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The role of students' experiences in attitude formation towards peers with non-compliant classroom behaviour in inclusive primary schools

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ABSTRACT

Social participation is a crucial condition for successful learning in inclusive primary schools. Unfortunately, students with non-compliant classroom behaviour are at risk of being socially excluded from their class. Recently, students' attitudes have been identified as the central indicator of the social participation of students with non-compliant behaviour in the classroom. However, the determinants of students' attitudes are unclear. In accordance with the 'contact theory' and the principle of 'homophily', we investigated the relationship between students' attitudes towards peers with non-compliant behaviour, their contact experiences with peers with non-compliant behaviour, and their experiences of having behavioural difficulties or formally assessed special educational needs (SEN) themselves. 589 fourth grade primary school students completed a questionnaire on their contact experiences and attitudes towards peers with non-compliant behaviour. Additionally, teachers provided information on students' behavioural difficulties and formal SEN. Results from a multilevel regression analysis revealed that students' attitudes towards peers with non-compliant behaviour could be explained by their contact experiences. Overall, our findings emphasise the importance of students' contact experiences in relation to their attitudes towards peers with non-compliant behaviour and mark an important initial point for the implementation of future interventions (e.g. peer-mediated learning) that foster valuable contacts and positive attitudes.

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Inclusion; social participation; attitudes; experiences; non-compliant classroom behaviour; primary school

Introduction

Since the ratification of the Convention on the Rights of Persons with Disabilities (CRPD, United Nations 2006) by the Austrian government in 2008, researchers and practitioners have been faced with the extensive challenge of organising and implementing inclusive education at all levels of the school system. To ensure the UN CRPD, the Federal Government of Austria adopted a National Action Plan (NAP) in 2012. Based on a broad and systemic understanding of inclusion, the aim of the NAP is to implement inclusive

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regular schools for all students and to significantly reduce the number of special schools in the country. In 2019–2020, 63.8% of students with formally assessed special educational needs (SEN) had attended an inclusive regular school at some point (Statistik Austria 2020). For teachers in regular schools, however, the increasing development of inclusive education implies that they are now faced with the challenging task of creating appropriate learning environments that fit the individual needs of an eminently heterogeneous student body. For this reason, inclusive pedagogy has become an essential and obligatory part of regular teacher education in Austria (Feyerer 2015). However, students who show non-compliant behaviour (e.g. by being disruptive or not paying attention), which certainly concerns students with and without SEN, can be a major challenge to successful teaching and learning in inclusive primary classrooms, as these students significantly compromise their peers' social and academic learning processes (Schwab, Eckstein, and Reusser 2019). As a result, students with non-compliant classroom behaviour most commonly experience low levels of social participation in inclusive education (Avramidis, Avgeri, and Strogilos 2018; Krull, Wilbert, and Hennemann 2014). Evidently, they have only a few unstable friendships, social relationships, contacts, and social interactions. They frequently indicate negative self-perceptions and are socially rejected by their classmates (cf. Koster et al. 2009, 134). In the long term, continuous disadvantages concerning social participation can result in severe constraints on the social and academic development of students with non-compliant classroom behaviour (Garotte, Dessemontet, and Moser Opitz 2017). For this reason, it is an essential request of inclusive research to gain deeper insights into the premises of social participation in the classroom, as this might be a central initial point to sustainably promote the social and academic development of students with non-compliant classroom behaviour in inclusive education and to improve the overall quality of learning and teaching in inclusive primary schools. In this context, students' attitudes have been shown to be a main indicator of the social participation of peers with non-compliant classroom behaviour (De Boer, Pijl, and Minnaert 2012). However, the sources of the development of students' positive attitudes towards peers with non-compliant behaviour are widely unknown. Theoretical assumptions suggest that peoples' attitudes are the result of preceding interpersonal experiences (Eagly and Chaiken 1993). In the context of inclusive education, however, the relationship between students' attitudes and their experiences with peers with non-compliant behaviour remains unclear. This was the impetus for our study. Based on Allport's (1954) 'intergroup contact theory', we investigated whether students' attitudes towards peers with non-compliant behaviour can be predicted by their contact experiences with peers with non-compliant behaviour. In addition, we examined the relationship between students' attitudes towards peers with non-compliant classroom behaviour and their experiences of having behavioural difficulties or formal SEN themselves by following the 'principle of homophily' (McPherson, Smith-Lovin, and Cook 2001). In this way, our study contributes to clarifying the role of students' experiences in the development of their attitudes towards peers with non-compliant behaviour and indicates important initial points for the implementation of interventions to promote the social participation of students with non-compliant classroom behaviour in inclusive primary education.

Students' attitudes towards peers with non-compliant classroom behaviour

Students' attitudes towards peers are often declared as main indicators of social acceptance and therefore serve as a promising starting point for promoting the social participation of students with non-compliant behaviour in the inclusive classroom (De Boer, Pijl, and Minnaert 2012; Rademaker et al. 2020). According to Eagly and Chaiken (1993, 1), an attitude is defined as 'a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor'. In recent years, attitude has been extensively investigated in students with formally assessed SEN (e.g. De Boer, Pijl, and Minnaert 2012; Freer 2021). While the results of most conducted studies consistently revealed neutral to moderately positive attitudes towards students with SEN, differences in the formation of students' attitudes could be attributed to their gender and the type of SEN with which they were confronted. In most studies, girls were found to have significantly more positive attitudes towards peers with SEN than boys (e.g. Freer 2021). Furthermore, students indicated significantly lower pronounced attitudes towards peers with non-compliant classroom behaviour owing to formally assessed special needs in their social, emotional, and behavioural development than towards peers with special needs in learning or physical needs (e.g. De Boer, Pijl, and Minnaert 2012; Freer 2021). However, even with the increasing implementation of inclusion in regular primary schools and the accompanying development away from stigmatisation through labels and towards a needs-based approach, the low social status of students showing non-compliant classroom behaviour in primary schools remain unaffected. Students with non-compliant behaviour, including those with and without SEN, still represent a highly disadvantaged group in inclusive primary education that is at high risk of being socially excluded and academically left behind (e.g. Avramidis, Avgeri, and Strogilos 2018). It is therefore necessary to immediately indicate prerequisites for students' attitudes towards peers with non-compliant classroom behaviour that serve as initial points for promoting their social participation in the inclusive primary classroom and thus guarantee their positive social and academic development in the long term.

Students' contact experiences and their attitudes towards peers with non-compliant classroom behaviour

Students' contact experiences with peers have been found to be central predictors of the development of their attitudes towards them in inclusive classrooms (e.g. Bates et al. 2015). The theoretical background of this relationship is Allport's (1954) 'intergroup contact theory' which, in the context of inclusive education, implies that contact between students of different social groups can effectively reduce prejudices, stereotypes, and discrimination and promote positive attitudes under certain conditions. These conditions include 'equal statuses' between students, 'common goals', 'intergroup cooperation', and 'support from authorities'. Empirical studies have revealed that intergroup contact is very effective for improving positive intergroup attitudes if Allport's conditions are met (Pettigrew and Tropp 2006, 2008). However, positive attitudes also increased if the conditions proposed by Allport (1954) were not fulfilled or only partially fulfilled. This implies that Allport's conditions should be seen as facilitating, rather than as essential factors for the improvement of positive intergroup attitudes in inclusive education

(Pettigrew and Tropp 2006). Besides contact experiences from direct social interactions in the classroom, the provision of information to students about peers with non-compliant behaviour seems to offer promise in promoting students' attitudes towards peers with non-compliant classroom behaviour (Allport 1954; Pettigrew 1998). Thus, learning new information about peers with non-compliant classroom behaviour by students can correct their negative views and existing misconceptions and ultimately lead to positive attitudes.

In recent years, the relationship between students' contact experiences and their attitudes has been extensively investigated, with a focus on students with formal SEN (e.g. Armstrong et al. 2017; MacMillan et al. 2013; Schwab 2017). The results of these studies indicated that students' attitudes towards peers with formally assessed SEN were significantly related to their experiences of contact with peers with SEN. Until now, only a handful of studies have found significant correlations between students' attitudes towards peers with non-compliant classroom behaviour and their prior contact experiences (Hellmich and Loeper 2018; Schwab 2017).

Some studies have also focused on the relationship between students' attitudes towards peers with formal SEN and provided information about them (Armstrong et al. 2017; Campbell 2007). For example, Armstrong et al. (2017) proved that students' attitudes towards peers with SEN could be explained by their contact experiences with peers with SEN through fictive stories (e.g. storybooks about children with SEN) and the knowledge and information contained therein about SEN. Furthermore, Campbell (2007) showed in an intervention study that students who gained new knowledge about peers with autism through both descriptive and explanatory information indicated a more positive attitude towards peers with autism than students who received only descriptive or explanatory information.

Students' experiences of having behavioural difficulties or formally assessed SEN themselves and their attitudes towards peers with non-compliant classroom behaviour

According to the 'principle of homophily' (McPherson, Smith-Lovin, and Cook 2001), it is reasonable to assume that students' attitudes towards peers with non-compliant classroom behaviour are related to their own experiences of having behavioural difficulties or formally assessed SEN. In the context of inclusive education, 'homophily' describes a social phenomenon in which students tend to establish social relationships and social interactions with students who are like them, rather than different from them (McPherson, Smith-Lovin, and Cook 2001). These student similarities include sociodemographic, behavioural, and intrapersonal characteristics. Therefore, it can be assumed that students with non-compliant classroom behaviour or formally assessed SEN themselves understand the adversities of their peers with non-compliant behaviour owing to their own experiences in everyday social situations. Consequently, they are more likely to accept their peers with non-compliant classroom behaviour and develop a positive attitude towards them.

However, empirical evidence for the rationale of the 'homophily'-principle in inclusive primary education is pending. In recent years, this principle has been examined, especially with respect to the friendship aspect of social participation in inclusive classrooms for students with formal SEN. Unfortunately, the few results available from empirical studies indicate an inconsistent state of research. Schwab (2017, 2019) found that students with

SEN preferred to make friends with other students with SEN, rather than with peers without SEN. Avramidis and Wilde (2009) did not find any effects of 'homophily' concerning friendships related to students' SEN in their investigation. The effects of 'homophily' in relation to other characteristics of social participation in inclusive education (cf. Koster et al. 2009, 134), such as social interactions or support behaviour, have only been considered in recently published studies (Chen et al. 2019; Mamas et al. 2020). Chen et al. (2019) revealed that students with SEN were more likely to play with peers who had similar SEN characteristics than with peers with different SEN characteristics. Furthermore, Mamas et al. (2020) showed that students with a similar SEN status were more inclined to support one another than students with a dissimilar SEN status. Research is currently lacking on 'homophily' effects on the acceptance of students with non-compliant classroom behaviour and the development of students' positive attitudes towards peers with non-compliant classroom behaviour as central aspects of their social participation in inclusive primary education.

Objectives

Given this theoretical and empirical background, the main aim of our study was to examine whether and to what extent primary school students' attitudes towards peers with non-compliant classroom behaviour could be explained by their contact experiences with peers showing non-compliant behaviour (e.g. Armstrong et al. 2017; MacMillan et al. 2013; Schwab 2017) and their experiences of having behavioural difficulties or formally assessed SEN themselves (e.g. Chen et al. 2019; Mamas et al. 2020). Furthermore, we expected that information about peers with non-compliant classroom behaviour provided to students in case descriptions would have an impact on their attitudes towards peers showing non-compliant behaviour (e.g. Armstrong et al. 2017; Campbell 2007). Finally, we assumed that students' attitudes towards peers with non-compliant classroom behaviour would be related to their gender, as girls are more positive than boys (e.g. Freer 2021). Based on these considerations, we proposed the following hypotheses:

H_1: Students' attitudes towards peers with non-compliant classroom behaviour can be significantly explained by their contact experiences with them.

H_2: Case vignettes that contain descriptive and explanatory information about students with non-compliant classroom behaviour will have a significant effect on students' attitudes towards them.

H_3: Students' attitudes towards peers showing non-compliant classroom behaviour can be significantly explained by their experiences of having behavioural difficulties or formally assessed SEN themselves.

H_4: Students' attitudes towards peers showing non-compliant classroom behaviour can be significantly explained by their gender, as girls have significantly more positive attitudes towards peers with non-compliant classroom behaviour than boys.

Method

The current study is part of a wider longitudinal research project on 'Attitudes Towards Inclusive Schooling – Students, Teachers, and Parents' (ATIS-STEP). In the present investigation, we only selected data from the first measurement point (September – October 2016) of the project.

Participants

A total of $N = 721$ fourth grade primary school students participated at the first measurement point (T1) of the ATIS-STEP project. The investigation was carried out in 48 inclusive Styrian (federal state of Austria) classes. However, because not every teacher was willing to complete a questionnaire for each student in their class, the number of classes in our investigation decreased from 48 to 41. Some individual dropouts also occurred because some parents did not return the consent form for their children. Additionally, some students were not present in the classroom during data collection (e.g. due to illness). Nevertheless, we obtained complete data from $N = 589$ students (292 girls and 297 boys) and their teachers. Of these students, 71 were formally assessed as having SEN (26 girls and 45 boys). At the time of the survey, the participating students were about 9 years old ($M = 9.22$ years; $SD = 0.75$ years; *range*: 9–11 years).

Procedure

At the first measurement point (T1) of the ATIS-STEP project, the fourth grade primary school students were asked to complete a questionnaire concerning their attitudes and contact experiences with students showing non-compliant classroom behaviour. In addition, the teachers provided information on their perceptions of the students' prosocial behaviour and behavioural difficulties (e.g. emotional symptoms: 'Often unhappy, downhearted') in the classroom with the help of a questionnaire. Filling in the entire questionnaire took about 50 minutes for the students and 10 minutes per student for the teachers. All questionnaires were conducted in 'paper and pencil' format. Prior to the investigation, we obtained the consent of all participants involved in our study (students, parents/caregivers, teachers) and of the Styrian school authority.

Measures

Students' attitudes towards peers with non-compliant classroom behaviour

To assess the primary school students' attitudes towards peers showing non-compliant classroom behaviour, half of the sample received a gender-specific case vignette with the description of a child with non-compliant behaviour: 'Julia/Julian has just moved to your town and attends your class. Julia/Julian is often restless, noisy, and unfocused. She/He does not follow the teachers' instructions'. The other half of the sample received the same case description with an additional explanation for the behaviour of the student with non-compliant behaviour: 'Leonie/Leon has just moved to your town and attends your class. Leonie/Leon is often restless, noisy, and unfocused. She/He does not follow the teacher's instructions. Leonie's/Leon's parents do not care much about her/him. To attract

attention, she/he is often restless, noisy, and unfocused. Because Leonie/Leon is home alone very often, she/he knows only a few rules. That is why Leonie/Leon does not follow the teachers' instructions'. This was done to investigate whether the combination of descriptive and explanatory information for the behaviour of a student with non-compliant classroom behaviour provided in the case vignette had an impact on the students' attitudes (cf. Campbell 2007). The provided case descriptions were adapted from the preliminary work of De Boer et al. (2014). The explanatory information for the behaviour of the student with non-compliant behaviour in the case vignette was developed by us. The entire class received a questionnaire either with or without explanatory information in the case description. We did not mix questionnaires with and without explanatory information in the case descriptions within a class. After the students had carefully read the presented case descriptions, we kindly asked them to complete a four-item version of the 'Chedoke-McMaster Attitudes Towards Children with Handicaps Scale' (CATCH; Rosenbaum, Armstrong, and King 1986) and link their answers to the presented vignette (e.g. 'I would feel good about working on a school project with Julia/Julian, Leonie/Leon'.; $M = 2.80$; $SD = 0.93$; $\alpha = .89$). Therefore, we applied a four-point Likert scale (1 = 'totally disagree'; 2 = 'disagree'; 3 = 'agree'; 4 = 'totally agree'). Two items were assigned to the affective component of attitude. The other two items belonged to the behavioural component of attitude (Rosenbaum, Armstrong, and King 1986). However, the affective and behavioural items could not be empirically separated. This finding was consistent with previous results (Bossaert and Petry 2013).

Students' contact experiences with peers with non-compliant classroom behaviour

Students' contact experiences with peers showing non-compliant classroom behaviour were assessed with a three-item short scale that we developed based on the CATCH scale by Rosenbaum, Armstrong, and King (1986): e.g. 'I have often played with someone like Julia/Julian, Leonie/Leon' ($M = 2.35$; $SD = 1.03$; $\alpha = .82$). We asked the participating students to evaluate their prior contact experiences with students showing non-compliant classroom behaviour using a four-point Likert scale. The answer format for each questionnaire item ranged from 1 = 'totally disagree' to 4 = 'totally agree'. Again, students should relate their answers concerning their contact experiences with peers showing non-compliant behaviour to the presented case description (cf. 'students' attitudes towards peers with non-compliant classroom behaviour'). To ensure that the scales 'students' attitudes towards peers with non-compliant classroom behaviour' and 'students' contact experiences with non-compliant classroom behaviour' represented empirically separate constructs, an explorative factor analysis was applied prior to further empirical analyses. The results of the factor analysis indicated a two-factor solution.

Students' experiences of having behavioural difficulties or formally assessed SEN themselves

To investigate students' experiences of having behavioural difficulties or formally assessed SEN, teachers were requested to provide ratings of their students' prosocial behaviour and behavioural problems in the classroom and to indicate their students' SEN status, as formally assessed by the local educational authority. The operationalisation of the instruments is described next.

Prosocial behaviour and behavioural problems. One of the most frequently applied screening instruments to identify students' behavioural difficulties and their prosocial behaviour is the Strengths and Difficulties Questionnaire (SDQ; Goodman and Goodman 2011). The SDQ can be used to examine students' behavioural difficulties and their prosocial behaviour from different perspectives (e.g. students' self-perception, parents' or teachers' perspective). The questionnaire consists of 25 items. Five items belong to one of the following subscales: Prosocial behaviour (e.g. 'Often volunteers to help others'; M = 2.64; SD = 0.43; α = .85), emotional symptoms (e.g. 'Often unhappy, downhearted'; M = 1.34; SD = 0.41; α = .77), conduct problems (e.g. 'Often has temper tantrums or a hot temper'; M = 1.25; SD = 0.37; α = .77), hyperactivity/inattention (e.g. 'Easily distracted, concentration wanders'; M = 1.48; SD = 0.52; α = .84), and peer relationship problems (e.g. 'Generally liked by other children'; M = 1.31.; SD = 0.39; α = .72). In our investigation, we applied all subscales of the SDQ teacher version to identify students' prosocial behaviour and behavioural difficulties. Therefore, all items had to be rated by the teachers on a three-point Likert scale (1 = 'not true'; 2 = 'somewhat true'; 3 = 'certainly true').

Formally assessed SEN. To operationalise students' SEN status, we asked participating teachers to provide a list of all the students in their class who had been formally assessed as having SEN by the local educational authority. The contributed data indicated that most students had been formally assessed as having learning difficulties. Because of the overall low number of students with SEN in our investigation, we did not specify different forms of special needs in terms of subgroups. Finally, students with special needs in their intellectual development did not participate in this study, as we expected that answering the questionnaire would be too difficult for them.

Data analyses

Prior to the statistical analyses, we merged manifest items to latent variables based on the results of the factor and reliability analyses. To evaluate our research hypotheses, we calculated bivariate correlations between all variables. Furthermore, we conducted a multilevel regression analysis to examine whether and to what extent primary school students' attitudes towards peers showing non-compliant classroom behaviour could be explained by their contact experiences with students with non-compliant classroom behaviour and their experiences of having behavioural difficulties or formally assessed SEN themselves. Both analyses were performed using SPSS 27.

The examination of hierarchically structured data (cluster effect of students nested within classes) requires an appropriate evaluation method (Hox, Moerbeek, and van de Schoot 2017). To meet this requirement, we applied a multilevel regression analysis that considered the individual and class level in our data. First, we calculated the model without any predictors. In this way, we could estimate the proportion of variance at the individual level (level 1) and class level (level 2). Subsequently, we estimated a second model by including students' gender (male vs. female), their formally assessed SEN status (formally assessed as having SEN vs. not formally assessed as having SEN), prosocial behaviour, behavioural difficulties, and contact experiences with peers showing non-compliant classroom behaviour as determinants for their attitudes towards peers with

non-compliant classroom behaviour (individual level). At the class level, we added the case description (without explanation vs. with explanation) and the class mean of students' prosocial behaviour and behavioural difficulties to our regression analysis to explain students' attitudes towards peers with non-compliant classroom behaviour. Calculations were based on mean scores. To facilitate the interpretation of the coefficients, all variables were *z*-standardised prior to the regression analysis.

Results

Descriptive results

The descriptive results revealed that the students involved in our study held neutral to moderately positive attitudes towards their peers with non-compliant classroom behaviour ($M = 2.80$; $SD = 0.93$). Furthermore, they indicated having low contact experiences with students showing non-compliant classroom behaviour ($M = 2.35$; $SD = 1.03$). Both scales were based on a four-point Likert scale. Furthermore, our results indicated that the students showed high prosocial behaviour in the classroom ($M = 2.64$; $SD = 0.43$) and that they had minor behavioural difficulties: emotional symptoms ($M = 1.34$; $SD = 0.41$), conduct problems ($M = 1.25$; $SD = 0.37$), hyperactivity/inattention ($M = 1.48$; $SD = 0.52$), and peer relationship issues ($M = 1.31$; $SD = 0.39$). Students' prosocial behaviour and behavioural difficulties were measured based on teachers' perceptions using a three-point Likert scale.

Intercorrelations between latent variables

The bivariate intercorrelations between latent variables are presented in Table 1. The results indicated that the students' attitudes towards peers with non-compliant classroom behaviour were significantly related to their prior contact experiences with students showing non-compliant behaviour ($r = .55$; $p \leq .001$) and their prosocial behaviour ($r = .11$; $p \leq .05$). However, the students' attitudes towards peers with non-compliant classroom behaviour were unrelated to their own behavioural difficulties (emotional symptoms, hyperactivity/inattention, conduct problems, and peer relationships). Furthermore, our findings revealed that the different aspects of students' behavioural difficulties (emotional symptoms, hyperactivity/inattention, conduct problems, and peer relationships) were significantly correlated with each other (cf. Table 1; $r = .29 - .65$;

Table 1. Intercorrelations between latent variables.

Variable	(2)	(3)	(4)	(5)	(6)	(7)
(1) Attitudes towards peers with non-compliant classroom behaviour	.55***	–.03	–.01	.11*	–.02	–.01
(2) Contact experiences with peers with non-compliant classroom behaviour		–.03	.01	.05	.00	.02
(3) Emotional symptoms			.32***	–.22***	.29***	.38***
(4) Hyperactivity/Inattention				–.43***	.65***	.38***
(5) Prosocial behaviour					–.55***	–.44***
(6) Conduct problems						.44***
(7) Peer relationship						–

z-standardised scores; *) $p \leq .05$, ***) $p \leq .001$

Table 2. Estimates of the multi-level regression analysis to predict students' attitudes towards peers with non-compliant classroom behaviour (model with predictors) .

Variable	β	*p*	*CI*	*S.E.*
Individual level				
Students' gender	.24	.00	.09–.38	.07
Students' formally assessed SEN	–.12	.37	–.38–.14	.13
Students' prosocial behaviour	.03	.54	–.07–.13	.05
Students' emotional symptoms	–.05	.22	–.13–.03	.04
Students' conduct problems	.02	.77	–.09–.12	.05
Students' hyperactivity/inattention	.06	.23	–.04–.16	.05
Students' peer relationship	–.02	.74	–.11–.08	.05
Students' contact experiences	.54	.00	.47–61	.04
Class level				
Case (without/with explanation)	–.02	.80	–.02–.16	.09
Class' prosocial behaviour	.06	.28	–.05–.17	.06
Class' emotional symptoms	.10	.04	.00–.19	.05
Class' conduct problems	.04	.51	–.09–.18	.07
Class' hyperactivity/inattention	–.08	.17	–.21–.04	.06
Class' peer relationship	.04	.47	–.06–.13	.05
Intra-group-variance	65.20	.00		.04
Inter-group variance	.01	.41		.01
Deviance	1341.03			

z-standardised scores.

$p \leq .001$). Finally, we found significant negative relationships between students' prosocial behaviour and their behavioural difficulties (emotional symptoms, hyperactivity/inattention, conduct problems, and peer relationships; $r = - .55 - - .22.$; $p \leq .001$).

Multilevel regression analysis

The findings of the multilevel regression analysis are presented in Table 2. First, a model without a predictor was calculated. The results showed that 94.5% of the entire variance concerning students' attitudes towards peers with non-compliant classroom behaviour could be explained at the individual level (level 1), and only 5.5% of the variance could be explained at the class level (level 2) (Deviance = 1639.94; *Wald-Z* = 1.96, $p = .05$). Furthermore, our findings showed that at the individual level (level 1-variance = .65; *Wald-Z* = 16.08, $p = .00$), students' attitudes towards peers with non-compliant classroom behaviour could be explained by their gender (β = .24, $p = .00$ [CI = .09–.38], *t* [551.29] = 3.16, *S.E.* = .07), as girls are more positive towards peers with non-compliant classroom behaviour than boys, and their contact experiences with students showing non-compliant behaviour (β = .54, $p = .00$ [CI = .47–.61], *t*[546.52] = 15.17, *S.E.* = .04). Therefore, the students' gender and their contact experiences explained about 29.3% of the variance in their attitudes towards peers with non-compliant classroom behaviour. At the class level (level 2-variance = .105; *Wald-Z* = 0.83, $p = .41$), only the mean level of emotional symptoms (β = .10, $p = .04$ [CI = .00–.19], *t*[51.29] = 2.10, *S.E.* = .05) had a significant effect on the students' attitudes towards peers with non-compliant classroom behaviour. A higher level of emotional problems in the class reduced the variance at the class level (about 4.5% of variance).

Discussion and conclusion

The aim of our study was to investigate whether primary school students' attitudes towards peers showing non-compliant classroom behaviour could be explained by their contact experiences with students with non-compliant behaviour (cf. 'intergroup contact theory'; Allport 1954). Furthermore, we investigated whether students' attitudes towards peers with non-compliant classroom behaviour could be explained by their experiences of having behavioural difficulties or formally assessed SEN themselves (cf. principle of 'homophily'; McPherson, Smith-Lovin, and Cook 2001). In our investigation, we applied case vignettes to measure primary school students' attitudes and their contact experiences with peers showing non-compliant classroom behaviour. To examine the students' behavioural difficulties, we used the 'Strengths and Difficulties Questionnaire' (SDQ; Goodman and Goodman 2011). Thus, teachers were asked to provide information on students' prosocial behaviour and their behavioural difficulties (e.g. emotional symptoms, conduct problems, etc.) in the classroom. Additionally, teachers provided information about students' SEN, formally assessed by the local educational authority in Austria.

The results of our study indicate that primary school students hold neutral to moderately positive attitudes towards peers with non-compliant classroom behaviour. Most students also reported having few contact experiences with students showing non-compliant behaviour. Almost all students showed, based on their teachers' responses in the SDQ (Goodman and Goodman 2011), positive prosocial behaviour and minor behavioural difficulties.

Supporting hypothesis H_1, students' attitudes towards peers with non-compliant classroom behaviour could be significantly explained by their contact experiences with them. Therefore, the results of our study supported Allport's 'intergroup contact theory' (Allport 1954) to some extent. They were also in line with the findings of Hellmich and Loeper (2018) and Schwab (2017), who proved significant correlations between students' attitudes and their prior contact experiences with students with non-compliant classroom behaviour. However, variations in the case vignettes (with and without explanatory information about the student with non-compliant classroom behaviour) did not have an impact on students' attitudes towards peers with non-compliant behaviour. Therefore, Hypothesis H_2 was rejected. This was possibly due to the design of our study. The case vignettes with and without explanations were not randomly assigned to each student but to the entire class. Therefore, we could only investigate the effect on their attitude towards peers with non-compliant behaviour at the class level but not at the individual level. In further studies, randomisation of the questionnaire instruments to measure students' attitudes towards peers with non-compliant classroom behaviour should be considered. It would certainly be more informative to assign the case vignettes randomly to each student to evaluate the effect of variations in the case vignettes on students' attitudes towards peers with non-compliant classroom behaviour at the individual level.

Hypothesis H_3 was partially supported by the results of our study. Therefore, primary school students' attitudes towards peers with non-compliant classroom behaviour can be significantly explained by the emotional class climate. However, students' prosocial behaviour and their behavioural difficulties (conduct problems, hyperactivity/inattention, peer relationship problems) did not contribute to explaining variance in the students' attitudes towards peers with non-compliant classroom behaviour. Neither did the

students' formally assessed SEN explain the variance in their attitude towards peers with non-compliant behaviour. Consequently, we did not find effects of 'homophily' (McPherson, Smith-Lovin, and Cook 2001) concerning the relationship between students' behavioural difficulties and their attitude towards peers with non-compliant classroom behaviour. Therefore, our results were not consistent with the results of other studies (e.g. Chen et al. 2019; Mamas et al. 2020) that proved the effects of 'homophily' on certain aspects of social participation in inclusive education (e.g. friendships and social interactions). At the most, our results indicate that students who are taught in classes characterised by highly pronounced emotional problems show more positive attitudes towards peers with non-compliant behaviour than students from classes with less pronounced emotional problems. However, the effect of students' emotional problems on their attitude towards peers with non-compliant classroom behaviour was only significant at the 5% level. There was at least a minor indication of the effects of 'homophily' on social participation in inclusive classrooms (Chen et al. 2019; Mamas et al. 2020; Schwab 2019). In our study, we only asked the teachers to provide information on the students' behavioural difficulties and their prosocial behaviour. In further studies, the students' perspectives on their prosocial behaviour and their behavioural difficulties should be integrated. This approach would require the use of the SDQ questionnaire for students to assess their prosocial behaviour and their behavioural difficulties (Goodman and Goodman 2011).

Finally, supporting hypothesis H_4, students' attitudes towards peers with non-compliant classroom behaviour can be significantly explained by their gender. Specifically, our results provided evidence that girls had a significantly more positive attitude towards peers with non-compliant behaviour than boys. These gender differences in students' attitudes towards peers with non-compliant classroom behaviour can possibly be attributed to the contrasting socialisation processes of girls and boys in their families. In this context, Gonçalves and Lemos (2014) revealed that girls show significantly higher social responsibility than boys. Additionally, the authors showed that students' social responsibility was significantly related to their attitude towards peers with formal SEN.

One limitation of our study was the methodological approach. Although the measurement instruments used in our study were adopted from existing research approaches, proofs of the internal validity of the applied questionnaire scales are still pending. Future studies should consider this research desideratum. Another limitation was related to the research design of our investigation. Because we surveyed primary school students and their teachers at only one measurement point, statements about the causal relationship between the students' attitudes towards peers with non-compliant classroom behaviour, their contact experiences, and their personal experiences of having behavioural difficulties or formally assessed SEN themselves were inadmissible. In subsequent studies, the relationships between the considered variables should be observed from a longitudinal perspective to clearly determine the influencing factors of students' attitudes towards peers with non-compliant behaviour in inclusive classrooms. Finally, the age of the data must be considered as a minor limitation, as the inclusive education system in Austria has developed continuously since the data were collected. This should be considered when interpreting the results of this study.

Overall, the results of our study emphasise the importance of students' contact experiences in their attitude towards peers with non-compliant classroom behaviour.

Consequently, interventions in which students with and without non-compliant behaviour can socially interact and form friendships and positive relationships under given conditions (e.g. peer-mediated learning groups; Garotte, Dessemontet, and Moser Opitz 2017) can be seen as suitable ways to improve students' attitudes towards peers with non-compliant classroom behaviour and the social participation of students with non-compliant behaviour in inclusive primary education. In particular, the nature of the provided contact is crucial for the development of positive attitudes towards peers with non-compliant classroom behaviour, as the quality of contact experiences is more important than their frequency (MacMillan et al. 2013).

Even if we did not find significant effects of 'homophily' in our investigation, students' personal experiences due to their own behavioural difficulties or formally assessed SEN might, however, play a noteworthy role in the development of their attitude towards peers with non-compliant behaviour. Some doubts remain that students facing behavioural difficulties or formally assessed SEN themselves understand the adversities of their peers with non-compliant classroom behaviour, as they may have experienced similar disadvantages and are therefore more likely to accept their peers with non-compliant behaviour and develop positive attitudes towards them. This assumption should be investigated in further studies by applying alternative methodological approaches (e.g. observations of students' social interactions in the classroom and assessments of students' self-perceptions of their experiences with behavioural difficulties).

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References

Allport, G. W. 1954. *The Nature of Prejudice*. Cambridge: Addison-Wesley.

Armstrong, M., C. Morris, C. Abraham, and M. Tarrant. 2017. "Interventions Utilising Contact with People with Disabilities to Improve Children's Attitudes toward Disability: A Systematic Review and Meta-analysis." *Disability and Health Journal* 10 (1): 11–22. doi:10.1016/j.dhjo.2016.10.003.

Avramidis, E., G. Avgeri, and V. Strogilos. 2018. "Social Participation and Friendship Quality of Students with Special Educational Needs in Regular Greek Primary Schools." *European Journal of Special Needs Education* 33 (2): 221–234. doi:10.1080/08856257.2018.1424779.

Bates, H., A. McCafferty, E. Quayle, and K. McKenzie. 2015. "Review: Typically Developing Students' Views and Experiences of Inclusive Education." *Disability and Rehabilitation* 37 (21): 1929–1939. doi:10.3109/09638288.2014.993433.

Bossaert, G., and K. Petry. 2013. "Factorial Validity of the Chedoke-McMaster Attitudes Towards Children with Handicaps Scale (CATCH)." *Research in Developmental Disabilities* 34 (4): 1336–1345. doi:10.1016/j.ridd.2013.01.007.

Campbell, J. M. 2007. "Middle School Students' Response to the Self-introduction of a Student with Autism: Effects of Perceived Similarity, Prior Awareness, and Educational Message". *Remedial and Special Education* 28 (3): 163–173. doi:10.1177/07419325070280030501.

Chen, J., T. J. Lin, L. Justice, and B. Sawyer. 2019. "The Social Network of Children with and without Disabilities in Early Childhood Special Educational Classrooms." *Journal of Autism and Developmental Disorders* 49 (7): 2779–2794. doi:10.1007/s10803-017-3272-4.

De Boer, A., S. J. Pijl, and A. Minnaert. 2012. "Students' Attitudes Towards Peers with Disabilities: A Review of the Literature." *International Journal of Disability, Development and Education* 59 (4): 379–392. doi:10.1080/1034912X.2012.723944.

De Boer, A., S. J. Pijl, A. Minnaert, and W. Post. 2014. "Evaluating the Effectiveness of an Intervention Program to Influence Attitudes of Students Towards Peers with Disabilities." *Journal of Autism and Developmental Disorders* 44 (3): 572–583. doi:10.1007/s10803-013-1908-6.

Eagly, A. H., and S. Chaiken. 1993. *The Psychology of Attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich.

Feyerer, E. 2015. "Mit inklusiven Modellregionen auf dem Weg zur inklusiven Schule? Österreichische Bildungspolitik zwischen Vision und Pragmatismus." [With Inclusive Model Regions on the Way to Inclusive Schools? Austrian Education Policy between Vision and Pragmatism] Accessed June 11 2021. https://www.ph-ooe.at/fileadmin/Daten_PHOOE/Inklusive_Paedagogik_neu/BIZB/Homepage_ab_2016/behinderte_2015_feyerer.pdf

Freer, J. R. R. 2021. "Students' Attitudes toward Disability: A Systematic Literature Review (2012–2019)." *International Journal of Inclusive Education*. doi:10.1080/13603116.2020.1866688.

Garotte, A., R. S. Dessemontet, and E. Moser Opitz. 2017. "Facilitating the Social Participation of Pupils with Special Educational Needs in Mainstream Schools: A Review of School-based Interventions." *Educational Research Review* 20: 12–23. doi:10.1016/j.edurev.2016.11.001.

Gonçalves, T., and M. Lemos. 2014. "Personal and Social Factors Influencing Students' Attitudes Towards Peers with Special Needs." *Procedia – Social and Behavioural Sciences* 112: 949–955. doi:10.1016/j.sbspro.2014.01.1253.

Goodman, A., and R. Goodman. 2011. "Population Mean Scores Predict Child Mental Disorder Rates: Validating SDQ Prevalence Estimators in Britain." *Journal of Child Psychology and Psychiatry* 52 (1): 100–108. doi:10.1111/j.1469-7610.2010.02278.x.

Hellmich, F., and M. F. Loeper. 2018. "Primary School Students' Attitudes and Their Perceived Teacher Behavior Towards Peers with Special Educational Needs." *Empirische Sonderpädagogik* 10 (2): 151–166.

Hox, J. J., M. Moerbeek, and R. van de Schoot. 2017. *Multilevel Analysis: Techniques and Applications* (3rd Ed.). New York, NY: Routledge.

Koster, M., H. Nakken, S. J. Pijl, and E. van Houten. 2009. "Being Part of the Peer Group: A Literature Study Focusing on the Social Dimension of Inclusion in Education." *International Journal of Inclusive Education* 13 (2): 117–140. doi:10.1080/13603110701284680.

Krull, J., J. Wilbert, and T. Hennemann. 2014. "The Social and Emotional Situation of First Graders with Classroom Behavior Problems and Classroom Learning Difficulties in Inclusive Classes." *Learning Disabilities: A Contemporary Journal* 12 (2): 169–190.

MacMillan, M., M. Tarrant, C. Abraham, and C. Morris. 2013. "The Association between Children's Contact with People with Disabilities and Their Attitudes Towards Disability: A Systematic Review." *Developmental Medicine and Child Neurology* 56 (6): 529–546. doi:10.1111/dmcn.12326.

Mamas, C., P. Bjorklund, A. J. Daly, and S. Moukarzel. 2020. "Friendship and Support Networks among Students with Disabilities in Middle School." *International Journal of Educational Research* 103. doi:10.1016/j.ijer.2020.101608.

McPherson, M., L. Smith-Lovin, and J. M. Cook. 2001. "Birds of a Feather: Homophily in Social Networks." *Annual Review of Sociology* 27 (1): 415–444. doi:10.3410/f.725356294.793504070.

Pettigrew, T. F. 1998. "Intergroup Contact Theory." *Annual Review of Psychology* 49 (1): 65–85. doi:10.1146/annurev.psych.49.1.65.

Pettigrew, T. F., and L. R. Tropp. 2006. "A Meta-analytic Test of Intergroup Contact Theory." *Journal of Personality and Social Psychology* 90 (5): 751–783. doi:10.1037/0022-3514.90.5.751.

Pettigrew, T. F., and L. R. Tropp. 2008. "How Does Intergroup Contact Reduce Prejudice? Meta-analytic Tests of Three Mediators." *European Journal of Social Psychology* 38 (6): 922–934. doi:10.1002/ejsp.504.

Rademaker, F., A. De Boer, E. Kupers, and A. Minnaert. 2020. "Applying the Contact Theory in Inclusive Education: A Systematic Review on the Impact of Contact and Information on the Social Participation of Students with Disabilities." *Frontiers in Education* 5: 1–21. doi:10.3389/feduc.2020.602414.

Rosenbaum, P. L., R. W. Armstrong, and S. M. King. 1986. "Children's Attitudes toward Disabled Peers: A Self-report Measure." *Journal of Pediatric Psychology* 11 (4): 517–530. doi:10.1093/jpepsy/11.4.517.

Schwab, S. 2017. "The Impact of Contact on Student's Attitudes Towards Peers with Disabilities." *Research in Developmental Disabilities* 62: 160–165. doi:10.1016/j.ridd.2017.01.015.

Schwab, S. 2019. "Friendship Stability among Students with and without Special Educational Needs." *Educational Studies* 45 (3): 390–401. doi:10.1080/03055698.2018.1509774.

Schwab, S., B. Eckstein, and K. Reusser. 2019. "Predictors of Non-compliant Classroom Behaviour of Secondary School Students. Identifying the Influence of Sex, Learning Problems, Behavioural Problems, Social Behaviour, Peer Relations and Student-teacher Relations." *Journal of Research in Special Educational Needs* 19 (3): 220–231. doi:10.1111/1471-3802.12444.

Statistik Austria. 2020. "Bildung in Zahlen 2019/2020." [Education in Numbers 2019/2020 – Book of Tables]. Accessed 11 June 2021. https://www.statistik.at/web_de/services/publikationen/5/index.html?includePage=detailedView&sectionName=Bildung%2C+Kultur&pubId=509

United Nations. 2006. "Convention on the Rights of Persons with Disabilities." Accessed 8 February 2021. https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf