

Original Research

## Determinants of primary school students' support and their attitudes towards peers with social and emotional difficulties

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**Abstract:** Following the Convention on the Rights of Persons with Disabilities, creating inclusive learning environments in primary education remains a significant challenge. In particular, students with social and emotional difficulties often experience social exclusion, isolation, victimization and bullying at school which can lead to long-term mental health issues and academic struggles. Students' attitudes and their supportive behaviours towards peers with social and emotional difficulties have been identified as crucial starting points for enhancing the social participation of students with social and emotional difficulties in inclusive education. However, the factors that determine students' positive attitudes and supportive behaviours towards peers with social and emotional difficulties are widely unknown. To address this gap, we conducted a study with  $N = 577$  students in grades 3 and 4 on their attitudes towards peers with social and emotional difficulties, their social support behaviour, their perspective taking ability, their contact experiences with peers with social and emotional difficulties, and their perceptions of teachers' behaviours towards students with social and emotional difficulties. On the one hand, the results from a structural equation model reveal that students' attitudes towards peers with social and emotional difficulties are significantly predicted by their previous contact experiences and their perceptions of teachers' behaviours towards children with social and emotional difficulties, but not by their perspective taking ability. On the other hand, the model shows that students' social support behaviours are explained by their perspective taking ability and their perceptions of teachers' behaviours towards children with social and emotional difficulties, but not by students' contact experiences. Overall, the findings highlight the important role of teachers as social referents for the development of students' positive attitudes and their social support behaviours towards peers with social and emotional difficulties and thus for improving the social participation of students with social and emotional difficulties in inclusive primary education.

**Keywords:** Primary school, Social participation, Attitudes, Social-emotional difficulties, Teacher-student-relationship, Perspective taking

## Introduction

The Salamanca Declaration (UNESCO, 1994) and the Convention on the Rights of Persons with Disabilities (CRPD; United Nations, 2006) serve as central frameworks for the promotion of inclusive education in primary schools

worldwide. The Salamanca Declaration emphasises that inclusive education is a right for all children and advocates the inclusion of children with difficulties in mainstream education, where they can benefit from a supportive and equitable learning environment (UNESCO, 1994). Similarly, the UN-CRPD sets out the basic principles

Received: Apr.2, 2025; Revised: Jun.6, 2025; Accepted: Jul.11, 2025; Published: Jul.18, 2025

Copyright ©2025 Marwin Felix Loeper, et al.

DOI: <https://doi.org/10.55976/rppe.320251382166-177>.

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of non-discrimination, participation and inclusion, and outlines the responsibility of states to ensure that persons with difficulties have equal access to education (United Nations, 2006). Despite these major political efforts, inclusive education has not yet been achieved for all students in primary schools. In particular, students with difficulties continue to experience social exclusion and limited opportunities for social participation in inclusive education (Koster et al., 2009). Compared to their peers without difficulties, they often have fewer friendships and social interactions, do not feel welcome in their classes, are less socially accepted by their peers, and are often rejected or bullied by their peers (Koster et al., 2010; Nepi et al., 2015). This is particularly true for students with social, emotional, and behavioural difficulties (Krull et al., 2018). Social, emotional, and behavioural difficulties are characterised by emotional or behavioural reactions in the school environment that significantly differ from those of peers of the same age, cultural, or ethnic background. These difficulties adversely affect a student's academic performance – including academic achievement, social relationships, vocational development, or personal skills – and are more than just temporary or expected reactions to stressful events in the environment. They are consistently observed in at least two different settings, one of which must be school-related, and they persist despite the implementation of individualized interventions within the educational program. In addition to individual factors (e.g., health conditions, neurodevelopmental characteristics), school-related (e.g., school climate, peer interactions) and extracurricular factors (e.g., family relationships, parenting styles) also play a critical role and can intensify or even precipitate students' difficulties (Landrum, 2024). In Germany, approximately 18% of students with difficulties have social, emotional, or behavioural difficulties – a figure that is steadily increasing. Following learning difficulties, social-emotional difficulties constitute the second largest category of difficulties among students in German schools. Despite ongoing inclusive efforts, such as improvements in teacher training and school resources, it is evident that Germany is making only slow progress in reducing the prevalence of exclusive teaching practices (Klemm, 2022).

Recent research has shed light on the severity of social exclusion faced by students with social, emotional, and behavioural difficulties (de Leeuw et al., 2018; Marlina & Sakinah, 2019). De Leeuw et al. (2018) interviewed 5th and 6th grade students with social, emotional, and behavioural difficulties to explore their experiences of victimisation and social exclusion in general and special education. The students interviewed described severe forms of bullying and victimisation that took place during breaks and outside of school. Victimisation included being provoked into fights, being called names, being made fun of, having their lunch stolen and being physically obstructed by bullies on their way to and from school. Most students also reported that they were being excluded from playing with their peers during break times. The findings are particularly worrying

as prolonged experiences of exclusion, isolation and victimisation can have significant and lasting consequences, including feelings of loneliness, low self-esteem, depressive symptoms, and poor academic performance (Juvonen et al., 2019). The findings highlight that it is not enough to simply teach children with and without difficulties in the same classroom (Schwab et al., 2021). Rather, it is important to create a conducive learning environment that promotes the academic and social development of students with difficulties in inclusive education and enables them to interact and learn equally with their peers and become integral members of their social group (Garrote et al., 2017; Heyder et al., 2020).

Students' attitudes, as an essential determinant of the social acceptance of peers with difficulties in the inclusive classroom, can serve as a central starting point for improving the social participation of students with difficulties in inclusive education (Rademaker et al., 2020). Eagly and Chaiken (1993) define attitudes as evaluations of objects, people or ideas. Students' attitudes towards peers with social and emotional difficulties include cognitive, affective, and behavioural dimensions. The cognitive dimension includes the beliefs and thoughts that students hold about their peers with social and emotional difficulties. The affective dimension refers to the emotional reactions that students experience in the presence of peers with social and emotional difficulties. The behavioural dimension of attitudes refers to the way in which attitudes predict actual behaviour or behavioural intentions towards peers with social and emotional difficulties. Overall, research has extensively shown that primary school students have neutral to moderately positive attitudes towards their peers with difficulties (e.g., de Boer et al., 2012; Freer, 2021). However, students' attitudes vary considerably depending on the type of difficulty, with attitudes towards peers with social and emotional difficulties being significantly more negative than towards peers with other difficulties, e.g., sensory or physical difficulties (Di Maggio et al., 2021; Freer 2021).

According to Koster et al. (2009), the social support behaviour of students towards peers with social and emotional difficulties is another important indicator of the social acceptance and participation of students with social and emotional difficulties in inclusive education. Social support behaviours include actions that provide emotional, social, academic or practical assistance to others. Typically, these actions are aimed at improving the well-being of students with social and emotional difficulties, promoting a positive environment or helping students with difficulties overcome challenges (Cohen & Wills, 1985). Unfortunately, there is currently little literature on the social support behaviour of students towards peers with social and emotional difficulties. In a study by Hong et al. (2020) that examined social interactions between preschool children with and without difficulties, social support (helping and guiding peers with difficulties) and emotional support (showing positive emotions) were rarely provided to peers

with difficulties. Nevertheless, intervention studies (e.g., [Alqahtani & Murry, 2015](#); [Carter et al., 2017](#)) generally indicate that peer support can positively influence the social and academic outcomes for students with learning and behavioural difficulties and with autism spectrum disorders (ASD) and can serve as a protective factor against peer victimisation of children with difficulties in inclusive education ([Griese & Buhs, 2014](#)).

Currently, it remains largely uncertain which factors facilitate the development of students' positive attitudes and their social support behaviours towards peers with social and emotional difficulties. In this context, [Davis \(2018\)](#) provides a theoretical framework that suggests possible explanatory factors for students' attitudes and their social support behaviours towards peers with social and emotional difficulties. The model proposes that primary school students' attitudes and their social support behaviours towards peers with social and emotional difficulties can be explained by complex cognitive processes, such as their ability to adopt other people's perspectives and their perceptions of the intensity of social situations (e.g., contact experiences with peers with difficulties or perceptions of teachers' behaviours towards children with difficulties).

In this context, [Feinman's \(1992\)](#) social-referencing theory provides a valuable framework for understanding how primary school students' attitudes and social support behaviour towards peers with difficulties are predicted by their perceptions of teachers' behaviour towards children with difficulties. Social reference theory posits that individuals use social cues from significant others (e.g., teachers, parents) to shape their attitudes and behaviours, particularly in unfamiliar or ambiguous situations. This theoretical perspective is particularly relevant in the context of primary education, where students' attitudes and social support for peers with social and emotional difficulties can be influenced by observing teachers' actions and behaviours towards classmates. Research supports the idea that students' perceptions of teachers' behaviours significantly determine their attitudes and social support behaviours towards peers with difficulties ([Hendrickx et al., 2017, 2020](#); [van der Sande et al., 2018](#)). [Van der Sande et al. \(2018\)](#) found a significant correlation between students' perceived teacher behaviour towards children with learning difficulties and the social status of these students in the class, indicating that the peer reputation of teacher liking acts as a protection against the low social status of students with learning problems in the class. [Hendrickx et al. \(2017\)](#) further showed that students specifically adopt perceived negative teacher behaviour and attitudes towards children with difficulties in the form of peer dislike. However, when teachers behave less negatively towards socially marginalised students, these students become more integrated into their peer group over time ([Hendrickx et al., 2020](#)).

Based on the Intergroup Contact Theory ([Allport, 1954](#)), the relationship between students' contact experiences and

their attitudes towards peers with difficulties has been studied in recent years. The Intergroup Contact Theory suggests that meaningful interactions between members of different social groups can reduce prejudice if certain conditions are met (e.g., equal status between social groups, common goals, intergroup cooperation, and institutional support). In inclusive education, research has found evidence that students' direct (e.g., social interactions, joint activities between students with and without difficulties) and indirect contact experiences (e.g., through storybooks) with individuals with difficulties are effective in improving students' attitudes towards peers with difficulties ([Alnahdi et al., 2019](#); [Armstrong et al., 2016, 2017](#); [Freer, 2021](#); [MacMillan et al., 2014](#)). However, attitudes are particularly promoted by the intensity and intimacy of contact experiences (e.g., knowing a person with difficulties, having a relative or friend with difficulties) rather than the frequency of contact ([Al Kandari, 2015](#); [Keith et al., 2015](#); [Schwab, 2017](#)). In contrast, the relationship between students' social support behaviours and their contact experiences with people with difficulties has been the subject of very little research and is currently a research gap. At least, there is some evidence of a relationship between students' social support behaviours and their contact experiences with people with difficulties, as a study by [Ogelman and Seçer \(2012\)](#) showed that prosocial behaviours were higher among students who participated in inclusive education practices with peers with difficulties than among students who did not participate in inclusive education practices.

Finally, empirical research supports the relationship between students' attitudes, their social support behaviour towards peers with difficulties and their empathy (e.g., [Armstrong, 2016](#); [Fu et al., 2022](#); [Yin & Wang, 2022](#)). Empathy is described as an affective response in which the emotional state of another person takes precedence over one's own emotional state ([Hoffmann, 1984](#)). In this context, perspective taking is the ability to understand and consider another person's point of view, feelings, and thoughts. It involves stepping out of one's own perspective and imagining how the world looks or feels to someone else, which may include understanding other people's emotions, motivations, and (intended) behaviours. Perspective taking is an important foundation for effective communication, conflict resolution, and building meaningful relationships. Findings from empirical research show a significant relationship between students' empathy and their attitudes towards peers with difficulties ([Armstrong et al., 2016](#)). Furthermore, there is evidence that students' empathy is an important mediator of the relationship between their contact experiences with persons with difficulties and their attitudes towards peers with difficulties ([Armstrong et al., 2016](#)). Finally, empathy is a crucial determinant of students' willingness to help others ([Batson, 2018](#)). Thus, significant correlations have been found between students' empathy and their social support behaviours towards peers in the form of prosocial or altruistic behaviours ([Fu et al.,](#)

2022; Hartati & Izzaty, 2019; Yin & Wang, 2022). Overall, the theoretical and empirical background presented leads to the following research hypotheses.

**H1:** Students' attitudes towards peers with social and emotional difficulties are significantly related to their perspective taking ability, their contact experiences with peers with difficulties, and their perceptions of teachers' behaviour towards children with difficulties.

**H2:** Students' social support behaviours towards peers with social and emotional difficulties are significantly related to their perspective taking ability, their contact experiences with peers with difficulties, and their perceptions of teachers' behaviour towards children with difficulties.

**H3:** Students' perspective taking ability is significantly related to their contact experiences with peers with social and emotional difficulties and their perceptions of teachers' behaviour towards peers with social and emotional difficulties.

**H4:** The effect of students' contact experiences with peers with social and emotional difficulties on their attitudes towards peers with social and emotional difficulties is significantly mediated by their perspective taking ability.

**H5:** The effect of students' perceptions of teacher behaviour towards peers with social and emotional difficulties on their attitudes towards peers with social and emotional difficulties is significantly mediated by their perspective taking ability.

## Methods

### Participants

A total of  $N = 577$  primary school students from North Rhine-Westphalia, Germany, took part in our study. Of these students, 292 are girls and 285 are boys, reflecting a relatively balanced gender distribution. The sample is divided into two grades: 246 students are in grade 3 and 329 students are in grade 4. Two students did not indicate their grade. The mean age of the students is 9.25 years ( $SD = 0.78$ ), with a range from 7 to 12 years (with only two students aged 7 or 12 years). For the students in grade 3, the mean age is 8.66 years ( $SD = 0.56$ ), and for the students in grade 4, the mean age is 9.68 years ( $SD = .61$ ).

### Procedure

We used a paper-pencil questionnaire to collect data from 3rd and 4th grade primary school students about their experiences of interacting with people with difficulties, their perceptions of teachers' behaviours towards children with difficulties, their perspective-taking skills, their social

support behaviours, and their attitudes towards peers with social and emotional difficulties. The questionnaire was completed during class time. The entire process took a maximum of 45 minutes, with students taking on average about 20 minutes to complete the questionnaire. To ensure consistency and objectivity across all participating classes, the questionnaire was completed by two trained research assistants. The research assistants read the questionnaire aloud to all students, gave clear verbal instructions and explained the questions where necessary. This ensured that all students understood the questions in the same way. Written consent was obtained from all parents or guardians of participating students before the questionnaire was completed.

## Measures

An overview of the measurement instruments can be found in Table 1. For all measures, we used five-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree) to assess students' responses.

### Students' attitudes towards peers with social and emotional difficulties

A gender-specific vignette was used to assess primary school students' attitudes towards peers with social and emotional difficulties. The vignette describes a child with externalising social and emotional difficulties: "Hanna/Hannes is new in town and is in the same class as you. Hanna/Hannes is often restless, fidgety, and easily distracted in class. She/He often does not follow the teacher's instructions." This case description was originally developed by de Boer et al. (2014) and adapted to the needs of our study. The result is a short and easy to understand case description that helps students to realistically assess their attitudes towards peers with social and emotional difficulties. After reading the case description, the children responded to a ten-item version of the "Chedoke-McMaster Attitudes Towards Children with Handicaps (CATCH) scale" (Rosenbaum et al., 1986) and linked their responses to the vignette (e.g., "I would feel good about working with Hanna/Hannes at school."). The CATCH scale is a validated measurement tool (Bossaert & Petry, 2013) that has been widely used in studies assessing students' attitudes towards peers with difficulties (e.g., de Boer et al., 2012; Schwab, 2015). The CATCH scale captures all theoretically hypothesized dimensions of attitudes (affective, behavioural, cognitive; Eagly & Chaiken, 1993). However, research (e.g., Bossaert and Petry, 2013) suggests that these dimensions cannot be clearly distinguished empirically, which is also the case in our study. In our study, one self-developed item and two items from Kalyva and Agaliotis (2009) were added to the scale to more comprehensively capture primary school students' attitudes towards peers with social and emotional difficulties.



## Students' social support behaviour

We used a self-developed scale to measure primary school students' social support behaviours towards classmates. Some of the questionnaire items were formulated with reference to the "Interpersonal Reactivity Index (IRI)" developed by Davis (1980). The scale has a total of 9 items assessing children's willingness to help and support peers both inside and outside the classroom (e.g., "If a classmate doesn't understand something in class, I explain it.").

## Students' perspective taking

To assess students' perspective taking ability, we used an adapted version of the scale "Perspective Taking" of the "Interpersonal Reactivity Index (IRI)" developed by Davis (1980). Given the age of the participants in this study – third and fourth graders – we modified the original scale to ensure that it was appropriate for the cognitive and emotional abilities of younger children. We simplified the language of the questionnaire statements and reduced the number of items to make the instrument more accessible to the younger age group. Preliminary work (Löper, 2020) has already demonstrated the reliability and validity of the scale adapted for primary school students. The scale measures the ability to understand the thoughts and feelings of others (e.g., "It's easy for me to see things from another person's perspective.").

## Students' perceptions of teachers' behaviour towards peers with social and emotional difficulties

To assess students' perceptions of teachers' behaviour towards children with externalising social and emotional difficulties in the classroom, we used an eight-item scale. One of the items on the scale was: "My teacher would be happy to have Hanna/Hannes in my class." The scale for assessing students' perceptions of teachers' behaviour towards children with externalising social and emotional difficulties was based on the CATCH scale (Rosenbaum et al., 1986). Before completing the questionnaires, students were given specific instructions to formulate their responses based on the case vignette presented. We used the same case vignette as for the scale 'students' attitudes towards peers with social and emotional difficulties' of a hypothetical child, "Hanna" or "Hannes," who exhibited externalising social and emotional difficulties such as frequent outbursts or difficulties in following classroom rules. The vignette again served to provide students with a concrete context and help them to focus their responses on the teacher's behaviour in response to this specific scenario, rather than on general or abstract ideas about student-teacher interactions.

## Students' contact experiences with peers with social and emotional difficulties

Finally, to assess primary school students' contact experiences with peers who have social and emotional difficulties, we adapted Rosenbaum et al.'s (1986) CATCH scale for this specific purpose. Originally designed to measure attitudes towards children with difficulties, the CATCH scale was modified to focus on the frequency of students' interactions with peers who have social and emotional difficulties. This adaptation resulted in a seven-item scale that included items such as "I have often played with someone like Hanna/Hannes." Again, students were instructed to refer to the case vignette depicting a child with social and emotional difficulties. The use of this vignette was intended to focus students' responses on the case presented, thus facilitating more meaningful and contextually appropriate responses about their contact experiences.

## Data analysis

Structural equation modelling (SEM) with Mplus 8, which supports the implementation of complex multilevel models (Muthén & Muthén, 2017), was used to analyze the data. This approach allowed us to explore the relationships between observed and latent variables while taking into account the hierarchical structure of the data, where students are nested within classrooms. Specifically, we used the 'type = complex' function in Mplus to account for the multi-level structure of the data and to adjust for potential clustering effects (Muthén and Satorra, 1995). The Maximum Likelihood Estimator with robust standard errors (MLR) estimator was used for the model estimation. This estimator is robust to non-normality and non-independence of observations and provides robust standard errors and chi-squared test statistics suitable for complex survey data (Muthén & Muthén, 2012). The model fit was assessed using several criteria, each with established cut-off values to determine the adequacy of the model. The chi-squared test statistic was assessed along with the ratio of chi-squared to degrees of freedom ( $\chi^2/df$ ), with a ratio of less than 2.0 considered to indicate a good model fit (Kline, 2015). A non-significant chi-squared value suggests that the observed covariance matrix is close to the model-implied covariance matrix. In addition, we examined the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI), with values greater than 0.90 indicating an acceptable fit and values greater than 0.95 indicating a good fit (Hu & Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA) was used, with a value less than 0.05 indicating a close fit and the 90% confidence interval considered for robustness (Hu & Bentler, 1999). We also evaluated the Standardised Root Mean Residual (SRMR) with values less than 0.08 indicating a satisfactory model fit (Hu & Bentler, 1999). To assess explained variance, we

calculated R-squared (R<sup>2</sup>) values for each outcome variable. R<sup>2</sup> indicates the proportion of variance in the dependent variable that can be predicted by the independent variables in the model (Field, 2024). For each outcome variable, R<sup>2</sup> values were reported to indicate the amount of variance explained by the predictors, with higher values reflecting a greater proportion of variance explained by the model. A mediation analysis was conducted to examine the indirect effects of the predictor variables on the outcome variables through the proposed mediators. This analysis was chosen to examine the way in which students' perspective taking mediates the effects of their perceptions of teachers' behaviours towards students with social and emotional difficulties and their contact experiences on their attitudes towards peers with social and emotional difficulties and their social support behaviour (Baron & Kenny, 1986).

## Results

Table 1 presents the descriptive results of the students' responses to the questionnaire items. The results show that students have neutral attitudes towards their peers with social and emotional difficulties (M = 3.13; SD = 0.98). They also reported moderate contact experiences with peers with social and emotional difficulties (M = 2.91, SD = 1.11), but positive perceptions of teachers' behaviour towards peers with social and emotional difficulties (M = 4.02, SD = 0.65). Students show moderate levels of perspective taking (M = 3.37, SD = 0.92). Finally, students rated their social support behaviour particularly high (M = 4.12, SD = 0.69).

Furthermore, we developed a SEM to examine whether students' social support behaviours and attitudes towards peers with social and emotional difficulties could be explained by their perspective taking, their contact experiences with peers with social and emotional difficulties, and their perceptions of teachers' behaviour towards children with social and emotional difficulties (see Figure 1).

The calculated SEM (see Figure 2) shows a robust fit to the observed data. The chi-squared test yielded a value of  $\chi^2 = 1260.27$  with 685 degrees of freedom (df) and a p-value  $\leq .001$ . Although a significant chi-squared value suggests a discrepancy between the observed and

expected covariance matrices, this test is highly sensitive to sample size and often results in significant values even when the model fit is acceptable (Schumacker & Lomax, 2016). To mitigate the limitations of the chi-squared test, the ratio of chi-squared to degrees of freedom ( $\chi^2/df$ ) was considered. With a ratio of 1.84, the model falls within the range of a good fit, as values less than 2.0 are generally accepted to indicate a good fit (Kline, 2015). The Root Mean Square Error of Approximation (RMSEA) was calculated to be .038, with a 90% confidence interval of [.035–.042]. This value is well below the .05 threshold, indicating an excellent fit of the model to the data (Browne & Cudeck, 1993). The Comparative Fit Index (CFI) was found to be .931. Since values greater than .90 indicate an acceptable fit and values greater than .95 indicate a good fit, the CFI value supports the conclusion that the model fits the data (Hu & Bentler, 1999). The Tucker-Lewis Index (TLI) was .925, further supporting the acceptable fit of the model. Although the CFI and TLI values for the model are below .95, it is important to evaluate model fit using a combination of fit indices rather than relying on a single criterion. Recent guidelines (e.g., Hu & Bentler, 1999) suggest that satisfactory SRMR and RMSEA values, together with a strong theoretical foundation for the model, can justify the acceptability of modest CFI/TLI values. Therefore, given that the other fit indices indicate good fit and the model is theoretically sound, these slightly lower CFI/TLI values can still be considered acceptable. Analysis of the SEM provides important insights into the factors that explain students' attitudes towards their peers with social and emotional difficulties. One of the key observations is that students' perceptions of teachers' behaviours towards peers with social and emotional difficulties ( $r = .43$ ;  $p \leq .001$ ) and their experiences of contact with peers with social and emotional difficulties ( $r = .45$ ;  $p \leq .001$ ) significantly explain their attitudes towards peers with social and emotional difficulties. However, the ability to take another peer's perspective is not a significant predictor of students' attitudes towards peers with social and emotional difficulties ( $r = -.01$ ;  $p = .84$ ). In total, 56% of the variance in students' attitudes towards peers with social and emotional difficulties can be explained in this way. Thus, research hypothesis H1 was only partially confirmed by the SEM.

Table 1. Descriptive results

Variable	Items	M*	SD	$\alpha$
Students' contact experiences with peers with social and emotional difficulties	7	2.91	1.11	.88
Students' perceptions of teachers' behaviours towards peers with social and emotional difficulties	8	4.02	0.65	.81
Students' perspective taking	5	3.37	0.92	.83
Students' social support behaviours	9	4.12	0.69	.88
Students' attitudes towards peers with social and emotional difficulties	10	3.13	0.98	.92

Note. \*Five-point Likert-scale: 1 = strongly disagree, 2 = partly disagree, 3 = undecided, 4 = partly agree, 5 = strongly agree

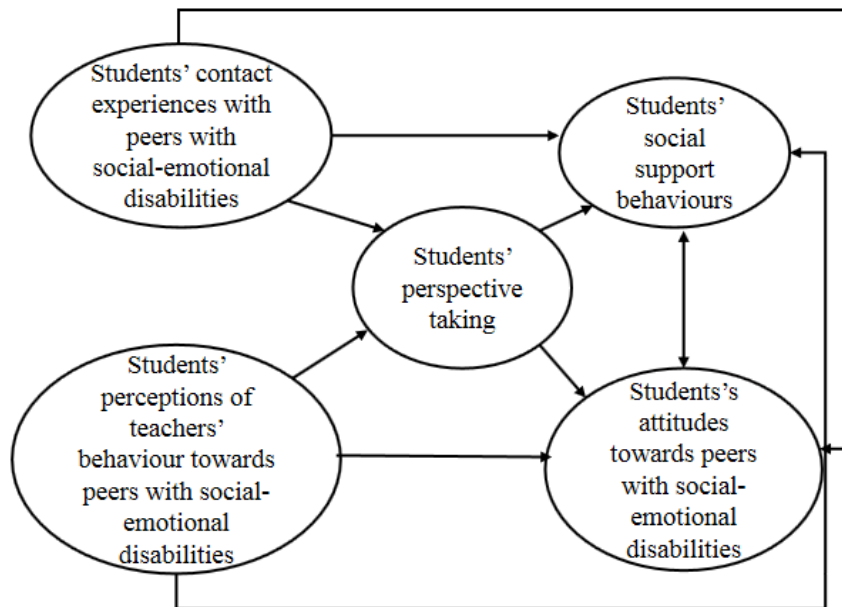


Figure 1. Theoretical model.

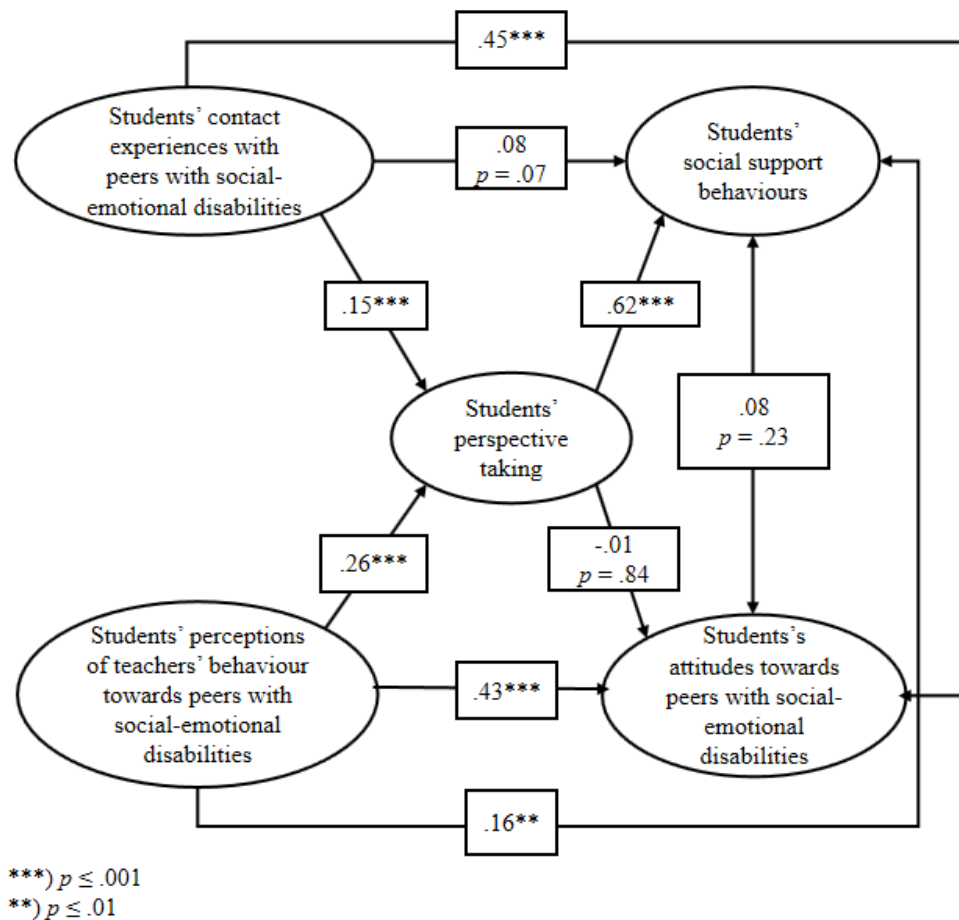


Figure 2. Results of the structural equation model. (Model fits:  $\chi^2 = 1260.27$ ;  $df = 685$ ;  $\chi^2/df = 1.84$ ; RMSEA = .038 [.035–.042]; CFI = .931; TLI = .925)

Furthermore, the model shows that students' social support behaviours can be significantly explained by their perspective taking ability ( $\beta = .62$ ;  $p \leq .001$ ) and by the perceived behaviour of the teacher towards peers with social and emotional difficulties ( $\beta = .16$ ;  $p \leq .01$ ). However, students' contact experiences with peers with social and emotional difficulties is not a significant predictor of their supportive behaviours ( $\beta = .08$ ;  $p = .07$ ). 54% of the variance in students' social support behaviours can be explained in this way. Research hypothesis H2 was also only partially supported based on the SEM.

Finally, students' perspective taking – with an explained variance of 14% – can be significantly explained by both their contact experience ( $\beta = .15$ ;  $p \leq .001$ ) and their perceived teacher behaviours towards peers with social and emotional difficulties ( $\beta = .26$ ;  $p \leq .001$ ), fully confirming hypothesis 3.

Finally, the SEM revealed indirect effects. First, the relationship between students' contact experiences and their supportive behaviour towards peers with social and emotional difficulties is significantly mediated by students' perspective taking ( $\beta_{\text{indirect}} = .09$ ;  $p \leq .05$ ), confirming hypothesis 4. Second, the SEM confirms hypothesis 5 by indicating a modest but statistically significant mediation of the relationship between students' perceived teacher behaviour towards children with social and emotional difficulties on their supportive behaviour through their perspective taking ( $\beta_{\text{indirect}} = .16$ ;  $p \leq .001$ ).

Overall, the explained variances (14%–56%) suggest the presence of additional unmeasured factors for each variable in the SEM (e.g., classroom climate, class composition, students' self-efficacy beliefs, and social self-concepts).

## Discussion

Despite major changes in the education system (e.g., UN-CRPD), students with social and emotional difficulties still face significant barriers in inclusive education (Avramidis et al., 2018; Krull et al., 2018). Especially, their social, emotional and behavioural difficulties (e.g., aggressive and disruptive behaviour towards peers and authorities) make them less attractive to peers for social interactions in class or friendship (Lenkeit et al., 2024). This may lead to social exclusion, rejection or bullying (e.g., de Leeuw et al., 2018; Koster et al., 2010; Nepi et al., 2015). In recent years, research has highlighted the great potential of students' attitudes and their social support behaviour as a starting point for the sustainable promotion of social participation of students with social and emotional difficulties in inclusive education (e.g., Koster et al., 2009; Rademaker et al., 2020). However, the determinants that promote the development of positive attitudes and supportive behaviours are widely unknown. Based on Davis' (2018) theoretical model, our study aims to better understand the underlying conditions for the development of primary school students' positive attitudes and social support behaviours towards

peers with social and emotional difficulties. On the one hand, the results of a SEM revealed that primary school students' attitudes towards peers with social and emotional difficulties are significantly predicted by their contact experiences and their perceptions of teachers' behaviour towards children with social and emotional difficulties, but not by their perspective taking. On the other hand, students' perspective taking and their perceptions of teachers' behaviour towards peers with social and emotional difficulties are significant determinants of their social support behaviour. However, previous contact experiences with peers with social and emotional difficulties did not explain students' social support behaviour towards their peers with difficulties. Finally, students' perspective taking is significantly predicted by their contact experiences and their perceptions of teachers' behaviour towards peers with social and emotional difficulties. Most importantly, our findings highlight the importance of teachers' role model behaviour for students' empathic and social abilities in inclusive education. Given that students spend much of their day at school, teachers have an important role as caregivers, contact persons, and role models to whom students can turn for guidance, especially in challenging situations (Wentzel, 2010). In line with existing research (e.g., Hendrickx et al., 2017, 2020; van der Sande et al., 2018), our findings show that teachers can have a significant positive but also negative impact on the development of students' attitudes towards peers with difficulties, their social support behaviours towards peers with difficulties, and their perspective taking. Therefore, teachers should be aware that their behaviour towards peers with social and emotional difficulties in inclusive primary education can have a lasting impact on their students' attitudes and social support behaviours towards peers with social and emotional difficulties, with significant consequences for the social participation of these students with difficulties in the classroom.

Furthermore, our findings emphasise the potential of students' contact experiences with peers with difficulties for the development of positive attitudes. This finding is consistent with previous research showing a significant correlation between students' attitudes towards peers with difficulties and their contact experiences with children with difficulties (e.g., Alnahdi et al., 2019; Freer, 2021). For practical implementation in inclusive primary education, peer tutoring could be considered, in which students with and without difficulties support each other in social and academic situations in the classroom. In peer tutoring, students take on the roles of either tutor or tutee. For instance, the tutor reads a short story together with the tutee, asks comprehension questions using a structured guide provided by the teacher, offers positive feedback, and helps with decoding difficult words. Afterwards, they switch roles (Slavin, 2016). Carter et al. (2015) recommend peer tutoring as an important didactic approach to promote inclusive education in schools, which can help to improve, in particular, the social (e.g., conflict resolution) and



academic skills (e.g., math, reading, and spelling) of students with difficulties (Bowman-Perrott et al., 2014) and reduce the risk of discrimination and stigmatisation of students with difficulties (Scruggs et al., 2012).

Somewhat surprisingly, students' experiences of contact with peers with social and emotional difficulties predicted their attitudes towards peers with social and emotional difficulties, but not their social support behaviour. This may be explained by the methodological design of our study. While students' attitudes and contact experiences were examined using a case vignette related to the externalised social difficulties of a peer with social and emotional difficulties, the social support behaviour scale describes social interactions towards peers in general, such as emotional support or advocating for someone who needs help. Future studies can address this issue by also linking the social support behaviours to the description of a child with social and emotional difficulties by including vignettes to contextualize the support behaviours. This would also be beneficial for construct validity. In this context, the case vignette could also be expanded as it only provides a brief description of externalised social interaction difficulties. Students' social difficulties are certainly more complex and individual than in the brief description. Thus, in future studies, different case descriptions could be used to examine students' attitudes and their social support behaviours more widely. Furthermore, future research should consider the experiences of students with difficulties in inclusive education, rather than relying solely on the perspectives of students without difficulties. This is important because effective and equitable educational practices can only be developed by also understanding the unique challenges and perspectives of students with difficulties. Therefore, employing mixed methods (e.g., interviews, observations, and questionnaires) may offer a valuable approach gaining a more comprehensive understanding of the experiences of students with difficulties.

Also surprisingly, students' perspective taking is not related to their attitudes towards peers with social and emotional difficulties. However, the ability to fully take another person's perspective and understand their difficulties in social interactions, is a complex cognitive process that develops mainly in late childhood and adolescence (Hoffman, 1984). Therefore, the students surveyed in grades 3 and 4 (aged 7–12 years) may not yet have developed this cognitive foundation for positive attitudes towards peers with social and emotional difficulties (Rosenberg & Hovland, 1960). They may also lack the cognitive maturity to translate perspective taking into attitude change without explicit guidance from significant others, such as teachers. However, the development of students' perspective taking can be specifically encouraged in the early years of education. The use of social and emotional learning interventions (e.g., PATHS, Circle of Friends) has therefore been shown to be effective in promoting students' perspective taking ability (Mahoney et al., 2018). These programs allow teachers

to provide scripts for positive interactions and debriefing of tutoring sessions. For example, this can be realized by reflecting on biases against students with difficulties and the value of each student to the classroom community or by role-playing social interactions and finding solutions for social problems (Chae et al., 2019; García Bacete et al., 2019).

## Conclusion

Finally, there are some limitations that affect the interpretation of our results. As we used a cross-sectional study-design, the results only provide information about correlations between students' attitudes towards peers with social and emotional difficulties, social support behaviour, perspective taking, contact experiences, and perceptions of teachers' behaviour towards peers with social and emotional difficulties. Therefore, causal claims are limited. Research should investigate the cause-and-effect mechanisms of the variables considered in longitudinal studies.

Overall, our study can be seen as a stepping stone to a deeper understanding of the development of students' attitudes and social support behaviours towards peers with social and emotional difficulties. Therefore, this is the first study to shed light on the complex interactions between students' attitudes towards peers with social and emotional difficulties, their social support behaviours, their perspective taking ability, their contact experiences with peers with difficulties, and their perceptions of teachers' behaviour towards students with social and emotional difficulties in inclusive German schools. The findings provide meaningful indications of important determinants of students' attitudes and their social support behaviours towards peers with social and emotional difficulties, which can be effectively addressed in the classroom (e.g., peer tutoring, teachers' awareness of their function as role models for their students) and make a lasting contribution to promoting the social participation of students with difficulties in inclusive education.

## Authors' contribution

Marwin Felix Loeper carried out the literature search, analysed the data and prepared the first draft of the manuscript. Frank Hellmich provided critical feedback on the manuscript and wrote individual passages. Both authors made substantial contributions to the article and approved the submitted version.

## Funding

This research received no external funding.

## Informed consent statement

Informed consent has been obtained from the parents or legal guardians of all subjects participating in the study.

## Conflict of interest

The authors declare no conflict of interest.

## Ethic statement

This study has been approved by an independent ethics committee.

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