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Are we good friends? – Friendship preferences and the quantity and quality of mutual friendships

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ABSTRACT

Empirical studies already examined various facets of the friendship construct. Building on this, the present study examines the questions of how the number of friendships and their quality differ between students with and without SEN and whether a homophily-effect can be identified. The sample consists of 455 fourth-graders from 28 inclusive classes in Austria. The results indicate that students with SEN have fewer friends than students without SEN. Furthermore, students without SEN preferred peers without SEN as a friend. This homophily-effect was shown for students with SEN, too. However, students with and without SEN rated the quality of their friendships similarly and no interactions between the SEN status of oneself or of the friend was found for the quality of the friendship. The results show that, in the context of inclusion, the issue of friendship needs to be increasingly addressed to improve the situation of students with SEN.

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Introduction

European education systems are currently in a process of change. This was initiated, among others, by the implementation of the United Nations Convention on the Rights of Persons with Disabilities (CRPD, United Nations 2006) since 2006. Consequently, students with and without special educational needs (SEN) should learn together in one classroom (Article 24; United Nations 2006).

However, the focus of inclusion in schools is not only on the academic development of students with and without SEN, but also on enabling the highest possible social participation in inclusive classes. This means that the focus is not only on class contact in the sense of spatial inclusion, but also on social inclusion (e.g. Schwab 2018a). Social participation is therefore regarded as an indicator of a successful implementation of inclusion in schools and is consequently a key issue in this context (e.g. Bossaert et al. 2013).

Accordingly, inclusive education should enable students with SEN to participate socially and thus build a social network (e.g. Koster et al. 2007; Symes and Humphrey 2011; Zurbruggen, Venetz, and Hinni 2018). This is because students with SEN according to literature reviews are at risk of low social participation (e.g. Bossaert et al. 2013; Koster

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et al. 2009; Ruijs and Peetsma 2009; Schwab 2018b). According to Koster et al. (2009) social participation is understood as follows:

“Social participation of pupils with special needs in regular education is the presence of positive social contact/interaction between these children and their classmates; acceptance of them by their classmates; social relationships/friendships between them and their classmates and the pupils’ perception they are accepted by their classmates” (135).

This definition reflects the four dimensions of social participation they have identified: interaction, peer acceptance, friendships, and social self-perception (Koster et al. 2009; Bossaert et al. 2013). Previous studies on these four dimensions have shown that students with SEN are socially isolated, have less interactions with their peers, are less accepted, more often rejected, and they have fewer friends than students without SEN (e.g. Avramidis, Avgeri, and Strogilos 2018; Bossaert et al. 2013; Koster et al. 2009; Mamas, Daly, and Schaelli 2019; Ruijs and Peetsma 2009; Schwab 2018a).

The following study will specifically focus on the students’ friendships dimension of social participation as there are, according to the literature, various aspects that need to be pointed out and investigated in this context. Besides the number of friendships, it is necessary to examine the quality of friendships and especially with regard to the SEN it is important to consider the concept of homophily. These aspects of friendships will be elaborated in more detail below.

Friendship

Bukowski et al. (1996) describe friendship as a form of social relationships, which is a bilateral construct that refers to the relationship between two individuals. The view of only one party is not the focus of interest, as it is the case with popularity, for example, as a unilateral construct, it is instead based on the mutual sympathy of two people. Vaquera and Kao (2008) assume that mutual friendships in comparison to one-sided friendships are a special resource, especially with regard to emotional support. This can be particularly important for students with SEN because as already mentioned, there is a higher risk of social isolation for students with SEN, but this social rejection contradicts the basic idea of inclusion. Asher et al. (1990) suggest that having at least one friend in class can diminish the negative effects of low acceptance by peers. The review of the literature has also shown that parents and teachers see inclusion as an opportunity for children with and without SEN to make more contacts with peers from their local community, to become a part of this community, to acquire social skills in this context and to build friendships (Avramidis and Norwich 2002; de Boer, Pijl, and Minnaert 2010). According to friendships, one cannot solely focus on the number of students’ friends, the quality of friendships plays an important role, too.

Number of friendships

The difference in the number of friendships of students with SEN compared to students without SEN has already been investigated in several international empirical studies. Pijl, Frostad, and Flem (2008) assessed friendships in their study through mutual choice. One of their main findings reveals that students with SEN have an average of 1.8 friends in the fourth grade compared to students without SEN who have 2.7 friends. The comparison of

seventh grade students shows that students with SEN have on average 1.7 friends and their peers without SEN have 2.6 friends. Schwab (2015) likewise reported for Austria that both primary and secondary school students with SEN ($M = 2$) have significantly fewer mutual friendships than their peers without SEN ($M = 3$). Correspondingly, Henke et al. (2017) showed that having a diagnosed SEN makes it difficult for students to make and maintain friendships, because they are nominated significantly less often as friends. This leads, among other things, to a lower likelihood of mutual friendships. Moreover, Schwab (2018a) showed that the number of students with SEN who do not have a single mutual friendship is about three to four times higher than that of students without SEN. The results of Mamas and Avramidis (2013) also confirm that students with SEN have significantly fewer friends in primary school than their classmates without SEN. In line with the aforementioned studies, Avramidis, Avgeri, and Strogilos (2018) found that the risk for students with SEN is significantly higher to have not a single mutual friendship in class than for their peers without SEN. In contrast, the study by Mamas, Daly, and Schaelli (2019) on socially responsive classrooms found contradictory results. They compared two classrooms in their study, while the results of one classroom contradict previous studies by proving that students with SEN do not have fewer friendships and even show that a student with autistic spectrum disorder (ASD) is equally popular. Students with SEN from the second classroom are less socially involved and also have fewer friends. This in fact is proven by the previous research. The authors note that this is a case study that cannot be generalised, but it can nevertheless be helpful for the implementation of inclusion and the associated constitution of the classrooms.

Quality of friendship

The quality of friendship seems to be particularly important when overall acceptance by peers as well as the number of friends are low (e.g. Avramidis, Avgeri, and Strogilos 2018; Waldrup, Malcolm, and Jensen-Campbell 2008). For instance, Malcolm et al. (2006) concluded that high-quality mutual friendships are particularly important, because for instance they protect against bullying. Bossaert et al. (2015) conclude that high-quality friendships are very relevant especially for students with SEN, as they have fewer friends and are often regarded as less accepted. As Avramidis, Avgeri, and Strogilos (2018) report, it is possible that students with SEN do not have many friends, but one or two high-quality friends. According to friendship quality, Grütter et al. (2018) could identify the growing trust and sympathy within a friendship dyad as a decisive factor leading to more inclusivity between peers. Students with learning disabilities report more conflicts, less confirmation and more problems in repairing friendships compared to their peers without SEN (e.g. Wiener and Schneider 2002). Therefore, it is particularly important not only to take the number of friendships into consideration as it has mostly happened in previous studies up to now, but also to examine the quality of friendship. There are different possibilities of operationalising friendship quality, which have been the basis of previous studies. On the one hand, Bukowski, Hoza, and Boivin (1994) developed the Friendship Quality Scale, which contains the following subscales: companionship (spending free time together), conflict (arguing a lot), help (sticking up for each other), security (talking about problems), and closeness (making each other feel special). Based on this, research on students with SEN in comparison to their counterparts without SEN has so far shown

contradictory results. There are studies that emphasise that students with SEN (especially students with behavioural disorders) have an average lower quality of friendship than their classmates without SEN (e.g. Kasari et al. 2011; Solomon, Bauminger, and Rogers 2011). Furthermore, it was found that most differences between students with and without SEN can be found in the areas of intimacy and support (e.g. Bauminger and Kasari 2000). However, in contrast to this, Avramidis, Avgeri, and Strogilos (2018) could not detect differences in the friendship quality of students with moderate learning difficulties and typically developing students. On the other hand, the quality of friendship can be operationalised by the following aspects: companionship (spending fun time together), intimacy (sharing private thoughts and feelings), and support (sticking up for each other) (e. g. Malcolm et al. 2006). On the basis of this, Bossaert et al. (2015) could not find any differences in the quality of friendship of students with motor/sensory disabilities, and their peers without SEN, which is in line with Avramidis, Avgeri, and Strogilos (2018).

Homophily

In addition to the number of friendships and its qualities, also the question about the preference of who is chosen as a friend arises. In this context, the tendency of homophily becomes an interesting aspect. Homophily in friendships can be described as the tendency to establish social relationships with people similar to oneself (Lazarsfeld and Merton 1954). The reason for this is that similarity facilitates contact and relationship building (McPherson, Smith-Lovin, and Cook 2001). Consequently, homophily with regard to social relationships means that people with a number of similar characteristics come into contact with each other rather than people with different characteristics (McPherson, Smith-Lovin, and Cook 2001). Research by McPherson, Smith-Lovin, and Cook (2001) on students' social relations shows that students like to work with colleagues who are similar to them. Various aspects can form the basis for the selection of students, but in particular age, gender as well as academic achievement and this applies to all age groups of students (Altermatt and Pomerantz 2003; Lubbers 2004; McPherson, Smith-Lovin, and Cook 2001; Pijl, Frostad, and Flem 2008). International studies have already shown that children maintain friendships with children of the same ethnic group (e.g. Baerveldt et al. 2007). In the context of inclusion in schools, there are only a few studies currently focusing on the homophily hypothesis. For example, Avramidis and Wilde (2009) found no homophily-effect in relation to SEN. In contrast, Schwab (2018a) found that students with SEN choose students with SEN as friends more often than their peers without SEN. Moreover, the results of the case study of Schwab, Wimberger, and Mamas (2019) might be an evidence for a tendency of homophily. In one class, three students with hearing impairments were friends with each other and not connected to any other classmate.

Objectives

At the moment there are already a couple of studies focusing on friendships of students with and without SEN. The aim of this study is to complement and extend the existing knowledge on the number of friendships, their qualities and the homophily-effect, in particular by considering the extent to which the number of nominations sent to peers, the number of nominations received from peers and the number of

mutual friendships differ between students with and without SEN, especially when the total number of students and the proportion of students with SEN in the class are controlled.

With regard to the number of friends, this study focuses on all three different operationalisations of friendship (received friendship nominations, sent friendship nominations, mutual friendships). As a result, for students with SEN we expect a smaller number of friends in all of the three domains. Therefore, we formulated the following hypotheses:

- (1) Students with SEN report to have fewer friends than students without SEN.
- (2) Students with SEN are less often nominated as friend than students without SEN.
- (3) Students with SEN have fewer mutual friendships than students without SEN.

In order to get a more detailed picture of the friendships, taking into account the total number of students and the proportion of students with SEN in the class, it will be investigated whether students with SEN prefer friendships with students with SEN or more often with students without SEN.

- (4) Students with SEN nominate their peers with SEN more often than students without SEN.
- (5) Students with SEN are more often nominated by their peers with SEN than by their peers without SEN.

Furthermore, the aspect of the quality of friendship will be examined, which is of particular importance with regard to students with SEN. The literature review has shown an inconsistent picture, which raises the following question:

- (6) Does the status of SEN influence the assessment of the quality of friendship?

Method

Procedure

As part of the project 'Attitudes Towards Inclusive Schooling – Students, TEachers and Parents' (ATIS-STEP; see e.g. Schwab 2018c), students were asked to complete a series of questions on a paper-pencil questionnaire. In addition, their teachers were asked whether the students have a diagnosed SEN and, if so, which type of SEN (e.g. learning difficulties, physical disability, or behavioural problems).

The data collection was conducted at the beginning of the 2016/17 school year in a total of 48 inclusive primary classes of the Austrian province of Styria. The selection of schools was based on targeted sampling, accordingly only schools with classes of the fourth grade in which at least one student with formally diagnosed SEN is taught were asked to participate in the study. In this paper, only data from inclusive classes ($n = 28$) where at least two students with SEN were educated, will be used to test our hypotheses.

As required in Austria, the consent for the study was obtained from all parents/caregivers and from the Regional School Authorities of Styria.

Participants

The present sample consists of 455 fourth-graders from 28 inclusive classes from primary schools. 232 boys and 223 girls between the age of nine and eleven took part. The sample of the students with a diagnosed SEN includes 49 boys and 30 girls ($N = 79$). The sample may vary for some analyses. Most students (about 79%) have a learning disability, less than 10% of the students were diagnosed with behavioural problems. Due to the size of the group of students with learning disabilities and the resulting small number of students in groups of other SEN types, no subgroups were formed in the calculations.

Measures

Number of friendships and homophily

In the field of social research, sociometric methods can be used to investigate peer relationships, to which the friendships of students belong. As it is difficult for students with low(er) reading skills and/or a low(er) concentration range to complete complex and extensive questionnaires, sociometric methods have the advantage that they are also well suited for these students, who often include students with SEN. The peer nomination method (Coie, Dodge, and Coppotelli 1982) was selected for this study. Based on previous work (e.g. Frostad, Mjaavatn, and Pijl 2011), the students were asked to nominate their best friends in class. To make it easier to answer the question and to prevent students from being forgotten who were absent on the day of the survey, e.g. due to illness, a list of the names of all the children in the class was given to them. Only positive nominations were required. To avoid endless lists (see e.g. Gronlund 1959), the number of nominations was limited to a semi-fixed choice to a maximum of five peer nominations in the class. Furthermore, comparability with other studies should be established (e.g. Pijl, Frostad, and Flem 2008). Accordingly, the number of sent friendship nominations (outdegrees) can take a sum between zero and five. In addition to the outdegrees, we have also calculated the number of received friendship nominations (indegrees). Therefore, the number of friendship nominations, both, indegrees and outdegrees, is based on unilateral nominations only. In addition, we have used mutual friendships as another variable.

Quality of friendship

In addition to the nominations of the (max.) five best friends, students were asked to rate the quality of friendship for each named friend in the class based on a German version of a four items scale (the items relate to the dimensions of friendship quality: companionship (one item: 'I spend fun time with this person'), intimacy (one item: 'I share private thoughts and feelings with this person') and support (two items: 'I depend on this person for help, advice, and support' and 'This person sticks up for me')) by Bossaert et al. (2015; see also Malcolm et al. 2006; Waldrip et al. 2008). The answer format was a five point Likert-scale (1 = 'not true at all' to 5 = 'completely true'). The internal consistency of the

four items, evaluated by the Cronbach's alpha coefficient and also with the omega coefficient, was low but acceptable ($\alpha = .72$; $\omega = .74$).

Statistical analyses

All statistical analyses were conducted with R. For testing whether SEN impacts the number of indegrees, outdegrees and the absolute as well as the proportional number (proportion relative to class-size) of mutual friendships, hierarchical linear models (HLM) were conducted. Hereby, students were considered to be nested in classes. The analyses were controlled for gender effects. Cross-Classified Multilevel Models (CCMM) were calculated for testing whether SEN affects the quality of friendships to display the nested dyadic structure. Analyses are controlled for the gender of the students evaluating, the gender of the evaluated students and the interaction of the gender (i.e., effects of same vs. opposite gender of two students in a friendship). To analyse whether students are prone to choose friends with the same special need status, we set up a permutation test (Dugard 2014; Edgington and Patrick Onghena 2007). In this test, we resampled the data 10,000 times assuming that students choose friends statistically independent of their SEN status. Hereby we kept the number of classes, the distribution of class-size, the distribution of the number of students with SEN within classes, and the number of friends each student with and without SEN has chosen identical to the original empirical sample. The resulting number of students with and without SEN choosing friends with and without SEN for each of the 10,000 randomised samples built the random distributions of the actual number of students with and without SEN choosing students with and without SEN as friends. When the actual number lies above the 95% percentile (or, respectively, below the 5% percentile when a lower value is hypothesised) of the random distribution, a value is considered significant.

Results

Number of friendships

In order to test the hypotheses on the number of friendships, first the outdegrees of both students with and without SEN were examined. 60.11% ($n = 226$) of students without SEN have nominated the maximum of five students as friends. The maximum number of five friends was named by 39.74% ($n = 31$) of students with SEN. 0.5% of students without SEN has not named a single friend. In contrast, 5,1% of students with SEN have no friend. Overall, the outdegrees show that more students with SEN in comparison to students without SEN nominated one to three friends. However, students without SEN stated more often four to five friends than students with SEN.

The mean values underpin this result. On average students without SEN ($M = 4.17$; $SD = 1.22$) have almost one friend more than students with SEN ($M = 3.33$; $SD = 1.68$) and this difference in the mean number of friends between the two groups is significant (see Table 1). The mean values for girls ($M = 4.09$; $SD = 1.31$) and boys ($M = 3.96$; $SD = 1.38$) are as well as for SEN relatively high, but for gender no group differences could be found (see also Table 1).

Secondly, the indegrees were analysed. It shows that students without SEN are listed between zero and twelve times within their class whereas students with SEN are

Table 1. Estimates of the Hierarchical Linear Model to predict the number of nominated friends.

Variable	B	SE	t
Intercept	4.10	0.11	36.20***
SEN	-0.80	0.16	-5.03***
Gender	0.10	0.12	0.81

*** $p < .001$; Note. Reference category for SEN is No SEN and for gender it is boy.

nominated as friends between zero and six times. The largest proportion (25.32%; $n = 20$) of students with SEN are mentioned twice. The largest proportion (20.74%, $n = 78$) of students without SEN are mentioned three times. 21.52% ($n = 17$) of students with SEN and 2.39% ($n = 9$) were not named once.

The mean values show that students without SEN are named on average 3.78 ($SD = 1.99$) times as friends and students with SEN 2.23 ($SD = 1.77$) times. As a result, students with SEN are mentioned 1.5 times less as friends on average compared to students without SEN. Focusing on gender, the means of the girls' indegrees ($M = 3.49$; $SD = 1.93$) and boys' indegrees ($M = 3.54$; $SD = 2.14$) are similar. Regarding the HLM, there are also no group differences for gender (see also Table 2).

The results regarding mutual friendships reveal that 28.38% ($n = 21$) students with SEN have not at least one mutual friendship compared to 6.68% ($n = 25$) students without SEN. In comparison to that 20 students without SEN (5.35%) and one student with SEN (1.35%) have the total number of five possible mutual friendships. It is shown that students without SEN have on average more mutual friendships than their peers with SEN (with SEN: $M = 1.54$; $SD = 1.32$ and without SEN: $M = 2.37$; $SD = 1.30$; see Table 3). According to the mean values, girls have on average 2.20 ($SD = 1.26$) mutual friendships and boys 2.27 ($SD = 1.41$), consequently no group differences for gender could be found (see also Table 3).

Table 2. Estimates of the Hierarchical Linear Model to predict the number of nominations by peers.

Variable	B	SE	t
Intercept	3.78	0.17	22.03***
SEN	-1.55	0.24	-6.56***
Gender	-0.14	0.18	-0.77

*** $p < .001$; Note. Reference category for SEN is No SEN and for gender it is boy.

Table 3. Estimates of the Hierarchical Linear Model to predict the number of mutual friendships.

Variable	B	SE	t
Intercept	2.37	0.12	20.11***
SEN	-0.84	0.16	-5.22***
Gender	-0.08	0.12	-0.70

*** $p < .001$; Note. Reference category for SEN is No SEN and for gender it is boy.

Homophily

Results show that students with SEN nominate significantly more often students without SEN, when controlling for the percentage of students with SEN per class. Moreover, students without SEN nominate significantly more often peers without SEN, when controlling for the percentage of students with SEN per class.

The results of the random frequencies were calculated using a permutation test (resampling of the data) that shows the expected frequency assuming nominations independent of SEN status. Accordingly, the actual mean nominations show – compared to the permutation test mean nominations – that students with SEN nominate students with SEN as a friend more often (52) than expected (27.8). In addition, students with SEN nominate students without SEN less often (176) than expected (200). Furthermore, it revealed that students without SEN nominate students without SEN as friends more often (1247) than expected (1143) and that students without SEN nominate students with SEN less often (124) than expected (228.1). On the one hand, the results indicate, that students without SEN choose significantly more often students without SEN ($p \leq .0001$). The same applies to students with SEN. They select significantly more often students with SEN as friends ($p \leq .0001$). On the other hand, students without SEN choose students with SEN significantly less often as friends ($p \leq .0001$) and the same applies to students with SEN in relation to their choices of students without SEN as friends ($p \leq .0001$). Accordingly, the homophily hypotheses are corroborated.

Quality of friendship

According to the friendship quality the analyses showed that students without SEN rated the quality of friendship similarly ($M = 3.72$; $SD = 0.94$) compared to students with SEN ($M = 3.87$; $SD = 1.01$). The results of the CCMM (see Table 4) shows that the quality of friendship does not differ significantly, no matter if the rater himself or the friend has SEN or not. In addition to SEN, gender was also considered as a predictor (see also Table 4). According to gender effects, it turns out that the friendship quality differs only significantly in same gender friendships. Consequently, two girls are rated significantly higher than that between two boys.

Table 4. Estimates of the Cross-Classified Multilevel Model to the self-rated quality of the friendship.

Variable	B	SE	t
Intercept	3.57	0.05	65.15***
SEN – NoSEN	0.11	0.10	1.03
NoSEN – SEN	-0.07	0.08	-0.89
SEN – SEN	0.19	0.14	1.37
Gender of the voter	-0.03	0.11	-0.27
Gender of the chosen one	-0.13	0.10	-1.24
same Gender	0.54	0.14	3.87***

*** $p < .001$; Note. Random effects (class code*student code: $SD = 0.63$; class code*student code of the chosen: $SD = 0.12$); The reference category for SEN is NoSEN – NoSEN and for gender it is boy.

Discussion

The present study aimed to gain more deep insights in the friendships between students with and without SEN. The study confirms by taking into account the number of sent friendship nominations (outdegrees), received friendship nominations (indegrees) and mutual friendship nominations that students with SEN nominate significantly fewer friends and receive significantly fewer friendship nominations compared to students without SEN. Students without SEN also have significantly more mutual friendships than their counterparts with SEN. In addition, a homophily-effect was shown even when controlling for the percentage of students with SEN per class. Thus, students with SEN prefer friendships with students with SEN and students without SEN prefer friendships with students without SEN. Regarding the friendship quality no significant differences between students with and without SEN became apparent. The more differentiated view of the CCMM could not provide any significant results for the SEN status. Only the results concerning same gender friendships are significant. Two girls rate their friendship quality higher than two boys.

The outcomes regarding the number of friendships are in line with previous studies (e.g. Pijl, Frostad, and Flem 2008; Henke et al. 2017; Avramidis, Avgeri, and Strogilos 2018; Schwab 2018a). Especially the fact that around 28% of students with SEN do not have at least one single mutual friendship in their class seems to be worrying as the importance of mutual friendship in terms of emotional support (Vaquera and Kao 2008) and reducing the negative effects of low peer acceptance (Asher et al. 1990) have already been pointed out. In contrast, the percentage of the peers without SEN having no mutual friendship at all was around three times less. This result underpins the huge need to foster students' social participation in the context of inclusive education. However, the number of friends, in particular the amount of students having no friend at all, is strongly influenced by the operationalisation of friendships. While students with SEN indicated to have fewer friends (outdegrees) compared to their friends without SEN, the gap becomes even bigger when taking into account the peers' perspectives (e.g. number of mutual friendships). Therefore, when interpreting studies on students' friendships, the research methods and operationalisations used should always be taken into account (see also Bossaert et al. 2015; Schwab, Wimberger, and Mamas 2019). One possible explanation for this effect might be that students with SEN have a different concept of friendships and therefore, they nominate also 'less close' peers. Another possible explanation might be that students with SEN have a higher tendency to follow instructions and therefore, they rather name the maximum of possible nominations. Further research would need to look more closely to this result and investigate mechanisms, which give explanations for this pattern.

According to the homophily tendency, the results of this study brought new knowledge, because this topic was neglected the past decades in the literature. The results of the permutation test confirmed the homophily hypothesis and showed that students with SEN as friends preferred students with SEN, while students without SEN more often named students without SEN as a friend. In this context, it has to be discussed, whether this is really a problem, because it can also be an opportunity for students to exchange their thoughts on specific topics that affect their group. Taking this into account, the question arises whether it makes sense to intervene here, when students actually prefer to

be with peers who are similar to them, and thus deprive them of the opportunity for mutual exchange.

With a focus on the quality of friendships, the effect was somehow different. Contrary to the results of aforementioned studies (Kasari et al. 2011; Solomon, Bauminger, and Rogers 2011), students with SEN rate their quality of friendship on average similar to students without SEN, which does not correspond to the previous results.

Generally, the results of this study indicate that students with SEN have fewer friends compared to their peers without SEN but the few friendships they have are built on a high quality. This is in accordance with Avramidis, Avgeri, and Strogilos (2018) who stated that it is possible that students with SEN do not have a lot of friend, but in contrast one or two high-quality friendships. However, it can also be a result of measurement invariance. Students with SEN might have a different perspective of friendship quality. Or it could be an even simpler methodological artefact. For instance, if you have only one friend the chance is higher that you share private thoughts and feelings with this one friend you have. If you have more friends, you can be pickier and choose with whom of your friends you share the closest thoughts. However, in line with Avramidis, Avgeri, and Strogilos (2018) as well as Bossaert et al. (2015), no significant differences on the different friendship pairings could be proven. There were only minimal differences in the assessment of friendship quality when a part of the friendships dyads has an SEN, both or none of them. This suggests that there may be other factors that allow a prediction of friendship quality. This would be supported of the significant result in the predictor 'same-gender friendships'.

Limitations

A limitation of this study is, that the students were not asked with whom they would like to be friend. Therefore, the interpretation of the tendency towards homophily needs to be done with caution. Based on the design of the current study it is impossible to know if students have a particular preference or if, for example, they are friends because no one else wants to be friends with them. It could still result, that students with SEN stick together as they are not liked by peers without SEN and instead of being lonely they just pick some of the other outgroup members. As Schwab (2018a) already questioned: is there really a homophily tendency, or do students with SEN only team up with each other because they are excluded from the other students without SEN.

According to the friendship quality a method specific bias has to be carefully considered: students who do not have at least one single friend could not rate the quality of their friendship. Therefore, these students have been excluded in the analyses of friendships qualities. This is particularly limiting the results as it was shown that the amount of students having not a single friend in their class differed between students with and without SEN.

However, it is also a limitation that only friends within the class were considered in this study, so that there is a possibility that these students may have a very good friend outside the classroom to whom they maintain a high quality friendship, so that they are integrated into a good social network there. In addition, there is the possibility that the students have friends in the parallel classes or in another grade. This provides a starting point for further research.

Conclusion

This study confirmed again that students with SEN have a higher risk of having fewer friends in their class and underpin the need for prevention and intervention of social participation in inclusive schooling. But not only in the number of friendships, also the quality of friendships needs to be taken into account. Furthermore, the study has considered an aspect that has so far been ignored: homophily. It was found that students with SEN have a higher tendency to be friends with a peer with SEN while students without SEN prefer peers without SEN. Future research needs to identify explanations for this pattern. Additionally, it could be interesting to focus additionally on friendships outside the classroom. In general, social participation of students with SEN is still a major concern in inclusive classes and teachers need to prevent and intervene to improve the social situation of the students, particularly those of outgroups (such as students with SEN) in their class.

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Data availability

Due to ethical reasons, the data are not publicly available.

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