation, children aged between six and nine years), a crucial age period in the lives of children during which friendships and contacts become more stable and close (Berndt, 2004). Resulting from the above literature review and understanding of social participation, the following research questions are formulated:

1. Does the social participation of students with special needs in regular primary schools differ from the social participation of students without special needs?
2. Does the social participation of various categories of students with disabilities differ?

Method

Overall Design

This study addresses the social participation of students with special needs in regular Dutch primary schools. In answering the research questions, it focuses on the four key themes of social participation mentioned above: students’ social self-perception, acceptance by classmates, friendships/relationships, and contacts/interactions. Each of these key themes would have been assessed by individual instruments; however, this would result in the completion of four instruments per student and in disturbing classrooms for at least 120 minutes. Experiences from previous projects show that this would most probably result in a high number of non-responding schools, thereby affecting the generalisability of the study findings. Since the study was purely descriptive and relations between the four aspects of social participation were not at stake, it was decided to split the data collection into two rounds of data gathering in two separate samples of schools. In each round, two key themes of social participation were assessed. There were no disadvantages of this approach with respect to answering the research questions, and it reduced the time spent in the classrooms, to a maximum of 60 minutes. Descriptions of both the participants and the instruments are provided below.

Participants

Since a new Special Education Law, the “Centres of Expertise Act” (Wet op de Expertise Centra; Ministerie van OCW, 2003) came into force in the Netherlands in August 2003, parents of children with special needs have had the right to choose between regular and special education for their child. Students with auditory, speech/language, motor, intellectual or multiple disabilities as well as severe behavioural, emotional and/or psychiatric problems can attend a regular school. This is funded in the form of a student-bound budget (financial “backpack”). Only students who, on the basis of formal comprehensive assessment procedures, have been categorised as having special needs qualify for this budget, which provides extra educational support. Using comprehensive student files, an independent committee checks that referred students meet certain Dutch national criteria. Several categories of disabilities are distinguished, each with its own criteria. For instance, for behaviour and/or psychiatric disorders the criteria are based on, among other things, categories of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994) and clinical scores on the Teacher Report Form (Achenbach &
Rescorla, 2001) and the Child Behavior Checklist (Achenbach, 2001), whereas for intellectual disabilities an IQ score below 60 is a critical criterion. Assessments are carried out by qualified psychiatrists or psychologists who operate independently from the committees.

In most Dutch primary schools the number of students with special needs is limited; therefore few schools have special classes or resource rooms. As a result, most students with special needs who attend regular schools are included individually in regular classes.

The study took place in Grades One to Three of regular Dutch primary schools that had at least one student at these year levels who had an official special-needs statement. Each of the students with special needs involved in the study had been officially labelled as in need of special services. Most of them had relatively mild disabilities, as these students tend to attend regular education, whereas students with more severe disabilities usually attend special schools. This is related to the fact that in the Netherlands the move towards inclusive education only started in the past few decades.

In each participating class, respondents were the student(s) with special needs and two students with typical development. The latter were chosen at random using the third and 16th student on the class register. If the student with special needs was number three or number 16 on the register, then the following student on the list was chosen. If students number three and number 16 were of the same gender, the first following student of the opposite gender on the list was chosen.

**Sample**

As the study was split in two, data collection took place during two time periods. In each period, 300 regular primary schools were invited to participate in the study. The invited schools, including both rural and urban schools, were all within 2.5 hours’ travelling time from our research centre, covering nearly two-thirds of the Netherlands. As indicated earlier, only schools with at least one student in Grades One to Three who was declared eligible for special-needs funding (see Participants section above) were invited to participate. The sample was drawn from the 2074 schools that met this criterion.

**First sub-sample**

Data collection focused on both the social self-perception of students and their acceptance by peers. Of the 300 invited schools, 53 were involved in the study. A non-response survey (Koster, Timmerman, Nakken, Pijl, & Van Houten, 2009) revealed no significant differences (at $\alpha = 0.05$) between participating and non-participating schools with respect to their attitudes towards and experiences with inclusive education. Hence there was no reason to assume any systematic bias in the sample involved in the study. Since several of the 53 participating schools had a student with special needs in more than one class, and since 15 classes included two or more students with special needs, 75 classes with a total of 96 students with special needs were involved in the study. The mean number of students in the 75 classes was 23.2. Given that in two out of 75 classes only one student (instead of two) without special needs was involved, a total of 148 students without special needs participated. All parents of the students in the participating classes were informed about the study by mail. None of the parents raised an objection about their child taking part in the study.

**Second sub-sample**

The friendships of students as well as their contacts and interactions were examined in the second sub-sample. Of the 300 invited schools, 66 took part in the study. As no evidence
of systematic bias was found in the former sample, we refrained from repeating the non-
response survey. In total, 27 schools had a student with special needs in more than one class
and 34 classes included two or more students with special needs. Consequently, 105 classes
with a total of 141 students with special needs participated in the study. The mean number
of students in the 105 classes was 23.3. A total of 205 instead of 210 (105 x 2) students
without special needs participated, because in five classes only data about one student were
available. Similarly to the procedure followed in the first sub-sample, parents were
informed about the study by mail. Again, none of them objected to the study.

Table 1 presents an overview of the gender and distribution of the categories of disabil-
ities in both sub-samples.

<table>
<thead>
<tr>
<th>Category of disabilities</th>
<th>First sub-sample</th>
<th>Second sub-sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of students (% total)</td>
<td>Number of boys (% disabilities category)</td>
</tr>
<tr>
<td>Behavioural disorder</td>
<td>13 (13.5)</td>
<td>11 (84.6)</td>
</tr>
<tr>
<td>Autistic spectrum disorder</td>
<td>42 (43.8)</td>
<td>38 (90.5)</td>
</tr>
<tr>
<td>Motor disability</td>
<td>10 (10.4)</td>
<td>9 (90.0)</td>
</tr>
<tr>
<td>Intellectual disability</td>
<td>11 (11.5)</td>
<td>5 (45.5)</td>
</tr>
<tr>
<td>Speech/language disabilities</td>
<td>20 (20.8)</td>
<td>13 (65.0)</td>
</tr>
<tr>
<td>Total</td>
<td>96 (100)</td>
<td>76 (79.2)</td>
</tr>
</tbody>
</table>

Note: Two students diagnosed as having learning disabilities and one student diagnosed as having chronic
illness were involved in the second sub-sample, but were excluded from the analyses in this article because of the
small numbers.

Table 1. Distribution of students with special needs into categories of disabilities and gender in
both sub-samples.

Instruments to Assess Key Themes of Social Participation

Assessment of Social Self-perception

In order to select instruments to measure students’ social self-perception, several instru-
ments were compared for content, psychometric qualities, length, applicability to students
in Grades One to Three, and availability of a Dutch version. Selection on the basis of these
aspects led to the identification of three instruments: the Self-Perception Profile for
Children (SPP-C) (Harter, 1985, cited in Berndt & Burgy, 1996), the Self-Description
Questionnaire I (Marsh, Parker, & Smith, 1983, cited in Berndt & Burgy, 1996), and the
Pictorial Scale of Perceived Competence and Social Acceptance for Young Children
(PSPCSA) (Harter & Pike, 1984). A comparison of the social subscales of these instru-
ments was made. Since the content, length, and reliability of the scales were similar (Berndt
& Burgy, 1996), their applicability to first- to third-graders and the availability of Dutch
versions were decisive. None of the three instruments was appropriate for students in all
three grades. The Self-Description Questionnaire I focused on students in Grades Two to
Nine, the SPP-C on students in Grades Three to Eight, and the PSPCSA on first-graders and
second-graders. It was therefore necessary to select two instruments for our study. Because
of the very similar content, the same response format and the availability of Dutch versions,
it was decided to use the SPP-C and the PSPCSA. As a result, in Grade Three the social
subscale of the Dutch version of the SPP-C (in Dutch, this profile is abbreviated as CBSK)
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(Veerman, Straathof, Treffers, Van den Bergh, & Ten Brink, 1997) was used. The Cronbach’s alpha of the social subscale is 0.74 (Veerman et al., 1997), which is sufficient for tests that are to be used with individuals (Kline, 1998). The social subscale of the Dutch version of the PSPCSA (Van Rossum & Vermeer, 1992) was selected for students in Grades One and Two. In this scale, verbal items are supplemented by pictures. While not all subscales of the Pictorial Scale have sufficient reliability, the reliability of the social subscale is sufficient for research purposes (α = 0.78) (Van Rossum & Vermeer, 1992). The minimum score of the social subscale of the CBSK (consisting of six questions) is six, and the maximum score 24. The score on the social subscale of the Pictorial Scale (consisting of five questions) can vary between five and 20. For both scales: the higher the score, the higher the social self-perception.

Assessment of Acceptance by Classmates

Peer acceptance is often assessed with sociometric techniques (Berndt & Burgy, 1996). Both nomination procedures (see Assessment of Friendships section below) and peer ratings are frequently used. In peer rating, all classmates rate each of their peers on a Likert-type scale in terms of how much they like them or would like to play with them. A three-point or five-point scale is generally used (Hymel, Vaillancourt, McDougal, & Renshaw, 2002; Jiang & Cillessen, 2005). There seems to be general agreement that using a rating scale is the best method to assess acceptance, while the nomination method is most suitable to assess friendship (Larriev & Horne, 1991; Parker & Asher, 1993). According to Asher, Parker, and Walker (1996), research suggests the utility of distinguishing acceptance (based on the average ratings children receive) from friendship (based on reciprocal friendship choices), as they are non-overlapping yet not fully independent dimensions of individual differences. In accordance with the above-mentioned findings, the peer-rating method was selected in our study as the instrument to assess acceptance. The students were asked to fill in the rating scale containing the names of all their classmates. They were asked to indicate on a three-point scale to what degree they would like to play with each classmate. They could choose between the following three answer categories, each visually supported by a faces scale: yes, I would like to ☑️; I don’t care ☐️; and no, I would not like to ☐️.

Assessment of Friendships

Many researchers (e.g., Larriev & Horne, 1991; Laursen, Bukowksi, Aunda, & Nurmi, 2007; Parker & Asher, 1993) regard reciprocal friendship nomination as a suitable method for assessing friendship. This method, which requires children to name classmates who fit a particular sociometric criterion (Larriev & Horne, 1991), has been used to assess the friendship of children of various ages. It has been adopted in the literature as the primary method for assessing friendship (Waldrip, Malcom, & Jensen-Campbell, 2008; Yugar & Shapiro, 2001), and is likely to be valid for the whole range of childhood and adolescent years (Bukowski & Hoza, 1989). In addition, its reliability seems to be sufficient, as shown by Pijl, Frostad, and Flem (2008), who found that parallel test reliability was 0.81 in a study of seventh-grade students. As the nomination method is generally regarded as very suitable in the assessment of friendship, it was selected for our study. The children were asked who among their classmates they considered to be their best friends. Following Frostad and Pijl (2007), the students were allowed to nominate up to five classmates with whom they were friends.
Assessment of Contacts/Interactions

Observation schemes are often used when assessing contacts and interactions among children (e.g., Blatchford, Bassett, & Brown, 2005; Cushing, Horner, & Barrier, 2003; Roberts, Pratt, & Leach, 1990). For our study, observation schemes focusing on the nature and number of classroom interactions and which make use of the time-sampling method were selected.

An exploration of the literature revealed three observation schemes (Gresham, 1982; Scheepstra, Nakken, & Pijl, 1999; Wood, 1972, cited in McCauley, Bruininks, & Kennedy, 1976) suitable for students in Grades One to Three, which aim at establishing the nature and number of interactions and which do not take up a lot of time (maximum 30 minutes per student). Gresham’s (1982) Observation Categories were selected because the applied categories of social interaction are very clear and the inter-observer agreement is high (0.93–1.00 in a study by Montague & Rinaldi, 2001). The categories also provide an overview of the nature of interactions (positive and negative), initiated and received interactions, and the number of interactions. Consistent with the observation schemes of Scheepstra et al. (1999) and Wood (1972, cited in McCauley et al., 1976), the interactions between students and teachers are added to the scheme of interactions between students, because research has shown that students with special needs have many interactions with their teachers (Scheepstra et al., 1999). When observing social behaviours, it is important to collect observations across a variety of settings and situations (Gresham, 2001; Hamilton, 2005), and therefore students were observed during lessons and in free time.

The observers were five university students and the first author, all of whom initially received three hours of training using videotaped recordings of a classroom situation. During the training sessions almost all interactions were coded as neutral; both positive and negative interactions were rarely coded. Hence it was decided to leave the nature of the interactions aside. After training, the agreement between observers was determined by calculating Cohen’s kappa for three major aspects: “interaction/no interaction between student and classmates”, “initiated/received interaction of student with classmates” and, “interaction/no interaction between student and teacher”. Cohen’s kappas for these aspects were 0.84, 0.76 and 0.72, respectively, suggesting reasonable agreement (Landis & Koch, 1977).

Procedure

Assessment of Social Self-perception (CBSK/Pictorial Scale)

The social self-perception of students was assessed in the 75 classes of the first sub-sample. In Grade Three the social subscale of the CBSK was administered as a group test, while in Grades One and Two the social subscale of the Pictorial Scale was administered individually.

Assessment of Acceptance by Classmates (Peer Rating)

All students in the 75 classes of the first sub-sample were asked to complete the rating scale. In Grades Two and Three, the rating scale was administered as a group test; in Grade One, individually. The researcher read the names of all the classmates aloud and the student said how much he/she liked to play with each of them.

Assessment of Friendships (Nomination)

All students in the 105 classes of the second sub-sample were asked to write down the classmates they considered to be their best friends, with a maximum of five nominations.
Assessment of Contacts/Interactions (Observation Schedule)

Because of their time-consuming character, the observations took place only in some of the classes of the second sub-sample. In 58 classes, observations were carried out during lessons and during free time. In each class, both the student with special needs and a student of the same gender without special needs were observed for 20 minutes, divided into five-minute periods. The latter student was chosen at random using the third or 16th student in the class register (see Participants section above). Fifteen minutes of the observation took place during lessons, the remaining five minutes took place during free time. Each five-minute period was divided into 30 intervals each of 10 seconds. If an interaction occurred during that period, a tick was noted in the correct category (initiated interaction with classmate; received interaction with classmate; initiated/received interaction with teacher). If more than one interaction occurred in a period, only the first one was noted.

Table 2 shows the instruments used to assess the four key themes and the number of responding students (with and without special needs).

Analysis

Social Self-perception

A social self-perception score was calculated for each student on the basis of the outcomes of the CBSK (Grade Three)/Pictorial Scale (Grades One and Two). The raw scores of both scales were used for this purpose. For students in Grade Three the score could range between six and 24, and for students in Grades One and Two between five and 20.

Acceptance by Classmates

Each student received scores on a three-point scale from all classmates (see Instruments section above). Counting up all scores resulted in a raw score for each student. As the score a student could receive was strongly related to class size, Z-scores were calculated. As a result, students’ scores could not only be compared with their classmates’ scores, but also with scores of students from other classes (comprising various numbers of students).

Friendships/Relationships

The data resulting from the reciprocal friendship nomination method were analysed to identify friendships using UCINET software (Borgatti, Everett, & Freeman, 1999), and NEGOPY 4.30 software (Richards, 1995) was used to identify subgroups and social roles in the classroom. Friendship was defined as a reciprocal choice, implying that two students choose each other as best friends (Frostad & Pijl, 2007). A cohesive subgroup in the

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>Instrument</th>
<th>Number of students with special needs</th>
<th>Number of students without special needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendship/relationships</td>
<td>Reciprocal nomination method</td>
<td>137</td>
<td>202</td>
</tr>
<tr>
<td>Contacts/interactions</td>
<td>Observation schedule</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>Student’s social self-perception</td>
<td>Social sub-scale of CBSK</td>
<td>27</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Pictorial Scale</td>
<td>67</td>
<td>99</td>
</tr>
<tr>
<td>Acceptance by classmates</td>
<td>Sociometric Rating Scale</td>
<td>96</td>
<td>148</td>
</tr>
</tbody>
</table>
classroom was defined as a set of at least three students who have more links with members of the group than with non-members, are connected by some path to each of the group members, and remain connected when up to 10% of the group is removed (Richards, 1995). Aside from being a member of a cohesive subgroup, students could occupy other roles in the classroom. These roles can be subclassified into isolated roles – isolate type 1 (no reciprocated links), isolate type 2 (one reciprocated link), isolated dyad (two students connected only to each other), and tree node (connects type-2 isolates) – and participant roles – liaison 1 (more than 50% of links with members of several groups, but not with any single group), liaison 2 (less than 50% of links with members of groups), and group member (more than 50% of links with members in the same group). Students who occupy isolated roles are minimally connected to others in the group, whereas students who occupy participant roles have at least two links with other participants (Richards, 1995). For a detailed description of each of the roles, see Pearson and Michell (2000) and Richards (1995).

Contacts/Interactions

The total number of both initiated and received interactions with fellow classmates and the total number of interactions with the teacher were calculated for each student. When analysing the outcomes, next to comparing the group of students with special needs with the group of typical students, a distinction was made between different categories of disabilities, since treating students with special needs as one group might mask differences. Students with special needs are frequently treated as a homogeneous group, which prevents the revelation of an accurate picture of the social participation of students with specific types of disability. Making a distinction between categories of disability can provide nuances for students with specific disabilities. As described in the Introduction section, students diagnosed as having autistic spectrum disorders and/or serious behavioural disorders are expected to experience the most social participation problems. Students diagnosed as having motor disabilities are expected to perform best on each of the four key themes of social participation, as their type of disability is expected to have the least impact on social functioning in the classroom. In addition, motor disabilities are visible and classmates can understand them, which fosters acceptance (Lewis, 1995, in Laws & Kelly, 2005).

Results

Social Self-perception

The social self-perception of students with and without special needs was similar in all grades. In Grade Three, the mean score of students with special needs (mean = 17.5, standard deviation [SD] = 4.2) did not differ significantly from the mean score of their typical counterparts (mean = 17.3, SD = 4.0; \( t(67) = -0.17, p = 0.87; \) effect size [ES] = -0.05). In Grades One and Two, the mean scores of both groups of students did not differ significantly either (students with special needs, mean = 14.2, SD = 3.2; students without special needs, mean = 14.4, SD = 2.3; \( t(164) = 0.66, p = 0.51; \) ES = 0.08). In addition to comparing students with special needs with typical students, we examined the differences in students’ social self-perception among the five main categories of disability (see Table 1). Results from the analysis of variance (ANOVA) revealed that the group differences between students with various categories of disability were not significant: Grades One and Two, \( F(4, 62) = 1.72, p = 0.16; \) Grade Three, \( F(4, 22) = 0.85, p = 0.51. \) For an overview of the outcomes with respect to students’ social self-perception, see Table 3.
Acceptance by Classmates
A comparison between the acceptance scores of students with and without special needs revealed that the former were significantly less accepted (students with special needs, mean = 0.71, SD = 1.0; students without special needs, mean = −0.06, SD = 1.0; \( t(242) = 4.9, p < 0.05 \)). The effect size is moderate (ES = 0.64; Cohen, 1992). Similar to the outcomes on students’ social self-perception, the analyses revealed no significant group differences between students with various categories of disability: \( F(4, 91) = 2.34, p = 0.06 \).

Friendships/Relationships
The analyses revealed that the average number of friends of students with special needs (mean = 1.9, SD = 1.3) was significantly lower than that of typical students (mean = 2.9, SD = 1.4; \( t(340) = 6.48, p < 0.00 \)). This difference represents a moderate effect size (ES = 0.71). A one-way ANOVA revealed no significant differences between categories of disability at \( F(4, 132) = 1.2, p = 0.32 \).

The membership of cohesive subgroups was also examined. Based on the friendship nominations and allowing only reciprocal links, each student was categorised as a group member, tree node, dyad, or one of the isolate or liaison types. The results for both the students with special needs and their typical classmates are presented in Table 4. The data show that students with special needs occupy an isolated role more often (48.9%) and a participant role less often (51.1%) compared with their typical classmates (of whom 21.3% have an isolated role and 78.7% a participant role). The difference between both groups of students is significant (\( \chi^2 = 28.4, p < 0.00 \)). Further analyses, in order to take into account possible differences between categories of disabilities, were not possible.

### Table 3. Social self-perception of students with and without special needs.

<table>
<thead>
<tr>
<th></th>
<th>Social self-perception score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grades 1 and 2</td>
</tr>
<tr>
<td>Students without special needs</td>
<td>14.4 (SD = 2.3)</td>
</tr>
<tr>
<td>n = 99</td>
<td></td>
</tr>
<tr>
<td>Students with special needs</td>
<td>14.2 (SD = 3.2)</td>
</tr>
<tr>
<td>n = 67</td>
<td></td>
</tr>
</tbody>
</table>

### Table 4. Social roles of students with and without special needs.

<table>
<thead>
<tr>
<th></th>
<th>Isolated roles</th>
<th>Participant roles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Isolate type 1</td>
<td>Isolate type 2</td>
</tr>
<tr>
<td>Students without special needs</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>n = 202</td>
<td>(5.4%)</td>
<td>(10.9%)</td>
</tr>
<tr>
<td>Students with special needs</td>
<td>19</td>
<td>34</td>
</tr>
<tr>
<td>n = 137</td>
<td>(13.9%)</td>
<td>(24.8%)</td>
</tr>
</tbody>
</table>
Contacts/Interactions
A comparison was made between students with and without special needs with regard to their initiated and received interactions with classmates and their interactions with the teacher. Students with special needs initiated fewer interactions with classmates (mean = 10.7, SD = 8.3) than students without special needs (mean = 14.7, SD = 9.6). This difference was significant, \( t(114) = 2.39, p < 0.02 \), and represents a moderate effect size (ES = 0.44). The number of received interactions also differed significantly. Students with special needs received fewer interactions (mean = 7.1, SD = 5.2) than their typical classmates (mean = 11.0, SD = 6.4; \( t(114) = 3.6, p < 0.00 \)), representing a moderate effect size (ES = 0.67). In addition, students with special needs (mean = 8.8, SD = 9.7) had significantly more interactions with the teacher than students without special needs (mean = 3.1, SD = 3.7; \( t(116) = -4.2, p < 0.00 \)). The effect size is large (ES = −0.86).

Similar to the assessment of the other key themes, the differences between students with different categories of disability concerning contacts/interactions were not significant. The analyses (ANOVA) revealed no significant group differences between students with different categories of disability in terms of initiated interactions with classmates \( F(4, 53) = 0.84, p = 0.50 \), received interactions with classmates \( F(4, 53) = 0.43, p = 0.79 \) and interactions with the teacher \( F(4, 53) = 1.00, p = 0.41 \). For an overview of the outcomes on contacts/interactions, see Table 5.

Conclusion and Discussion
This study addressed the social participation of Grade One to Grade Three students with special needs in regular Dutch primary schools. With regard to three out of four key themes of social participation, the situation of students with special needs was less favourable than that of their typical counterparts. With respect to the key theme friendships/relationships, the outcomes revealed significant differences between these two groups of students. Students with special needs had, on average, fewer friends and belonged less often to a group of friends. Looking at the key theme contacts/interactions, students with special needs had fewer interactions with their classmates but more interactions with the teacher. This latter finding can be viewed negatively because interactions with the teacher might be at the expense of interactions with classmates. Students with special needs are at a disadvantage too with regard to acceptance by classmates, as the degree to which they were accepted by their classmates was significantly lower than the degree of acceptance for typical students. The situation concerning the key theme student’s social self-perception was different: the social self-perception of students with special needs did not differ from that of students without special needs. It was expected that students with special needs would have a lower social self-perception than their typical peers, because of their lower number of friendships, lower acceptance and lower number of interactions with classmates.

<table>
<thead>
<tr>
<th></th>
<th>Initiated interactions with classmates</th>
<th>Received interactions from classmates</th>
<th>Interactions with teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students without special needs</td>
<td>14.7 (SD = 9.6)</td>
<td>11.0 (SD = 6.4)</td>
<td>3.1 (SD = 3.7)</td>
</tr>
<tr>
<td>( n = 58 )</td>
<td>( n = 58 )</td>
<td>( n = 58 )</td>
<td></td>
</tr>
<tr>
<td>Students with special needs</td>
<td>10.7 (SD = 8.3)</td>
<td>7.1 (SD = 5.2)</td>
<td>8.8 (SD = 9.7)</td>
</tr>
<tr>
<td>( n = 58 )</td>
<td>( n = 58 )</td>
<td>( n = 58 )</td>
<td></td>
</tr>
</tbody>
</table>
However, other studies have revealed that students with special needs tend to have a relatively high social self-perception (Elias & Van Nieuwenhuijzen, 2001). The literature also suggests that children with mental ages below seven or eight years are not yet capable of making accurate self-evaluations – they seem to be positively biased in their self-evaluations (Cunningham & Glenn, 2004; Glenn & Cunningham, 2001). Some of the students with special needs in our study might have had a positively distorted self-perception. Despite this possible bias in young students’ self-evaluations, it remains important to include students’ voices when evaluating inclusion, as they are the key figures in the inclusion process (Lewis & Porter, 2004; Ware, 2004; Whitehurst, 2006).

The outcomes of this study are fairly worrisome, as the students with special needs performed significantly less well than students without special needs on three important areas of social participation. As shown in various studies, the consequences of negative social experiences in school can be far-reaching, given that they might lead to maladjustment later in life (e.g., Bagwell, Newcomb, & Bukowski, 1998; Parker & Asher, 1987).

For two reasons the outcomes need careful interpretation. First, taking into consideration the social participation of students with special needs on its own merits without making comparisons with typical students might provide some fine distinctions. For instance, although students with special needs have fewer friends than their typical peers, the vast majority of students with special needs do have one or more friends. This is a beneficial outcome, since having at least one friend in the classroom may be a source of companionship and emotional support (Ladd, 1990), and may protect against the negative effects of low acceptance (Newcomb & Bagwell, 1996). Similarly, most students with special needs have a positive social self-perception, are accepted and have a reasonable number of interactions with peers.

Second, it is unknown how the students with special needs involved in the study would have functioned in special-education settings. The results might have been similar in these settings. For instance, Mand (2007) found that a large proportion of students with behavioural disorders have a negative social position in the classroom and are not liked by peers, not only in regular classes but also in special-education settings. These students are rejected to a comparable degree in both education systems (inclusive classrooms and special schools). Hence, in special education too, there is a real chance that students experience difficulties in their social participation.

In addition to the comments mentioned above, the outcomes should be seen in the context of Dutch society, in which the movement towards inclusive education only began a few decades ago. Most schools therefore do not have much experience with the inclusion of students with special needs, and students are not used to having classmates with special needs.

Contrary to expectations, the analyses revealed no significant differences between students with various categories of disability in any of the four areas of social participation. This might be partly due to the low number of students in some of the subgroups. However, selecting larger samples is difficult as, in most Dutch primary schools, only a few students with special needs are included. We could have opted to include only students with a particular type of disability (such as autistic spectrum disorders) in order to have a sample with a larger number of students, but that would not have been a representative sample. We included a variety of disabilities in our study because the group of students with special needs attending regular education in the Netherlands is quite heterogeneous. The drawback of including different subgroups of students in the study is the low number of students per subgroup. Further research including larger subgroups of students with specific categories of disability is recommended. Another factor that might
have played a role in the outcomes concerns the severity and complexity of the disabilities involved in the study. This might be an explanation for the results, especially for the relatively high scores for the students diagnosed as having autistic spectrum disorders. Most of these students were categorised as having a Pervasive Developmental Disorder – Not Otherwise Specified. Relatively few students were categorised with other, more severe types of autistic spectrum disorders, since in the Netherlands most of these students still attend special schools.

The outcomes of this study are important because the students with special needs performed significantly less well on social participation than their regular peers. It follows then that, although social participation is considered one of the most important outcomes of inclusion, for a substantial number of students with special needs, optimal social participation is not fully realised in practice. These outcomes related to Dutch education are in line with the outcomes of studies carried out in several other countries. Research has shown that, also in countries with a longer tradition of inclusive education, students with special needs often have fewer friends, are less accepted and have a lower self-concept compared with their typical peers (see, for instance, Buysse et al., 2002; Frostad & Pijl, 2007; Kemp & Carter, 2002).

This is a striking situation: inclusion is promoted because it is assumed to be positive for students with special needs, but we know that for some of these students inclusion might result in negative outcomes (e.g., loneliness, rejection). It is of course unacceptable to just notice that students with special needs have a greater chance of being socially excluded than their typically developing peers, and do nothing about it. For this reason, measures to change this situation should be taken. In previous years, interventions tended to be aimed solely at the student with special needs (Barrett & Randall, 2004), but from an educational and pedagogical perspective interventions involving other actors seem to be more important. For instance, parents should be involved in interventions, as the outcome of inclusion depends to a large extent on the attitudes of the parents of children with and without special needs (Smith Myles & Simpson, 1990) and on their support and involvement (Palmer, Fuller, Arora, & Nelson, 2001). Teachers are important actors too, as it is widely acknowledged that their view is a key element in the successful implementation of inclusive education (Avramidis & Norwich, 2002; Monsen & Frederickson, 2004). In addition, teachers should be able to make accurate assessments of students’ social participation, in order to notice problems in a timely manner (Koster, Timmerman et al., 2009). Classmates are also important actors in interventions aimed at improving the social participation of students with special needs (Frederickson, Warren, & Turner, 2005). It is expected that such all-party interventions will contribute to optimising the situations of students with special needs in inclusive classrooms.

Acknowledgements

Special thanks to Per Frostad (Norwegian University of Science and Technology) and Erik Logtenberg for their contribution to the study described in this article. There was no research funding for this study, and no restrictions have been imposed on free access to, or publication of, the research data.

Note

1. The criteria for a student-bound budget are statutory and can be found online (in Dutch): retrieved April 27, 2009, from http://www.st-ab.nl/wettenmr06/0656–004_Besluit_leerlinggebonden_financiering.htm.
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