Social Status of Students with Intellectual Disabilities in Special Needs Schools: The Role of Students' Problem Behavior and Descriptive Classroom Norms

Noemi Schoop-Kasteler, Verena Hofmann, Antonius H. N. Cillessen & Christoph M. Müller

Published online: 27 Feb 2022.

Submit your article to this journal ↗

View related articles ↗

View Crossmark data ↗

Routledge
Taylor & Francis Group

Social Status of Students with Intellectual Disabilities in Special Needs Schools: The Role of Students' Problem Behavior and Descriptive Classroom Norms

Noemi Schoop-Kasteler [ID][a], Verena Hofmann [ID][a], Antonius H. N. Cillessen [ID][b], and Christoph M. Müller [ID][a]

[a]Department of Special Education, University of Fribourg, Fribourg, Switzerland; [b]Behavioural Science Institute, Radboud University, Nijmegen, The Netherlands

ABSTRACT

Introduction: Individual social status among peers (i.e., acceptance and rejection) has important implications for students' social and academic development. The present study investigates the role of individual problem behavior and classroom norms in the development of acceptance and rejection among students with intellectual disabilities (ID) in special needs schools.

Methods: School staff reported on problem behavior and social status of 1125 students with ID ($M = 11.26$ years, $SD = 3.76$; 31% female) in special needs schools at the beginning and end of a school year.

Results: More individual problem behavior at the beginning of the year predicted students' lower acceptance and greater rejection at the end of the year, controlling for earlier problem behavior and other variables. The effect of problem behavior was independent of the prevailing classroom norms.

Conclusion: Our findings show that behavioral problems pose a risk for social exclusion of students with ID among their peers in special needs settings.

INTRODUCTION

Students' social status in a classroom refers to how socially accepted or rejected they are by their surrounding peers. Individual social status has important implications for students' social and academic development. In addition to social belonging as a fundamental human need, more accepted students have been found to develop more positively regarding their prosocial behaviors and academic skills (e.g., Ollendick et al., 1992; Wentzel et al., 2021). In contrast, rejected students tend to develop more externalizing behavioral problems and to have lower academic achievement over time (e.g., Andrei et al., 2015; Laird et al., 2001; Sturaro et al., 2011; Véronneau et al., 2010).

Studies among typically developing children and adolescents have shown that students' social status is influenced by their levels of externalizing and internalizing behaviors (for an overview, see Cillessen & Mayeux, 2005). Students who exhibit more such problems are at greater risk of low acceptance and more rejection among their peers (Henricsson & Rydell, 2006; Sturaro et al., 2011). Based on social comparison processes between peers, not only individual behavior but also the level of problem behavior among the classmates can impact the social status of students (e.g., Stormshak et al., 1999). Less is known on this topic for students with an intellectual disability (ID; for a definition, see, Schalock et al., 2021) but there are several reasons why it is important to consider this question for this group. First, ID is associated with increased levels of problem behavior (e.g., Emerson et al., 2001; Nicholls et al., 2019) such as disruptive, antisocial, and self-absorbed behaviors, communication disturbances, anxiety, and problems in relating socially (Einfeld & Tonge, 1995). These behaviors could strongly impact on students' social status. Second, in many countries a large proportion of students with ID attend special needs schools (e.g., Kultusministerkonferenz, 2018; Smits & Schoonheim, 2016), in which classrooms differ from regular classrooms in terms of size and student composition. The role of individual and classroom-level problem behaviors in the development of social acceptance and rejection of students with ID in such specialized settings has not yet been considered. More knowledge on this issue may provide a better understanding of the peer relationships of students with ID and help prevent the risks associated with rejection and promote students' acceptance by classmates.

Social Status and Its Association with Individual and Contextual Factors

Social status among classmates is typically assessed using peer nominations asking students who they like most and who they like least (other methods include peer ratings, and self-, parents-, or teacher reports; Cillessen & Bukowski, 2018). Derived from peer nominations, individual acceptance and rejection can be determined as the within-classroom standardized numbers of "liked most" and "liked least" nominations received. Using this procedure, Chang (2004) found that typically developing adolescents received about 17% of all possible "liked most" nominations (Chang, 2004) and 25.1% of all possible "liked least"-nominations (García-Bacete et al., 2019) from their classmates in regular classrooms.

The degree to which students are accepted or rejected by their peers partly depends on their individual characteristics. For example, sex (e.g., Cillessen & Mayeux, 2005; Coie et al., 1982; Vaillancourt & Hymel, 2006), age (e.g., Cillessen & Mayeux, 2005; Coie et al., 1990; Pope et al., 1989), and adaptive behavior (e.g., Newcomb et al., 1993) can affect students' peer status. Many studies investigating samples of typically developing students also show that

the more problem behavior students exhibit (e.g., Erath et al., 2007; Newcomb et al., 1993), the more likely they are to be rejected and the less likely they are to be accepted among their classmates (e.g., Breeman et al., 2015; Leflot et al., 2011; Mercer & DeRosier, 2008; Sturaro et al., 2011; for overviews see, Asher & McDonald, 2011; Cillessen & Mayeux, 2005). This can be explained by students' needs for companionship, trust in their surroundings, autonomy, efficiency, and the need for connection among peers (Asher & McDonald, 2011). Relationships with students with high levels of problem behaviors may less satisfy these needs so that these youths will be less preferred than others.

The *person-group-similarity model* (Wright et al., 1986) states that classroom descriptive norms for problem behavior (i.e., the average level of such behavior across all students in a class; Cialdini et al., 1990; Veenstra et al., 2018) impacts on the association between students' individual problem behavior and acceptance and rejection. Stormshak et al. (1999), for example, showed that the negative effect of aggressive behavior on individual social status decreased in regular classrooms where aggressive behavior was normative. When it was nonnormative, aggressive behavior was more likely to be associated with a low social status. Following social comparison theory (Festinger, 1954), this observation may be explained by the fact that individuals compare themselves with others to evaluate or enhance aspects of themselves (Festinger, 1954; Kindermann & Gest, 2018; Suls et al., 2002; Veenstra et al., 2018). If there is a discrepancy between the behaviors of members of the same group, individuals will try to reduce this discrepancy by changing their own position or by trying to change the position of other group members. To date, several studies in regular classrooms have supported the person-group-similarity model for the association between individual and classroom levels of aggressive behavior (Boivin et al., 1995; Boor-Klip et al., 2017; Chang, 2004; Jackson et al., 2015; Powers & Bierman, 2013; Rohlf et al., 2016; Stormshak et al., 1999; but see, Garandeau et al., 2011) and social withdrawal (Boivin et al., 1995; Chang, 2004; Stormshak et al., 1999; but see, Boor-Klip et al., 2017).

According to the *social-skills model*, in contrast, the association between individual behavior and status is independent of the classroom context. This model found support for other types of problem behaviors than those that support the person-similarity group model (e.g., inattention, hyperactivity, and social withdrawal; Boor-Klip et al., 2017; Stormshak et al., 1999). An explanation for this could be, that behaviors such as inattention and hyperactivity limit social functioning (Solanto et al., 2009), while others (e.g., aggressive behaviors) do not necessarily do so (Stormshak et al., 1999). In conclusion, while the person-group-similarity and the social-skills model make opposing hypotheses, the existing research suggests that both models make correct predictions depending on the types of problem behaviors.

Social Status in Students with ID in Special Needs Schools

The role of problem behavior in peer acceptance and rejection of students with ID in special needs schools rarely has been considered. Compared to typically developing students, certain aspects are specific to the situation of students with ID and their school context. Students with ID often show much higher levels of problem behaviors than typically developing individuals (e.g., Dekker et al., 2002). This has also implications at the contextual level, namely that in special needs schools for students with ID the general level of problem behaviors among all students is typically higher than in regular schools. Nicholls et al. (2019) found that 53% of all participants in a study in a special needs school exhibited challenging behaviors. The peer context of special needs schools is also characterized by fewer students per classroom (typically 5–10) and more adult supervision than in regular schools. To date, it is unclear how these factors affect the association between individual problem behavior, social status, and classroom descriptive norms.

There is not much known on the predictors of social status among students with ID in special needs schools. It has been shown that sociometric structures, such as different status groups, also exist among students with ID in special needs schools (e.g., Siperstein & Bak, 1989; for a review see Schoop-Kasteler & Müller, 2020). Also, a few cross-sectional studies have shown that the social status of students with ID in special needs classrooms was associated with their behavioral characteristics (MacMillan & Morrison, 1980; Morrison & Borthwick, 1983; Morrison et al., 1983; Santich & Kavanagh, 1997). For example, MacMillan and Morrison (1980) found that more teacher-observed misbehavior of 287 students with ID or learning disabilities was associated with less acceptance by peers in special needs classrooms (according to both peer ratings and teacher reports). Considering a subsample of this study, Morrison et al. (1983) reported that teachers' perceptions of these students' disruptive behavior predicted how they were seen by their peers, which was in turn associated with social status. Similar results were reported in a cross-sectional study by Santich and Kavanagh (1997).

To our knowledge, it has not yet been investigated whether deviation from descriptive classroom norms for problem behavior affects the social status of students with ID in special needs schools. However, with regards to students with emotional and behavioral problems without ID attending special needs classrooms, DeSwart et al. (2019) reported that more individual problem behavior was related to less peer acceptance and more rejection, independent of the descriptive classroom norm and in line with the social-skills model. The authors explained this finding by the severe social skill impairments that students with emotional and behavioral problems often have (Bradley et al., 2008) that could impede positive peer interactions and lead to rejection

regardless of the descriptive classroom norm. Given similar social problems of students with ID (Carter, 2018), comparable processes and results could be expected for this group.

In conclusion, much is still unknown about the determinants of social status of students with ID in special needs schools. Most of the existing studies used cross-sectional designs and relatively small sample sizes which makes it difficult to reach conclusions on the influence of individual and contextual factors over time.

The Current Study

This study used a longitudinal research design with two measurement points to address two main goals. First, we examined the influence of individual problem behavior on social status (acceptance and rejection) of students with ID in special needs schools over time. Based on the existing literature, we expected that more individual problem behavior of students with ID at the beginning of the school year, would be associated with less peer acceptance and more rejection at the end of the school year, controlling for individual baseline social status (Hypothesis 1). Second, we examined whether the descriptive classroom norm for problem behavior moderated the association between individual problem behavior and acceptance/rejection over time. Based on findings by Stormshak et al. (1999), we hypothesized that the association between individual problem behavior and acceptance/rejection as expected in Hypothesis 1 would be weaker the higher the mean levels of behavior problems in classrooms (Hypothesis 2). We tested our hypotheses with an overall score of problem behaviors typically seen in individuals with ID, controlling for students' adaptive behavior, age, sex and descriptive classroom norms. We further explored the same analyses for each domain of behavior problems separately.

MATERIALS AND METHODS

Participants

This study was part of the longitudinal research project "KomPeers" (Müller et al., 2020) in Swiss special needs schools for students with ID. In Switzerland, these schools are attended only by students with a clinical diagnosis of ID (few exceptions are possible) and a proven entitlement to enhanced measures based on a national standardized classification procedure (Erziehungsdirektorenkonferenz, 2007). Intellectual disability in Switzerland typically is diagnosed according to ICD-10 using an IQ below 70 and limited adaptive behaviors as criteria (World Health Organization, 2016). Special needs schools often are combined with a care

offer in day structures. The study included two measurement occasions with an interval of 7 to 9 months within one school year (T1: August/September/ October 2018; T2: April/May/June 2019).

For participation, schools had to be specialized in children and adolescents with ID and be located in the German-speaking part of Switzerland. For economic reasons, larger schools near the location of the University of Fribourg were given priority, resulting in not fully representative data for all of Switzerland (for details, see Müller et al., 2020). Sixteen special needs schools from six cantons (i.e., areas) participated; 11 schools (69%) were located in urban areas, 2 (13%) in periurban communities, and 3 (19%) in rural communities. At T2, the average number of students per school was 75.31 (*SD* = 27.88, range 29–124); average class size was 6.48 students (*SD* = 1.46, range 4–15).

Information about students was collected from school staff. In total, 397 members of the school staff reported on the students they taught in their classroom. Staff members were on average 46.26 years old (*SD* = 12.53); 86.6% were female. Average work experience was 16.34 years (*SD* = 11.74). On average, they had been employed at their school for 10.91 years (*SD* = 9.73). At T2, school staff had been working an average of 18.63 months (*SD* = 13.16) with the students they reported on. Of the surveyed staff members, 60.4% were teachers,14.7% pedagogical assistants, 4.3% therapists, 5.3% long-term interns, and 5.3% had unspecified positions. For 75.6% of the students, the same member of the school staff completed the questionnaire at T1 and T2 (for 10.9% of the students this information was missing).

The student sample included 1,125 children and adolescents (of 1,177 students in total attending the schools) from 179 classrooms (of 182 classrooms in total). Thus, we had data for 95.58% of all students attending the participating schools. Data was not available for the remaining students (*n* = 52) due to a decision by parents or staff not to participate. At T2 students were on average 11.97 years old (*SD* = 3.75, range 4.83–19.67); 69% were boys and 31% girls. Socioeconomic status was measured using the International Socioeconomic Index of Occupational Status (ISEI, Ganzeboom & Treiman, 1996). It was determined from the higher status profession of the two parents (Konsortium PISA.ch, 2018). The average ISEI in the sample was 41.13 (*SD* = 17.00) indicating a below average SES compared to students in German-speaking Swiss regular schools where it is 51.7 (Konsortium PISA.ch, 2018).

Measures

Dependent Variable
Social Status. Studies among typically developing students usually use peer nominations to assess social status (Marks et al., 2013). Due to their disability, a majority of students with ID participating in this study would not have been

able to complete such peer reports (due to limited reading/writing abilities, difficulties of understanding, response biases etc.; for reviews see, Coons & Watson, 2013; Finlay & Lyons, 2001). Because a main goal of this study was to assess the social status of all students in each special needs classroom, staff members who observed the students on a regular basis in their classroom filled out peer nominations from the perspective of each student, from which acceptance and rejection scores were derived. We adapted this approach from earlier research among typically developing students in regular classrooms (e.g., Harks & Hannover, 2017, 2020; Wu et al., 2001). This procedure requires staff to reflect on each student's single peer relationship in class, instead of directly reporting an overall acceptance and rejection score using a Likert scale (but see our sensitivity analyses in the Results section where a Likert scale-based measure was used to additionally test for consistency of our results). Rather than generally replacing the peer perspective, the staff reported peer nominations used are considered an alternative measure to receive information about students` acceptance and rejection in settings where their difficulties make it very challenging to validly assess their perspective (see also, Schoop-Kasteler & Müller, 2021).

For each student in their classroom, staff members were asked to nominate the peers from the whole school (a list of all students was provided) who they assumed the student would report as liking most ("*Who does this student like especially in school?*") and liking least ("*Who does this student not like so much in school?*"). For each question, they could nominate as many students as they saw fit. To compute scores for social status, we then counted for each student the number of nominations they received. Because our focus was on acceptance and rejection in the classroom, we counted nominations received from classmates, but not from students from other classrooms in the school. Acceptance was determined by the number of nominations received from classmates for the "liked" item. Rejection was determined by the number of nominations received from classmates for the "not liked" item. The number of nominations received was divided by the number of nominators to create proportion scores (Cillessen & Bukowski, 2018).

Predictors

Individual Problem Behavior. Problem behavior was assessed using the German version of the Developmental Behavior Checklist – Teacher Version (DBC-T; Einfeld & Tonge, 2002; Einfeld et al., 2007; Gray et al., 2018). The DBC-T was developed to assess behavioral and emotional disturbances in children and adolescents with intellectual disabilities (Einfeld & Tonge, 1995) and consists of 94 items structured in six subscales: disruptive/antisocial behaviors (e.g., "hits or kicks others"), self-absorbed behaviors (e.g., "hits or bites self"), communication disturbance (e.g., "stands too close to others"), anxiety (e.g., "fears particular things or situations (e.g., the dark, insects)"),

social relating behaviors (e.g., "refers to do things alone, tends to be a loner") and others (e.g., "talks about suicide"). School staff were required to report on the occurrence of specific behaviors in the last two months (*not true as far as you know – 0, somewhat or sometimes true – 1, very true or often true – 2*). The DBC-T can yield a Total Behavior Problem Score (TBPS), an overall measure of behavioral and emotional disturbance calculated by summing the scores of all items. In addition, subscale scores can be determined. For the test of our hypotheses, we used an overall mean raw score calculated from the means of all subscales with higher values indicating more severe problem behaviors. Steinhausen and Winkler Metzke (2005) evaluated the German version of the DBC. They reported the same factor structure as for the English version and an internal consistency of $\alpha = .93$ for the total scale (in the current dataset $\alpha = .95$). The reference norms of the DBC-T are based on an Australian sample of 640 4–18 year-olds with ID (IQ < 50). The clinical cutoff-score of TBPS > 30, which determines a level of problem behavior in the psychiatric range, was determined based on receiver operating characteristics analyses (Einfeld et al., 2007).

Descriptive Classroom Norms of Problem Behavior. Following earlier studies (e.g., Araos et al., 2014), descriptive classroom norms for problem behavior were operationalized as the classroom average of the individual scale means for problem behavior on the DBC-T of all students in the classroom.

Control Variables
Demographics. Students' age (in month) and sex were reported by staff members.

Adaptive Behavior. Adaptive behavior was assessed using a German version of the Adaptive Behavior Assessment System-3 for teachers (ABAS-3; Bienstein et al., 2017; Harrison & Oakland, 2015). This instrument is based on the US-version of the ABAS-3 which was extensively evaluated and standardized with reference to a representative population-based sample of 1896 individuals from the USA (Harrison & Oakland, 2015). It contains 174 items across nine subscales. The subscales can be summarized to three domain scores (i.e., conceptual, practical, social) and an overall score for adaptive behavior (General Adaptive Composite, GAC). The internal consistencies for the GAC were, depending on age, between $\alpha = .97$ and $\alpha = .99$ (Harrison & Oakland, 2015). In the current data set, internal consistency was $\alpha = .99$. As the control variable in our analyses, we used the percentile rank of the GAC, indicating adaptive competence relative to age.

Procedure

The current study was approved by the institutional research commission of the Department of Special Education of the University of Fribourg. The headmasters of the schools that fitted the selection criteria described above were contacted by phone, followed by written information about the study and a personal meeting with school management. From 20 schools contacted, 16 decided to participate.

Data collection was completely anonymous, meaning that the researchers never had access to names of students, parents, or staff. Before the beginning of the study, parents received written information about the study in a letter from the school. In this letter anonymity was guaranteed for parents and their child and it was pointed out that no medical diagnoses of students would be assessed. Parents were informed that participation was voluntary and that they could inform their child's teacher if they would not like to participate (in this case staff did not fill out questionnaires on this student). The letter was distributed in nine languages and also delivered in a simple language version. Research assistants informed school staff in a personal meeting of the study goals and provided a detailed introduction to the questionnaire. School staff could decide not to participate.

Statistical Analyses

Descriptive statistics included bivariate correlations between the key variables. Multilevel models were then run to test our hypotheses (Raudenbush & Bryk, 2002). Multilevel modeling accounts for nested data, in this case of students in classrooms data (Geiser, 2013). In this study, it could be expected that students in the same classroom had an increased probability to share common characteristics because they may have been selected in specific ways and exposed to common influences. Analyses were conducted using Mplus version 8 (Muthén & Muthén, 2017), which accounts for missing values of unbalanced data by using a full information maximum likelihood estimation.

Social status, individual problem behavior, adaptive behavior, sex and age were Level 1 variables (student level). Descriptive classroom norms of problem behavior were Level 2 variables (classroom level). Separate models were set up to predict acceptance and rejection. First, an unconditional model was estimated to determine the Level 1 and Level 2 variances and the intraclass correlation (ICC) of the dependent variable. Second, we predicted social status at T2 by individual problem behavior controlling for social status at T1 (Model 1). Third, students' sex, age and adaptive behavior at T1 were added as control variables. Classroom descriptive norm was added as a Level 2-control variable (Model 2) and this model was used to test Hypothesis 1. Finally, the cross-level interaction term between descriptive classroom norm of

problem behavior and individual problem behavior was added (Model 3). This allowed us to test Hypothesis 2 regarding the moderating effect of the descriptive classroom norm on the effect of individual problem behavior on social status. After running Model 2 using the total problem behavior score, we repeated the same model using the separate domain scores for problem behavior to gain additional exploratory insights.

Results

Descriptive Results

Table 1 indicates the descriptive statistics for the main study variables. On average, students received between 20.48% (T1, $SD = 22.71\%$) and 24.58% (T2, $SD = 24.44\%$) of all possible "liked" nominations in their classrooms and between 7.62% (T1, $SD = 16.65\%$) and 9.68% (T2, $SD = 19.71\%$) of the possible "not liked" nominations. T-tests indicated a significant increase of received "liked" nominations ($p < .001$) and received "not liked" nominations ($p < .001$) over the school year. Cohen's effect size value ("liked": $d = -.162$; "not-liked": $d = -.106$) suggested small practical relevance of these effects. Across all items the mean of the individual problem behavior scores at T1 was 0.38 ($SD = 0.25$, range 0–1.32). In order to make this value easier to interpret, the average Total Behavior Problem Score (TBPS) was also calculated for T1. With a sum score of 35.21 ($SD = 23.38$) the mean TBPS was above the clinical cutoff value of 30 (Einfeld et al., 2007) and thus indicated generally high levels of problem behaviors in the sample. About 51.8% of the students were reported to have levels of emotional and behavioral problems above the clinical cutoff of the DBC-T (Einfeld et al., 2007). The median percentile rank of adaptive behavior at T1 was 3 (range 0–91), suggesting overall low levels of adaptive behavior in

Table 1. Means and standard deviations for all variables as used in the main analyses (n = 1125).

	T1		T2	
Variable	M	SD	M	SD
Level 1 (Student)				
Acceptance[a]	20.48%	22.71%	24.58%	24.44%
Rejection[b]	7.62%	16.65%	9.68%	19.17%
Problem behavior	.38	.25		
Adaptive behavior	7.94	11.46		
Age in years	11.26	3.76		
Level 2 (Classroom)				
Classroom norm of problem behavior	.38	.15		

[a]Percentage of possible "liked"-nominations received
[b]Percentage of possible "not-liked"-nominations received
[c]Raw score (not true as far as you know – 0, somewhat or sometimes true – 1, very true or often true – 2)
[d]Percentile Rank

Table 2. Pearson correlations between all variables (uncorrected for classroom-level differences).

	1	2	3	4	5	6	7	8	9
1. Acceptance T1	–								
2. Acceptance T2	.512**	–							
3. Rejection T1	−.225**	−.197**	–						
4. Rejection T2	−.206**	−.248**	.517**	–					
5. Problem behavior T1	−.127**	−.210**	.235**	.235**	–				
6. Adaptive behavior T1	.085**	.064*	−.109**	−.097**	−.395**	–			
7. Age T1	.028	−.046	.056	.008	−.174**	.111**	–		
8. Male sex	−.098**	−.091**	.056	.079**	.118**	−.058	−.041	–	
9. Classroom norm of problem behavior T1	.022	−.101**	.088**	.091**	.619**	−.249**	−.292**	.095**	–

* $p < .05$; ** $p < .01$.

the study sample (Harrison & Oakland, 2015). For more information on the descriptive statistics and cross-sectional associations between problem behavior and adaptive behavior, please see Müller et al. (2020).

Table 2 shows the correlations between the study variables. At each time, acceptance correlated negatively with rejection (small Pearson's *r* effect sizes). Problem behavior at the beginning of the school year was negatively correlated with acceptance and positively with rejection at the beginning and the end of the school year (small effects). Higher descriptive classroom norms for problem behavior at T1 were associated with less individual acceptance at T2 and more individual rejection at T1 and T2. These correlations were small. Adaptive behavior correlated positively with acceptance and negatively with rejection (very small to small effect sizes). Acceptance and rejection were not associated with students' age. Male sex was negatively correlated with acceptance at T1 and T2 and positively with rejection at T2 (very small effect sizes).

Main Analyses

Tables 3 and 4 present the results of our main analyses predicting acceptance and rejection. The ICC in the unconditional model for *acceptance* at T2 was 0.309, indicating that 30.9% of the variance in acceptance was due to differences between classrooms. The ICC for *rejection* at T2 was 0.063, indicating that 6.3% of the variability in rejection was explained by differences between classrooms.

Hypothesis 1 stated that more individual problem behavior at T1 would predict less acceptance and more rejection at T2. For *acceptance*, Model 1 (Table 3) indicated that more individual problem behavior at T1 significantly predicted less acceptance at the end of the school year, controlling for acceptance at T1. When students' adaptive behavior, age, sex, and descriptive classroom norm (Model 2) were added to the model, this effect remained significant. No significant effects of the control variables were found on acceptance.

Table 3. Prediction of acceptance at t2 by problem behavior and classroom descriptive norms of problem behavior at T1 controlling for acceptance, adaptive behavior, age and sex at T1.

	Unconditional Model B (SE)	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
Level 1 (Student)				
Acceptance		0.501 (.042)**	0.497 (0.045)**	0.498 (0.045)**
Problem behavior		−13.637 (2.476)**	−9.498 (2.875)**	−17.319 (9.382)
Adaptive behavior			0.035 (0.059)	0.025 (0.061)
Age			−0.452 (.247)	−0.470 (0.246)
Sex			−1.310 (1.422)	−1.289 (1.421)
Problem behavior x classroom norm in problem behavior				17.715 (19.749)
Level 2 (Classroom)				
Classroom norm in problem behavior			−11.459 (8.947)	−18.929 (14.311)
Variance Level 1	419.070 (28.970)**	303.266 (19.760)**	308.016 (21.534)**	308.404 (21.567)**
Variance Level 2	187.712 (45.590)**	133.174 (34.097)**	130.728 (35.212)**	128.484 (34.446)**

* p < .05; ** p < .01.

For *rejection*, more problem behavior at the beginning of the school year significantly predicted more rejection at T2 (see, Table 4, Model 1), controlling for rejection at T1. The effect of problem behavior on rejection remained significant when we controlled for students' adaptive behavior, age, sex, and descriptive classroom norm. There was no significant effect of adaptive behavior, age, or descriptive classroom norm on rejection. Boys experienced a larger increase in rejection than girls. Together, these results support Hypothesis 1.

Hypothesis 2 predicted a moderating effect of the descriptive classroom norm for problem behavior on the effect of individual problem behavior on social status. For *acceptance*, Model 3 (Table 3) showed no significant interaction effect between descriptive classroom norms and individual problem behavior on T2 acceptance. Thus, the negative association between individual problem behavior and acceptance did not depend on the prevailing descriptive classroom norm in special needs schools for students with ID. The same was found for *rejection*. There was no significant interaction effect between the classroom descriptive norm and individual problem behavior (Model 3, Table 4). In summary, these results suggest that Hypothesis 2 must be rejected.

We conducted two types of sensitivity analyses to test the stability of our results. Because the influence of peers increases with age among typically developing students (e.g., Gifford-Smith & Brownell, 2003) and our sample included a wide age range, we first tested whether the effects of classroom norms for problem behavior on acceptance and rejection varied with students' age. There were no 3-way-interactions between individual problem behavior, classroom descriptive norms, and age on acceptance and rejection ($p > .05$), indicating that classroom descriptive norms had similar effects at different age levels.

Second, we tested the stability of our results when using Likert scale-based data (*not true – 0, somewhat true – 1, certainly true – 2*) from staff ratings. In addition to nominations, staff had rated students' individual overall acceptance and rejection. Individual acceptance scores were determined by calculating the mean item scores of "The student is liked by peers" and "The student is appreciated by peers" ($\alpha_{T1} = .822$; $\alpha_{T2 =} .811$). The rejection score was based on "The student is rejected by peers" and "The student is excluded by peers" ($\alpha_{T1} = .759$; $\alpha_{T2} = .779$). When we repeated our main analyses using these ratings, the directions and significance of individual ($p < .01$) and classroom-level ($p > .05$) problem behavior effects remained the same as when using the nominations. While the control variables had no effects on acceptance using the nomination method, adaptive behavior had a positive effect on acceptance using the rating method ($p < .05$). For rejection, the control variables no longer had a significant effect when the rating method was conducted.

Table 4. Prediction of acceptance at T2 by problem behavior and classroom descriptive norms of problem behavior at T1 controlling for acceptance, adaptive behavior, age and sex at T1.

	Unconditional Model B (SE)	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
Level 1 (Student)				
Rejection		0.554 (0.053)**	0.542 (0.057)**	0.542 (0.057)**
Problem behavior		9.780 (2.611)**	12.014 (3.421)**	10.045 (7.553)
Adaptive behavior PR			0.005 (0.045)	0.002 (0.044)
Age			0.031 (0.138)	0.019 (0.138)
Sex			2.532 (1.016)*	2.516 (1.015)
Problem behavior x classroom norm in problem behavior				4.352 (16.467)
Level 2 (Classroom)				
Classroom norm in problem behavior			−6.261 (4.876)	−8.113 (7.145)
Variance Level 1	344.369 (33.334)**	259.466 (27.684)**	259.182 (28.770)**	259.314 (28.799)**
Variance Level 2	23.080 (12.398)	9.356 (7.475)	2.795 (6.497)	2.606 (6.473)

* p < .05; ** p < .01.

Further Analyses

Given that the general level of individual problem behavior was associated with later social status, we conducted exploratory analyses for the different behavioral domains of the DBC-T (Einfeld et al., 2007). We followed the same analytical procedure of Model 2 in Tables 3 and 4.

For *acceptance*, more individual self-absorbed behaviors ($B = -9.143$, $SD = 2.456$, $p < .001$), communication disturbances ($B = -5.570$, $SD = 1.814$, $p < .01$), problems relating socially ($B = -5.041$, $SD = 1.757$, $p < .01$), and problem behaviors in the "other" category ($B = -11.069$, $SD = 2.981$, $p < .001$) at the beginning of the school year predicted less acceptance at the end of the school year. The results further showed that higher mean levels of anxiety in the classroom were related to less individual acceptance at T2 ($B = -11.800$, $SD = 5.774$, $p < .05$). There were no significant effects for individual disruptive/antisocial behaviors and individual problems in the domain of anxiety.

For *rejection*, more individual disruptive/antisocial ($B = 11.392$, $SD = 2.036$, $p < .001$), self-absorbed behaviors ($B = 8.344$, $SD = 3.051$, $p < .01$), and other problem behaviors ($B = 10.572$, $SD = 2.914$, $p < .001$) at T1 predicted more rejection at T2. Students` levels of communication disturbances, anxiety, and problems relating socially at T1 did not predict rejection at T2. Boys experienced a greater increase in rejection than girls ($p < .05$).

As for overall individual problem behavior, the interaction between the descriptive classroom norm and each subtype of individual problem behavior was not significant.

DISCUSSION

The goal of this study was to examine, from the perspective of staff, the association between individual and classroom-level problem behavior and social status development in special needs schools for students with ID. We found that students' individual problem behavior at the beginning of a - school year predicted less individual acceptance and more rejection at the end of the school year. Furthermore, individual problem behavior was associated with social status regardless of the prevailing descriptive classroom norms.

On average, staff members nominated students to be liked by about one-fifth to one-fourth of their classmates, which is slightly more than from the peers' perspective as reported in studies with typically developing students using the same standardization method of received peer nominations (e.g., 17% in Chang, 2004). In the present study youths received approximately 10% of all possible liked least nominations, which is less than in research using the peer perspective among typically developing students (e.g., 25.1% in

García-Bacete et al., 2019). When comparing our results to other studies in special needs settings with small classrooms, Breeman et al. (2015) found that boys with psychiatric disorders received 37% to 44% of possible "liked" nominations and between 22% and 28% of the possible "liked least" nominations in peer assessments. These numbers are higher; however, comparisons are generally limited due to potential differences between perspectives from peers versus staff and the fact that our results relate specifically to students with ID in special needs schools.

On average, students' acceptance and rejection as perceived by staff members increased over the school year. This could be because peer relationships increase over the school year and roles in class become more clearly defined. In line with our expectation, students with more initial behavioral problems were less accepted and more likely to be rejected later on. This is consistent with reports from other school contexts where behavioral problems have been shown to be a risk factor against students' social inclusion at school (e.g., Breeman et al., 2015; DeSwart et al., 2019; Leflot et al., 2011; Mercer & DeRosier, 2008; Sturaro et al., 2011). Also, among students with ID, relationships with peers with high levels of problem behaviors may less satisfy needs for companionship or autonomy, so that students with such characteristics are less accepted or even rejected (Asher & McDonald, 2011). Moreover, being a boy increased the risk to be rejected, which is in line with findings for typically developing youth (e.g., Coie et al., 1982). One explanation could be that boys have been found to have fewer social skills than girls (e.g., Bennett et al., 2005, but see, Volling et al., 1993) which contributes to them being more rejected. However, this explanation would have to be further tested for students with ID.

After having established the general associations between overall problem behavior and social status, our exploratory analyses revealed a tendency that some domains of problem behavior were associated to acceptance but not to rejection and vice versa. While these results should be interpreted cautiously, they suggest directions for future research. The pattern of results we found for *acceptance* indicated that students who were more self-absorbed and had problems communicating, relating socially, and other problems at the beginning of the school year were less accepted at the end of the year. This is in line with findings for typically developing students showing that less sociability is associated with less peer acceptance (Newcomb et al., 1993). Interestingly, disruptive/antisocial behavior (including aggression) had no significant effect on the future acceptance of students with ID. This is in contrast to findings for typically developing students, for whom disruptive and aggressive behaviors are consistently negatively associated with peer acceptance (Newcomb et al., 1993). As the scale to assess disruptive/antisocial problems included a broad spectrum of behaviors (e.g., delinquency, direct and indirect forms of aggression), this finding would benefit from more domain-specific analyses in the future (see, also, Sijtsema & Lindenberg, 2018).

Our exploratory analyses further showed a tendency that students who showed more disruptive/antisocial and self-absorbed behaviors as well as other problem behaviors were at higher risk to be more *rejected* over the school year. These results correspond to studies among typically developing students, showing that both aggressive/disruptive and socially withdrawn behaviors can result in peer rejection (for reviews, see, Cillessen & Mayeux, 2005; Hymel et al., 2002). Overall, the differing predictions of acceptance and rejection confirm the importance of considering them separately (Coie et al., 1982; Newcomb et al., 1993).

Besides the effects of individual student characteristics on their staff-reported social status development, our results showed that the effect of individual problem behavior on acceptance and rejection was independent of the prevailing descriptive classroom norms. This is in line with the social-skills model, which assumes that individual behaviors affect social status independently of the descriptive classroom norm, and is in contrast to the person-group-similarity model (Stormshak et al., 1999). In line with what was suggested in terms of hyperactive/inattentive behavior among typically developing students (Stormshak et al., 1999), one explanation for this result may be that many problem behaviors predicting status in the present study may be perceived as so disturbing by classmates that their effect is independent of peer norms. Another explanation for the lack of a moderating effect of descriptive norms could be the severe individual social skill problems of students with intellectual disabilities (Carter, 2018; Powers & Bierman, 2013; see, also Little & Kobak, 2003, for students with serious emotional disturbances in special needs classrooms). These may significantly hamper positive interactions with peers and may prevent students with ID to adapt to their classmates' expectations. It could also be that due to their limited intellectual abilities (Schalock et al., 2021), students with ID sometimes may have difficulties perceiving the descriptive norms among their peers which in turn would reduce their ability to adapt accordingly (see, also, Cialdini et al., 1990). Also, the social difficulties associated with ID could contribute to a reduced density of social relationships within special needs classrooms. As social norms are more evident in socially dense groups (Haynie, 2001), descriptive norms may be less pronounced in special needs classrooms which could explain their reduced effect. These explanations are speculative. More research is needed to better understand which mechanisms underlie our finding that in special needs schools for students with ID the social-skills model and not the person-group-similarity model is supported.

An implication of our results is that teachers in special needs schools for students with ID need to be aware that, also in this setting, students differ from each other in their social status. Given the associations

between problem behavior and social status seen, teachers may aim to prevent individual problem behavior to increase a student's social inclusion (e.g., Bierman, 2004; Carter, 2018). Another approach could be to address students' low status through classroom-level interventions (Audley-Piotrowski et al., 2015; Farmer et al., 2018). Given our finding that descriptive classroom norms did not moderate the effects of individual problem behavior and also did not have a main effect on status, simply aiming to reduce problem behavior at the classroom level in order to increase a student's status appears not to be sufficient. However, there are other approaches to foster students' positive status in classrooms. For example, Van Den Berg and Stoltz (2018) showed that changes of seating arrangements in the classroom can increase the social status of students with externalizing behaviors. In their study, students with externalizing problems were better liked by their seatmates and showed fewer externalizing problems over time after a new arrangement of seatings (i.e., placing students with externalizing behaviors next to students with prosocial behavior and higher status). While evidence for the success of such interventions is still lacking for students with ID, it will be worthwhile to study such interventions also for them.

Strengths, Limitations and Future Research Directions

A main strength of this study was that, to our knowledge for the first time, a longitudinal research design was used to examine the role of individual and classroom problem behavior in social status development of students with ID in special needs schools. The large sample size, high participation rate, and use of multilevel analyses allowed us to come to reliable conclusions for the questions at hand.

This study also had some limitations. Due to the individual difficulties related to ID and with the purpose of gathering most complete information for all students in special needs schools, we used staff and not student reports on social status. Social status reported by school staff can be considered as an alternative measure in settings, where students' difficulties make it very challenging to validly assess their perspective. The fact that in two different types of staff reports yielded the same main results supports the reliability of our findings. However, future research should add information from those students with milder forms of ID who are able to report peer nominations. Moreover, direct observations of the interactions between students would add important information on the mechanisms underlying the present findings.

Furthermore, the interpretation of our results would have benefited from the possibility to directly compare our findings with those collected in other school settings for students with ID. It will therefore be important to test whether the associations found here will hold for other types of special needs and inclusive school settings.

Having found evidence for effects of individual problem behavior on acceptance and rejection among students with ID, a next step is also to consider the role of students' competences in status development, such as their prosocial skills. These capacities may directly contribute to status but could also buffer the negative effects of problem behavior. In addition, the impact of classroom characteristics on status development may not only be considered in terms of descriptive norms, but also with regards to classroom network characteristics (e.g., Ahn et al., 2010). Another focus is teachers' attitudes and their emotional "warmth" to students, which have been found to influence the association between problem behavior and social status among typically developing students (Chang, 2003).

In conclusion, this study showed from the perspective of school staff that students with ID and increased levels of problem behaviors are at risk for less positive peer relationships in special needs schools. This parallels findings on the role of individual problem behavior for social status in typically developing students in regular classrooms and points to the need to intervene in these difficulties to prevent exclusion from peers and the risks associated with it.

ORCID

Noemi Schoop-Kasteler ⓘ http://orcid.org/0000-0002-6693-4514
Verena Hofmann ⓘ http://orcid.org/0000-0001-9569-3185
Antonius H. N. Cillessen ⓘ http://orcid.org/0000-0002-5884-907X
Christoph M. Müller ⓘ http://orcid.org/0000-0001-6921-1322

REFERENCES

Ahn, H.-J., Garandeau, C. F., & Rodkin, P. C. (2010). Effects of classroom embeddedness and density on the social status of aggressive and victimized children. *The Journal of Early Adolescence*, *30*(1), 76–101. https://doi.org/10.1177/0272431609350922

Andrei, F., Mancini, G., Mazzoni, E., Russo, P. M., & Baldaro, B. (2015). Social status and its link with personality dimensions, trait emotional intelligence, and scholastic achievement in children and early adolescents. *Learning and Individual Differences*, *42*, 97–105. https://doi.org/10.1016/j.lindif.2015.07.014

Araos, C., Cea, M., Fernández, M., & Valenzuela, E. (2014). The role of school context on marijuana use in Chile: A classroom-level analysis. *Deviant Behavior*, *35*(5), 412–432. https://doi.org/10.1080/01639625.2014.855100

Asher, S. R., & McDonald, K. (2011). The behavioral basis of acceptance, rejection, and perceived popularity. In K. H. Rubin, W. M. Bukowski & B. P. Laursen (Eds.), *Handbook of peer interactions, relationships and groups* (pp. 232–248). New York: The Guilford Press.

Audley-Piotrowski, S., Singer, A., & Patterson, M. (2015). The role of the teacher in children's peer relations: Making the invisible hand intentional. *Translational Issues in Psychological Science*, *1*(2), 192–200. https://doi.org/10.1037/tps0000038

Bennett, S., Farrington, D. P., & Huesmann, L. R. (2005). Explaining gender differences in crime and violence: The importance of social cognitive skills. *Aggression and Violent Behavior*, *10*(3), 263–288. https://doi.org/10.1016/j.avb.2004.07.001

Bienstein, P., Döpfner, M., & Sinzig, J. (2017). *Fragebogen zu den Alltagskompetenzen: ABAS-3. Englische Fassung: Patti L. Harrison & Thomas Oakland. Deutsche Evaluationsfassung* [Adaptive behavior assessment system: ABAS-3. English Version: Patti L. Harrison & Thomas Oakland. German evaluation version]. Faculty of Rehabilitation Sciences, Technical University.

Bierman, K. (2004). *Peer rejection: Developmental processes and intervention strategies*. The Guilford Press.

Boivin, M., Dodge, K. A., & Coie, J. D. (1995). Individual-group behavioral similarity and peer status in experimental play groups of boys: The social misfit revisited. *Journal of Personality and Social Psychology*, *69*(2), 269–279. https://doi.org/10.1037/0022-3514.69.2.269

Boor-Klip, H. J., Segers, E., Hendrickx, M. M. H. G., & Cillessen, A. H. N. (2017). The moderating role of classroom descriptive norms in the association of student behavior with social preference and popularity. *The Journal of Early Adolescence*, *37*(3), 387–413. https://doi.org/10.1177/0272431615609158

Bradley, R., Doolittle, J., & Bartolotta, R. (2008). Building on the data and adding to the discussion: The experiences and outcomes of students with emotional disturbance. *Journal of Behavioral Education*, *17*(1), 4–23. https://doi.org/10.1007/s10864-007-9058-6

Breeman, L. D., van Lier, P. A. C., Wubbels, T., Verhulst, F. C., van der Ende, J., Maras, A., Hopman, J. A. B., & Tick, N. T. (2015). Developmental links between disobedient behavior and social classroom relationships in boys with psychiatric disorders in special education. *Journal of Abnormal Child Psychology*, *43*(4), 787–799. https://doi.org/10.1007/s10802-014-9935-0

Carter, E. W. (2018). Supporting the social lives of secondary students with severe disabilities: Considerations for effective intervention. *Journal of Emotional and Behavioral Disorders*, *26*(1), 52–61. https://doi.org/10.1177/1063426617739253

Chang, L. (2003). Variable effects of children's aggression, social withdrawal, and prosocial leadership as functions of teacher beliefs and behaviors. *Child Development*, *74*(2), 535–548. https://doi.org/10.1111/1467-8624.7402014

Chang, L. (2004). The role of classroom norms in contextualizing the relations of children's social behaviors to peer acceptance. *Developmental Psychology*, *40*(5), 691–702. https://doi.org/10.1037/0012-1649.40.5.691

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, *58*(6), 1015–1026. https://doi.org/10.1037/0022-3514.58.6.1015

Cillessen, A. H. N., & Bukowski, W. M. (2018). Sociometric perspectives. In W. M. Bukowski, B. Laursen, & K. H. Rubin (Eds.), *Handbook of peer interactions, relationships, and groups* (2nd ed., pp. 64–83). Guilford Publications.

Cillessen, A. H. N., & Mayeux, L. (2005). Sociometric status and peer group behavior: Previous findings and current directions. In J. B. Kupersmidt & K. A. Dodge (Eds.), *Children's peer relations: From development to intervention* (pp. 3–20). American Psychological Association. https://doi.org/10.1037/10653-001

Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology*, *18*(4), 557–570. https://doi.org/10.1037/0012-1649.18.4.557

Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). Peer group behavior and social status. In S. R. Asher & J. D. Coie (Eds.), *Cambridge studies in social and emotional development. Peer rejection in childhood* (pp. 17–59). Cambridge Univ. Press.

Coons, K. D., & Watson, S. L. (2013). Conducting research with individuals who have intellectual disabilities: Ethical and practical implications for qualitative research. *Journal on Developmental Disabilities*, *19*(2), 14–24.

Dekker, M. C., Koot, H. M., van der Ende, J., & Verhulst, F. C. (2002). Emotional and behavioral problems in children and adolescents with and without intellectual disability. *Journal of Child Psychology and Psychiatry*, *43*(8), 1087–1098. https://doi.org/10.1111/1469-7610.00235

DeSwart, F., Scholte, R. H. J., Delsing, M. J. M. H., van Efferen, E., van der Stege, H., Nelen, W., & Burk, W. J. (2019). Behavioral classroom norms in special education: Associations with peer acceptance and rejection. *International Journal of Behavioral Development*. https://doi.org/10.1177/0165025419885028

Einfeld, S. L., Tonge, B. J., & Steinhausen, H.-C. (2007). *VFE: Verhaltensfragebogen bei Entwicklungsstörungen: Deutsche Version der Developmental Behaviour Checklist (DBC)* [DBC: Developmental Behaviour Checklist. German Version of the Developmental Behaviour Checklist (DBC)]. Göttingen.

Einfeld, S. L., & Tonge, B. J. (1995). The developmental behavior checklist: The development and validation of an instrument to assess behavioral and emotional disturbance in children and adolescents with mental retardation. *Journal of Autism and Developmental Disorders*, *25* (2), 81–104. https://doi.org/10.1007/BF02178498

Einfeld, S. L., & Tonge, B. J. (2002). *Manual for the developmental behaviour checklist: Primary carer version (DBC-P) and teacher version (DBC-T)*. Monash University Centre for Developmental Psychiatry and Psychology; Clayton.

Emerson, E., Kiernan, C., Alborz, A., Reeves, D., Mason, H., Swarbrick, R., Mason, L., & Hatton, C. (2001). The prevalence of challenging behaviors: A total population study. *Research in Developmental Disabilities*, *22*(1), 77–93. https://doi.org/10.1016/S0891-4222(00)00061-5

Erath, S. A., Flanagan, K. S., & Bierman, K. L. (2007). Social anxiety and peer relations in early adolescence: Behavioral and cognitive factors. *Journal of Abnormal Child Psychology*, *35*(3), 405–416. https://doi.org/10.1007/s10802-007-9099-2

Erziehungsdirektorenkonferenz. (2007). *Interkantonale Vereinbarung über die Zusammenarbeit im Bereich der Sonderpädagogik vom 25. Oktober 2007* [Intercantonal agreement on cooperation in the field of special needs education of 25th October 2007]. EDK.

Farmer, T. W., Talbott, B., Dawes, M., Huber, H. B., Brooks, D. S., & Powers, E. E. (2018). Social dynamics management: What is it and why is it important for intervention? *Journal of Emotional and Behavioral Disorders*, *26*(1), 3–10. https://doi.org/10.1177/1063426617752139

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Finlay, W. M. L., & Lyons, E. (2001). Methodological issues in interviewing and using self-report questionnaires with people with mental retardation. *Psychological Assessment*, *13*(3), 319–335. https://doi.org/10.1037/1040-3590.13.3.319

Ganzeboom, H. B. G., & Treiman, D. J. (1996). Internationally comparable measures of occupational status for the 1988 international standard classification of occupations. *Social Science Research*, *25*(3), 201–239. https://doi.org/10.1006/ssre.1996.0010

Garandeau, C. F., Ahn, H.-J., & Rodkin, P. C. (2011). The social status of aggressive students across contexts: The role of classroom status hierarchy, academic achievement, and grade. *Developmental Psychology*, *47*(6), 1699–1710. https://doi.org/10.1037/a0025271

García-Bacete, F. J., Marande-Perrin, G., Schneider, B. H., & Cillessen, A. H. N. (2019). Children's Awareness of Peer Rejection and Teacher Reports of Aggressive Behavior. *Psychosocial Intervention*, *28*(1), 37–47. https://doi.org/10.5093/pi2018a25

Geiser, C. (2013). *Data analysis with Mplus. Methodology in the social sciences*. Guilford Press.

Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of School Psychology*, *41*(4), 235–284. https://doi.org/10.1016/S0022-4405(03)00048-7

Gray, K., Tonge, B. J., Einfeld, S. L., Gruber, C., & Klein, A. (2018). *Developmental behavior checklist 2*. Western Pyschological Services.

Harks, M., & Hannover, B. (2017). Sympathiebeziehungen unter Peers im Klassenzimmer: Wie gut wissen Lehrpersonen Bescheid? [Sympathy relations among peers in the classroom: How well do teachers know?]. *Zeitschrift Für Erziehungswissenschaft*, *20*(3), 425–448. https://doi.org/10.1007/s11618-017-0769-8

Harks, M., & Hannover, B. (2020). Feeling socially embedded and engaging at school: The impact of peer status, victimization experiences, and teacher awareness of peer relations in class. *European Journal of Psychology of Education*, *35*(4), 795–818. https://doi.org/10.1007/s10212-019-00455-3

Harrison, P. L., & Oakland, T. (2015). *ABAS-3: Adaptive behavior assessment system - third edition* (3rd ed.). Western Psychological Services.

Haynie, D. L. (2001). Delinquent peers revisited: Does network structure matter? *Journal of Sociology*, *106*(4), 1013–1057. https://doi.org/10.1086/320298

Henricsson, L., & Rydell, A.-M. (2006). Children with behaviour problems: The influence of social competence and social relations on problem stability, school achievement and peer acceptance across the first six years of school. *Infant and Child Development*, *15*(4), 347–366. https://doi.org/10.1002/icd.448

Hymel, S., Vaillancourt, T., Mcdougall, P., & Renshaw, P. (2002). Acceptance and rejection by the peer group. In P. K. Smith & C. H. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 265–284). Blackwell.

Jackson, D. R., Cappella, E., & Neal, J. W. (2015). Aggression norms in the classroom social network: Contexts of aggressive behavior and social preference in middle childhood. *American Journal of Community Psychology*, *56*(3–4), 293–306. https://doi.org/10.1007/s10464-015-9757-4

Kindermann, T. A., & Gest, S. D. (2018). The peer group: Linking conceptualizations, theories, and methods. In W. M. Bukowski, B. Laursen, & K. H. Rubin (Eds.), *Handbook of peer interactions, relationships, and groups* (2nd ed., pp. 84–105). Guilford Publications.

Konsortium PISA.ch. (2018). *PISA 2015: Schülerinnen und Schüler der Schweiz im internationalen Vergleich* [Swiss students in international comparison].

Kultusministerkonferenz. (2018). *Sonderpädagogische Förderung in Förderschulen (Sonderschulen). 2017/2018* [Special-pedagogical promotion in special needs schools. 2017/2018]. https://www.kmk.org/dokumentation-statistik/statistik/schulstatistik/sonderpaedagogische-foerderung-an-schulen.html

Laird, R. D., Jordan, K. Y., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2001). Peer rejection in childhood, involvement with antisocial peers in early adolescence, and the development of externalizing behavior problems. *Development and Psychopathology*, *13*(2), 337–354. https://doi.org/10.1017/s0954579401002085

Leflot, G., van Lier, P. A. C., Verschueren, K., Onghena, P., & Colpin, H. (2011). Transactional associations among teacher support, peer social preference, and child externalizing behavior: A four-wave longitudinal study. *Journal of Clinical Child and Adolescent Psychology*, *40*(1), 87–99. https://doi.org/10.1080/15374416.2011.533409

Little, M., & Kobak, R. (2003). Emotional security with teachers and children's stress reactivity: A comparison of special-education and regular-education classrooms. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, *32*(1), 127–138. https://doi.org/10.1207/S15374424JCCP3201_12

MacMillan, D. L., & Morrison, G. M. (1980). Correlates of social status among mildly handicapped learners in self-contained special classes. *Journal of Educational Psychology*, *72*(4), 437–444. https://doi.org/10.1037/0022-0663.72.4.437

Marks, P. E. L., Babcock, B., Cillessen, A. H. N., & Crick, N. R. (2013). The effects of participation rate on the internal reliability of peer nomination measures. *Social Development*, *22*(3), 609–622. https://doi.org/10.1111/j.1467-9507.2012.00661.x

Mercer, S. H., & DeRosier, M. E. (2008). Teacher preference, peer rejection, and student aggression: A prospective study of transactional influence and independent contributions to emotional adjustment and grades. *Journal of School Psychology*, *46*(6), 661–685. https://doi.org/10.1016/j.jsp.2008.06.006

Morrison, G. M., & Borthwick, S. (1983). Patterns of behavior, cognitive competence, and social status for educable mentally retarded children. *The Journal of Special Education*, *17*(4), 441–452. https://doi.org/10.1177/002246698301700406

Morrison, G. M., Forness, S. R., & MacMillan, D. L. (1983). Influences on the sociometric ratings of mildly handicapped children: A path analysis. *Journal of Educational Psychology*, *75*(1), 63–74. https://doi.org/10.1037/0022-0663.75.1.63

Müller, C. M., Amstad, M., Begert, T., Egger, S., Schoop-Kasteler, N., & Hofmann, V. (2020). Die Schülerschaft an Schulen für Kinder und Jugendliche mit einer geistigen Behinderung - Hintergrundmerkmale, Alltagskompetenzen und Verhaltensprobleme [Students in schools for children and adolescents with intellectual disabilities - background characteristics, adaptive behavior and problem behavior]. *Empirische Sonderpädagogik*, *12*(4), 347–368. https://doi.org/10.25656/01:21615

Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide* (*Eighth* ed.). Muthén & Muthén.

Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin*, *113*(1), 99–128. https://doi.org/10.1037/0033-2909.113.1.99

Nicholls, G., Hastings, R. P., & Grindle, C. (2019). Prevalence and correlates of challenging behaviour in children and young people in a special school setting. *European Journal of Special Needs Education*, *3*(2), 1–15. https://doi.org/10.1080/08856257.2019.1607659

Ollendick, T. H., Weist, M. D., Borden, M. C., & Greene, R. W. (1992). Sociometric status and academic, behavioral, and psychological adjustment: A five-year longitudinal study. *Journal of Consulting and Clinical Psychology*, *60*(1), 80–87. https://doi.org/10.1037/0022-006X.60.1.80

Pope, A. W., Bierman, K. L., & Mumma, G. H. (1989). Relations between hyperactive and aggressive behavior and peer relations at three elementary grade levels. *Journal of Abnormal Child Psychology*, *17*(3), 253–267. https://doi.org/10.1007/BF00917397

Powers, C. J., & Bierman, K. L. (2013). The multifaceted impact of peer relations on aggressive-disruptive behavior in early elementary school. *Developmental Psychology*, *49* (6), 1174–1186. https://doi.org/10.1037/a0028400

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods (2nd ed.). Advanced quantitative techniques in the social sciences 1*. Sage Publications.

Rohlf, H., Krahé, B., & Busching, R. (2016). The socializing effect of classroom aggression on the development of aggression and social rejection: A two-wave multilevel analysis. *Journal of School Psychology*, *58*, 57–72. https://doi.org/10.1016/j.jsp.2016.05.002

Santich, M., & Kavanagh, D. J. (1997). Social adaptation of children with mild intellectual disability: Effects of partial integration within primary school classes. *Australian Psychologist*, *32*(2), 126–130. https://doi.org/10.1080/00050069708257365

Schalock, R. L., Luckasson, R., & Tassé, M. J. (2021). *Intellectual disability: Definition, diagnosis, classification, and systems of supports* (12th ed.). AAIIDD.

Schoop-Kasteler, N., & Müller, C. M. (2021). Brief research report: Agreement between teacher and student reports on students' acceptance and rejection. *Frontiers in Education*, *6*. https://doi.org/10.3389/feduc.2021.726854

Schoop-Kasteler, N., & Müller, C. M. (2020). Peer relationships of students with intellectual disabilities in special needs classrooms – a systematic review. *Journal of Research in Special Educational Needs*, *20*(2), 130–145. https://doi.org/10.1111/1471-3802.12471

Sijtsema, J. J., & Lindenberg, S. M. (2018). Peer influence in the development of adolescent antisocial behavior: Advances from dynamic social network studies. *Developmental Review*, *50*(Part B), 140–154. https://doi.org/10.1016/j.dr.2018.08.002

Siperstein, G. N., & Bak, J. J. (1989). Social relationships of adolescents with moderate mental retardation. *Mental Retardation*, *27*(1), 5–10.

Smits, J., & Schoonheim, J. (2016). *Violations of the right to inclusive education. An analysis of the current situation in the Netherlands*. In1School.http://www.in1school.nl/images/kennis-opinie/onderzoeken-in1school/Violations-Right-Inclusive-Education-DEF.pdf

Solanto, M. V., Pope-Boyd, S. A., Tryon, W. W., & Stepak, B. (2009). Social functioning in predominantly inattentive and combined subtypes of children with ADHD. *Journal of Attention Disorders*, *13*(1), 27–35. https://doi.org/10.1177/1087054708320403

Steinhausen, H.-C., & Winkler Metzke, C. (2005). Der Verhaltensfragebogen bei Entwicklungsstörungen (VFE) [The developmental behaviour checklist (DBC)]. *Zeitschrift Für Klinische Psychologie Und Psychotherapie*, *34*(4), 266–276. https://doi.org/10.1026/1616-3443.34.4.266

Stormshak, E. A., Bierman, K., Bruschi, C., Dodge, K. A., & Coie, J. D. (1999). The relation between behavior problems and peer preference in different classroom contexts. *Child Development*, *70*(1), 169–182. https://doi.org/10.1111/1467-8624.00013

Sturaro, C., van Lier, P. A. C., Cuijpers, P., & Koot, H. M. (2011). The role of peer relationships in the development of early school-age externalizing problems. *Child Development*, *82*(3), 758–765. https://doi.org/10.1111/j.1467-8624.2010.01532.x

Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect? *Current Directions in Psychological Science*, *11*(5), 159–163. https://doi.org/10.1111/1467-8721.00191

Vaillancourt, T., & Hymel, S. (2006). Aggression and social status: The moderating roles of sex and peer-valued characteristics. *Aggressive Behavior*, *32*(4), 396–408. https://doi.org/10.1002/ab.20138

van Den Berg, Y. H. M., & Stoltz, S. (2018). Enhancing social inclusion of children with externalizing problems through classroom seating arrangements: A randomized controlled trial. *Journal of Emotional and Behavioral Disorders*, *26*(1), 31–41. https://doi.org/10.1177/1063426617740561

Veenstra, R., Dijkstra, J. K., & Kreager, D. A. (2018). Pathways, networks, and norms: A sociological perspective on peer research. In W. M. Bukowski, B. Laursen, & K. H. Rubin (Eds.), *Handbook of peer interactions, relationships, and groups* (2nd ed., pp. 45–63). Guilford Publications.

Véronneau, M.-H., Vitaro, F., Brendgen, M., Dishion, T. J., & Tremblay, R. E. (2010). Transactional analysis of the reciprocal links between peer experiences and academic achievement from middle childhood to early adolescence. *Developmental Psychology*, *46* (4), 773–790. https://doi.org/10.1037/a0019816

Volling, B. L., Mackinnon-Lewis, C., Rabiner, D., & Baradaran, L. P. (1993). Children's social competence and sociometric status: Further exploration of aggression, social withdrawal, and peer rejection. *Development and Psychopathology*, *5*(3), 459–483. https://doi.org/10.1017/S0954579400004521

Wentzel, K. R., Jablansky, S., & Scalise, N. R. (2021). Peer social acceptance and academic achievement: A meta-analytic study. *Journal of Educational Psychology*, *113*(1), 157–180. https://doi.org/10.1037/edu0000468

World Health Organization. (2016). *International statistical classification of diseases and related health problems 10th revision (ICD-10)-WHO: Chapter V. Mental and behavioural disorders (F00-F99)*. World Health Organization. https://icd.who.int/browse10/2016/en#/V

Wright, J. C., Giammarino, M., & Parad, H. W. (1986). Social status in small groups: Individual-group similarity and the social "misfit." *Journal of Personality and Social Psychology*, *50*(3), 523–536. https://doi.org/10.1037/0022-3514.50.3.523

Wu, X., Hart, C. H., Draper, T. W., & Olsen, J. A. (2001). Peer and teacher sociometrics for preschool children: Cross-informant concordance, temporal stability, and reliability. *Merrill-Palmer Quarterly*, *47*(3), 416–443. https://doi.org/10.1353/mpq.2001.0018