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## Social participation of students with special educational needs in mainstream seventh grade

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### Abstract

This study addresses the social participation of students with special educational needs (SEN) in mainstream 7<sup>th</sup> grade in Flanders (Belgium). Social participation (i.e., social interactions, peer acceptance, friendships, and social self-concept) was assessed by means of questionnaires among 86 students with autism spectrum disorder (ASD), 61 students with motor and/or sensory disabilities (MOTSSENS) and 1926 normally developing classmates. Seventh grade students with ASD scored less favorably in all aspects. Girls with MOTSENS scored less favorably on some aspects of social participation than typically expected of their peers. The social participation of students with ASD and students with MOTSENS did not differ significantly.

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### 1. Introduction

In contemporary educational discourse, the inclusion of students with special educational needs (SEN), or students generally defined as “students with various (combinations of) difficulties in participating in education” (Pijl, Frostad, & Flem, 2008, p. 389) in regular schools has become a global trend (e.g., UNESCO, 2005). Flanders, the Dutch-speaking part of Belgium, has a long history of segregated special education with nearly 5% of students in Flanders in special schools. Changes are forthcoming however, in favor of inclusive education with 15.17% of all students with SEN fully included in mainstream schools (Watkins, 2010). Due to policy regulations, students with autism spectrum disorders (ASD) and students with motor and/or sensory disabilities (MOTSSENS) constitute the majority of those fully included students with SEN in mainstream schools in Flanders (M. Van De Castelee, personal communication, March 12, 2012). These percentages though only show us where these students are located, and only partially inform us about the degree to which the students are actually socially participating in the local school community.

In a recent study, social participation was elaborated in four key themes: (1) the presence of social contact/interaction between these children and their classmates; (2) acceptance of children with SEN by their classmates; (3) social relationships/friendships between children with SEN and their classmates and (4) the pupils with SEN’s perception of acceptance by their classmates (Bossaert, Colpin, Pijl, & Petry, 2012). Although,

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contemporary research has increasingly focused on each of these key themes, shortcomings in the current knowledgebase do exist. First, research including all four key aspects of social participation is still scarce. Second, although during adolescence, peer affiliations become more important in children's lives, little is known about the social participation of students with SEN in mainstream secondary schools (e.g., Rubin, Bukowski, & Parker, 2006). Additionally, the transition from primary to secondary school might prove to be a more prolonged and difficult process for SEN students with increased risks for social adaptation problems (Humphrey & Ainscow, 2006). Third, social participation may differ between groups of students with different SEN though comparisons between subgroups are scarce (Pijl, Skaalvik, & Skaalvik, 2010). Finally, although it is known that during early adolescence boys' and girls' friendships are structured differently and are rarely gender-mixed, gender differences in the social participation of fully included, secondary school students with SEN have never been studied (e.g., Gifford-Smith & Brownell, 2003).

With a large sample of fully included 7<sup>th</sup> grade students with SEN and their typically developing classmates, this study aims to address these gaps in the current knowledge. Three research questions were investigated:

- a) Does the social participation, i.e., social interactions, peer acceptance, friendships and social self-concept, of 7<sup>th</sup> grade students with SEN differ from the social participation of their typically developing classmates?
- b) Is there a difference in any of the four key themes of social participation between different subgroups of students with SEN in 7<sup>th</sup> grade?
- c) Do boys and girls of different subgroups of students with SEN differ in any of the four key themes of social participation in 7<sup>th</sup> grade?

## 2. Method

### 2.1. Recruitment and sample

In Flanders, the majority of fully included students with SEN into mainstream schools are part of the support project 'integrated education'. In this project, support to mainstream schools is provided by peripatetic teachers from a special education school (Eurydice, 2010). In order to be eligible for this support, students need to be formally diagnosed by a multidisciplinary team.

In this study, only schools with 7<sup>th</sup> grade students with 'integrated education support' were selected. Recruitment of the participants was a four-tiered process, approved by the institutional ethical committee of the KU Leuven, Belgium. In a first stage, schools were invited to participate in the study. In a second stage, written consent was asked from parents of students with SEN. In a third stage, consent was asked from the parents of classmates, describing the study as a study of "friendships in schools" to ensure participants' confidentiality. Finally, the students themselves were asked for their consent. For this study, the only classes selected had more than 70% of the students participating and at least one student with ASD or one student with MOTSENS. Our final research sample was comprised of 64 schools, 126 classes, 86 students with ASD, 61 students with MOTSENS and 1926 typically developing classmates (TYP). None of these students had an intellectual disability.

### 2.2. Measures

#### 2.2.1. Social interaction

To assess social interactions among students, the sociometric rating method of Roberts and Smith (1999) was used. Students were asked to describe their interactions with each of their classmates based on the following question: 'How much time did you spend with ... during breaks?' Students could answer on a five-point Likert scale, ranging from 1 = not a single break to 5 = all breaks. Two composite scores were created for each student, i.e. (1) an average self-reported measure for the time the student spends with classmates during breaks, i.e. self-rated social interactions (S-R SI) and (2) an average classmate-reported measure for the time classmates claim to spend with the student during breaks, i.e., classmate-rated social interactions (C-R SI).

### 2.2.2. Peer acceptance and friendships

To assess peer acceptance and friendships, sociometric nominations were used. Following the advice of Pijl et al. (2008), students were asked one question only, i.e., to nominate their best friend in class, with nominations limited to a maximum of five classmates. The number of nominations each individual receives ('in-degrees') was used as an index of peer acceptance (Wasserman & Faust, 1994). The number of reciprocated choices was used as an index of friendships.

### 2.2.3. Social self-concept

Students' social self-concept was assessed with two subscales of the Social Description Questionnaire II-Short (SDQII-S; Marsh, Ellis, Parada, Richards, & Heubeck, 2005), i.e., the subscale 'Same-Sex Relations' (S-SR; 5 items) and the subscale 'Opposite-Sex Relations' (O-SR; 4 items). All items were rated on a six-point Likert scale, ranging from 1 = false to 6 = true. Subscale-scores were created by calculating the mean score of the items, with higher scores reflecting higher levels of social self-concept. In our sample, internal consistency was acceptable for S-SR subscale and respectable for the O-SR subscale (S-SR: boys:  $\alpha = .69$ , girls:  $\alpha = .66$ ; O-SR: boys:  $\alpha = .73$ , girls:  $\alpha = .73$ ).

## 2.3. Analyses

In-degrees and the number of reciprocal friendships were calculated for each individual by means of UCINET 6, a software program which analyzes sociometric data. Because the data were nested, i.e., students within classes, within schools, multilevel regression analyses were used to test the difference in social participation between TYP boys and girls, boys and girls with ASD, and boys and girls with MOTSENS. All models for this study were fit using MLwiN 2.24, based on a technique described by Hox (2010). The effect of type of student (TYP, ASD, or MOTSENS), gender and type of student x gender was assessed on each outcome variable. Class size was included as a control variable at level 2 to control for the influence of the number of classmates in the sociometric measures. Because all independent variables were categorical, TYP boys were chosen as a reference group (Rashbash, Steele, Browne, & Goldstein, 2008). Final models were reassessed with boys with ASD as a reference group. Finally, contrasts were calculated to assess differences between each of the six groups (i.e., TYP boys, TYP girls, boys with ASD, girls with ASD, boys with MOTSENS, girls with MOTSENS). The Bonferroni correction was used to control for multiple testing.

## 3. Results

Descriptive statistics can be found in Table 1. Due to space limitations, the results of the multilevel regression analyses are not tabulated. Detailed information will be provided upon request.

### 3.1. Social interactions

Schools (S-R SI: 5.03%; C-R SI: 8.89%) and classes within schools (S-R SI: 12.15%; C-R SI: 25.61%) accounted for a significant proportion on the variances of self-rated social interactions (S-R SI) and classmate-rated social interactions (C-R SI). On average, students with ASD reported less social interactions ( $p < .05$ ) and received lower social interaction ratings by their classmates ( $p < .001$ ) than TYP students. Social interactions of students with MOTSENS did not differ significantly from the social interactions of TYP students and students with ASD. No gender effects were found. Girls with MOTSENS, however, received less C-R SI than TYP boys ( $p < .05$ ). Post-hoc analysis showed no significant differences among the six groups for the S-R SI. For C-R SI, boys with ASD and girls with MOTSENS had significantly lower means than TYP boys (boys with ASD:  $p < .001$ ; girls with MOTSENS:  $p < .01$ ) and TYP girls (boys with ASD:  $p < .05$ ; girls with MOTSENS:  $p < .01$ ).

Table 1: Descriptive results of degree of social participation

group	n	S-R SI	C-R SI	Peer acceptance	Friendships	S-SR	O-SR
		M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)
Typically developing students							
total	1926	2.33 (0.75)	2.32 (0.60)	4.19 (2.30)	2.65 (1.45)	5.03 (0.88)	4.34 (1.13)
boys	1020	2.40 (0.78)	2.36 (0.65)	4.18 (2.32)	2.59 (1.45)	4.84 (0.90)	4.58 (0.95)
girls	906	2.25 (0.70)	2.28 (0.57)	4.21 (2.28)	2.71 (1.45)	5.25 (0.86)	4.07 (1.25)
Students with ASD							
total	86	2.14 (0.87)	2.15 (0.63)	2.78 (2.16)	1.72 (1.39)	4.28 (1.16)	3.99 (1.25)
boys	74	2.17 (0.92)	2.16 (0.64)	2.72 (2.04)	1.74 (1.37)	4.26 (1.16)	4.05 (1.22)
girls	12	2.01 (0.54)	2.13 (0.63)	3.17 (2.89)	1.58 (1.62)	4.38 (1.25)	3.58 (1.41)
Students with MOTSENS							
total	61	2.26 (0.82)	2.06 (0.69)	3.13 (2.35)	1.85 (1.26)	4.68 (1.17)	4.06 (1.16)
boys	40	2.24 (0.76)	2.12 (0.64)	3.73 (2.44)	2.00 (1.20)	4.65 (1.11)	4.32 (1.07)
girls	21	2.29 (0.94)	1.95 (0.78)	2.00 (1.70)	1.57 (1.36)	4.73 (1.31)	3.58 (1.17)

### 3.2. Peer acceptance

No significant differences between schools and classes were detected. Compared to TYP students, students with ASD were less accepted by their peers ( $p < .001$ ). Peer acceptance of students with MOTSENS did not differ significantly from TYP students or students with ASD. No gender differences were found, but girls with MOTSENS were less accepted than TYP boys ( $p < .05$ ). After Bonferroni correction, boys with ASD and girls with MOTSENS were significantly less accepted than TYP boys (boys with ASD:  $p < .001$ ; girls with MOTSENS:  $p < .001$ ) and TYP girls (boys with ASD:  $p < .001$ ; girls with MOTSENS:  $p < .001$ ).

### 3.3. Friendships

No significant differences between schools were detected. Differences between classes accounted for 4.64% of the total variance of the number of friendships. Both students with ASD ( $p < .001$ ) and students with MOTSENS ( $p < .05$ ) had fewer friends than TYP students, but no difference in the number of friends was found between students with ASD and students with MOTSENS. No gender or interactional effects between gender and type of student were found. After Bonferroni correction, boys with ASD and girls with MOTSENS had significantly fewer friends than TYP boys (boys with ASD:  $p < .001$ ; girls with MOTSENS:  $p < .01$ ) and TYP girls (boys with ASD:  $p < .001$ ; girls with MOTSENS:  $p < .01$ ).

### 3.4. Social self-concept

No significant differences between schools were detected. Differences between classes accounted for 3.21% of the total variance of same-sex social self-concept (S-SR) and 3.24% of the total variance of opposite-sex social self-concept (O-SR). Compared to TYP students, students with ASD had lower S-SR and O-SR (both  $p < .001$ ). The social self-concepts of students with MOTSENS did not differ significantly from TYP students or students with ASD. Furthermore, the mean scores of S-SR were significantly higher for girls ( $p < .001$ ), while the mean scores of O-SR were significantly higher for boys ( $p < .001$ ). No significant interaction effects between gender and type of student were found. After Bonferroni correction, TYP girls had significantly higher rates of S-SR than TYP boys ( $p < .001$ ), boys with ASD ( $p < .001$ ), girls with ASD ( $p < .05$ ) and boys with MOTSENS ( $p < .01$ ). Furthermore, TYP boys had significantly higher S-SR than boys with ASD ( $p < .001$ ) and higher O-SR than TYP girls ( $p < .001$ ), boys with ASD ( $p < .001$ ) and girls with MOTSENS ( $p < .01$ ).

#### 4. Discussion

Results of this large-scale study among students with SEN in inclusive secondary schools support findings from earlier small-scaled studies (Pijl et al., 2008), indicating that the social environment of students with SEN in mainstream 7<sup>th</sup> grade is not a favorable one. However, based on our comparison between students with different types of SEN, we can conclude that not all students with SEN experienced social difficulties in mainstream 7<sup>th</sup> grade. For example, male students with MOTSENS did not differ from their TYP classmates in any key theme of social participation, though the results of this study identified two groups at risk for social difficulties, i.e., students with ASD and girls with MOTSENS. Students with ASD scored less favorably on all aspects of social participation than did TYP students. Given consistency in self- and classmate-reported scores, it seems that students with ASD recognize their social difficulties. Similar results have been found among high functioning children with ASD, indicating that even if these children would like to be more socially involved with their peers, they do not feel sufficiently capable of doing so (Bauminger, Shulman, & Agam, 2004). Girls with MOTSENS who had lower classmate-reported (but not self-reported) social interactions, were less accepted, and had fewer friends than TYP students. So far, no other study has indicated any significant social difficulties of girls with MOTSENS. These findings confirm that physical integration is not enough to guarantee successful social participation and underlines the need to more closely monitor the social situation of students with ASD and girls with MOTSENS. Additional research is needed to obtain a more detailed view of the students at risk and the influencing factors.

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