



The role of cross-group friendship and emotions in adolescents' attitudes towards inclusion



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ABSTRACT

Background: Most countries have started to educate students with special educational needs (SEN) in mainstream schools, but it remains unclear how inclusive attitudes towards students with SEN can be promoted.

Aims: This study investigated the role of adolescents' friendships and socio-moral competencies for their attitudes towards the inclusion of students with SEN. Specifically, we studied whether adolescents without SEN would develop more inclusive attitudes if they had close friendships with SEN students and if they expressed negative emotions about social exclusion.

Methods: Adolescents' inclusive attitudes and their emotions were gathered from survey data of 1225 Swiss students aged 11–13. Social network data were collected to assess adolescents' friendship relationships.

Results: The results indicated that adolescents' friendship closeness with SEN students positively related to their inclusive attitudes. However, this was only true for adolescents who anticipated more negative than positive emotions if a student with SEN was excluded.

Implications: These findings highlight the role of friendship relationships between adolescents with and without SEN and adolescents' socio-moral experiences for their attitudes towards the inclusion of peers with SEN. Thus, inclusive education may benefit from promoting friendships among students with and without SEN as well as adolescents' socio-moral competencies.

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What this paper adds

Students with SEN are often targets of social exclusion in inclusive classrooms. In order to gain an understanding of how social exclusion may be prevented, it is important to study adolescents' attitudes towards including peers with SEN. Furthermore, adolescents' emotions following the exclusion of a student with SEN reflect their socio-moral experiences and highlight how they consider aspects of fairness and aspects of group functioning when deciding whom to include in peer activities.

Prior research has revealed strong evidence in favor of intergroup contacts (i.e. contacts between children from different social groups) and highlighted the role of cross-group friendships. However, most of this research has been done with

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students from different ethnicities. Little is known whether friendships between students with and without SEN relate to adolescents' inclusive attitudes.

This study adds to the previous literature in demonstrating that close friendships between students with and without SEN may go along with more inclusive attitudes in students without SEN. However, such positive consequences depend on adolescents' socio-moral competencies: If adolescents experience positive emotions (e.g., pride) when a student with SEN is excluded, they may not express inclusive attitudes, even if they have close friends with SEN. In other words, our findings suggest that inclusive attitudes not only depend on adolescents' friendships, but also on their individual socio-moral competencies.

1. Introduction

During early adolescence, peer group attitudes and peer conformity are highly salient (Adler & Adler, 1998). This strong need for group affiliation may enhance the social exclusion of minority group members because adolescents may conform to exclusive peer group norms (Killen & Rutland, 2011). To prevent social exclusion, prior research has highlighted the role of intergroup contact between students from different social groups (e.g., Tropp & Prenovost, 2008). Specifically, cross-group friendships may be associated with the strongest positive effects on intergroup attitudes, as friendships represent high-quality contacts (Pettigrew & Tropp, 2006). Although the evidence regarding intergroup contact and its positive consequences on intergroup attitudes is well documented (e.g., Pettigrew & Tropp, 2006), it remains unclear whether individuals with higher levels of intergroup contact also express more positive attitudes towards including minority group members into social activities (Bastian, Lusher, & Ata, 2012).

Beside cross-group friendship, students' inclusive attitudes may also depend on adolescents' emotions following the exclusion of a minority group member. These emotions represent aspects of adolescents' socio-moral experiences during intergroup conflict and highlight which aspects of a given situation are important to them (e.g., conventional concerns, such as peer group functioning vs. moral norms, such as fairness considerations) (Killen & Malti, 2015). Although prior studies have examined adolescents' emotions about social exclusion (e.g., Malti, Killen, & Gasser, 2012), scholars have not yet considered how individual differences in these emotions relate to adolescents' inclusive attitudes.

We addressed these two research gaps by first, examining whether adolescents with cross-group friends would be more positive towards including hypothetical minority group members into social activities. Second, we studied if individuals who reported negative emotions (e.g., feeling sad) when a hypothetical minority group member was excluded would have more inclusive attitudes.

We investigated cross-group friendships between majority group students without special educational needs (SEN) and minority group students with SEN. SEN refer to students with academic difficulties who need additional assistance to visit the same grade as their typically developing peers (Powell, 2006). In the Swiss education system, where this study was conducted, the term SEN is reserved for students who receive additional assistance from a teacher with particular skills in dealing with SEN. This additional support is based on comprehensive interdisciplinary assessments of students' capacities relative to their age group. Therefore, students with SEN must have a lower academic achievement in comparison with their classmates.

As most countries have started to educate students with SEN in mainstream schools (Powell, 2006), professionals working in education need to gain a better understanding of the dynamics that underlie the exclusion of students with SEN.

1.1. Social exclusion of students with SEN

Previous research on peer relationships of students with SEN in inclusive classrooms suggests that they are perceived as less popular and are less included in peer groups compared to students without SEN (e.g., Estell et al., 2008; Grütter, Meyer, & Glenz, 2015). In order to prevent the exclusion of students with SEN, researchers have highlighted the importance of inclusive attitudes of students without SEN (Bates, McCafferty, Quayle, & McKenzie, 2015). Therefore, scholars have studied typically developing adolescents' social contacts with SEN students. Findings from these studies have been mixed: While some studies found that these contacts relate to more positive attitudes in students without SEN (e.g., Armstrong, Morris, Abraham, Ukoumunne, & Tarrant, 2016; Grütter & Meyer, 2014; Laws & Kelly, 2005; Maras & Brown, 1996), other studies have not found any significant differences between individuals who had contacts with SEN peers and individuals without such contacts (e.g., Hastings & Graham, 1995; Nabors, 1997). This inconsistent evidence does not allow for any clear conclusions regarding the effects of inclusive schooling on the attitudes of adolescents without SEN.

Prior studies have also investigated adolescents' intended behavior to interact with hypothetical SEN students, showing that stories about friendships between students with and without students having SEN led to an increased desire to interact with SEN children (e.g. Cameron & Rutland, 2006; Cameron, Rutland, & Brown, 2007). We extended these studies and compared adolescents' intended behavior to include hypothetical students *with* SEN with their intended behavior to include hypothetical students *without* SEN. The reason for this comparison is based on the idea that social exclusion often results from a process of in-group preference (Abrams & Killen, 2014). Accordingly, individuals enhance their social identities by ascribing their in-group (i.e., the social group they belong to) more positive attributes compared to out-groups (Tajfel & Turner, 1979). As a result of this comparison, out-group members may become excluded (Abrams & Killen, 2014). Therefore, information about both – attitudes regarding the inclusion of in-group members (i.e. students without SEN) as well as

attitudes regarding the inclusion of out-group members (i.e. students with SEN) – allow for examining social exclusion due to in-group bias.

1.2. *Cross-group friendship and attitudes towards the inclusion of students with SEN*

Cross-group friendship is seen as the most effective strategy in changing intergroup attitudes (Tropp & Prenovost, 2008). The process of disclosure and reciprocal understanding that typically characterizes friendship relations elicits positive feelings that can be transferred from the individual involved to his or her entire social group (Pettigrew & Tropp, 2008). Feelings of closeness have been shown to be indicators of friendship quality: With higher levels of closeness, the friend is treated as part of oneself (Davies, Wright, Aron, & Comeau, 2013); thereby the friend's social identity is treated as one's own to some extent, leading to a broadened view of the in-group (Pettigrew & Tropp, 2006). Research indicates that high levels of closeness in cross-group friendship predict more positive attitudes towards the out-group (Chen & Graham, 2015; Page-Gould, Mendoza-Denton, Alegre, & Siy, 2010). During early adolescence, friendship relationships become more stable and characterized by closeness (Cairns, Leung, Gest, & Cairns, 1995); as a consequence, the potential positive consequences of adolescents' cross-group friendships might become more strongly associated with their inclusive attitudes.

From another, more conflicting perspective, adolescents in Switzerland are about to graduate from elementary to secondary school from grade 6 to grade 7, whereby they are classified into different grade levels based on their academic achievement; therefore, they are under a high pressure to perform. As a consequence, students' cognitive capacities become an increasingly salient aspect in adolescents' perception of their peers (Hughes, Zhang, & Hill, 2006); they are sensitive towards teacher norms that might favor academically skilled students compared to less skilled students. Thus, academic achievement might become an additional important social category for social exclusion during early adolescence (e.g., Chen, Chang, & He, 2003). Consequently, the relationship between cross-group friendship and inclusive attitudes might not be clear-cut and depend on how adolescents without SEN weigh different aspects of effective academic group functioning versus inclusive norms. For example, they might prefer to be in a group with other well performing students rather than being inclusive with less advantaged classmates. How adolescents balance these different norms (i.e., group norms versus inclusive norms) is reflected in their emotions following the exclusion of SEN students (Killen & Malti, 2015).

1.3. *Adolescents' emotions following social exclusion*

Adolescents' emotions following social exclusion have been conceptualized as “emotion attributions” and measure the emotions that adolescents would feel after they had excluded a peer from a minority group. To assess these emotions, adolescents are typically confronted with hypothetical scenarios where a minority group member is excluded. Adolescents are then asked to anticipate their own emotions if they had excluded this individual (Killen & Malti, 2015); they usually report a wide range of positive and negative emotions (Malti et al., 2012). This coexistence of different emotions may reflect conflicting motivations: Adolescents may experience negative emotions as they consider the negative consequences for the excluded individual (e.g., “X would feel bad, if he was left out.”). In comparison, they may experience positive emotions because they want to prevent their group from possible impairments (e.g., “It would be less effective for the group to work with X”) (Killen & Malti, 2015; Malti et al., 2012). Emotions following social exclusion provide information about how adolescents balance these different motivations regarding aspects of fairness versus aspects of group functioning. In this way, adolescents' emotions reflect individual differences in their dispositions to prioritize moral concerns over non-moral concerns (Malti & Krettenauer, 2013).

To date, only few studies have investigated emotions in the context of exclusion of individuals with SEN. In a recent study, it was shown that adolescents were more likely than younger children to expect negative emotions, such as sadness and guilt, after hypothetically excluding a student with SEN (Gasser, Malti, & Buholzer, 2014). Furthermore, adolescents who attributed more negative emotions showed higher levels of peer-reported inclusive behavior (Chilver-Stainer, Gasser, & Perrig-Chiello, 2014). In line with this previous research, we investigated if adolescents' emotions following social exclusion related to their inclusive attitudes. Additionally, students' emotions following exclusion might be associated with intergroup contact: For instance, previous research indicates that adolescents who reported having frequent contact with persons with disabilities were more likely to sympathize with excluded hypothetical peers with disabilities (Gasser, Malti, & Buholzer, 2013). We extended this previous research by examining the role of emotions in the relation between adolescents' cross-group friendships and their inclusive attitudes.

1.4. *The role of adolescents' emotions following exclusion in cross-group friendship and attitudes towards inclusion*

Even though adolescents are more likely to anticipate negative emotions after hypothetically excluding a student with SEN, they also become more sensitive to group functioning. For example, in a recent study, adolescents were more likely to report more positive emotions than younger children in situations, where the inclusion of the student with SEN stood in conflict with effective group functioning (Gasser et al., 2014). Regarding inclusive classrooms, positive emotions may reflect adolescents' focus on effective group functioning; depending on how important they consider group performance, adolescents may feel positive after excluding a classmate with SEN. As these positive emotions may impede any positive

effects of cross-group friendships, we examined the role of these positive emotions in the relationship between adolescents' cross-group friendship and their inclusive attitudes.

2. The current study

In sum, this study focused on cross-group friendships between students with and without SEN, and how these friendships relate to inclusive attitudes towards students with SEN. Based on previous findings on cross-group friendships (e.g., [Chen & Graham, 2015](#)), we hypothesized that the closeness of cross-group friendship would be associated with more positive attitudes towards the inclusion of hypothetical students with SEN. Second, in order to better understand the dynamics underlying the exclusion of students with SEN, we studied adolescents' emotions following the hypothetical exclusion of SEN students. Specifically, we assumed a positive relation between emotions following hypothetical exclusion and adolescents' inclusive attitudes. Lastly, we investigated if these emotions following hypothetical exclusion moderated the relation of cross-group friendship and adolescents' inclusive attitudes. We expected a stronger positive association between cross-group friendship and adolescents' attitudes, when adolescents anticipated less positive emotions for themselves after they had hypothetically excluded a peer with SEN; conversely, we assumed that positive effects from cross-group friendship would not result, if adolescents would anticipate a high intensity of positive emotions. This assumption was based on the idea that adolescents' emotions regarding social exclusion reflect which aspects of a given situation are important to them (e.g., group functioning vs. fairness) ([Killen & Malti, 2015](#)). As the students in this study were aware of the importance of their academic achievement for their transfer into secondary school, they could have had a higher focus on academic group functioning. Therefore, adolescents might have reported positive feelings after excluding a classmate with SEN, depending on how important they regarded group performance. We assumed that these adolescents would not benefit from cross-group friendship (i.e. intending to be more inclusive) because they would feel positive about improving their group performance.

3. Method

This study combined a qualitative and quantitative, multi-method approach, using questionnaire data and social network data. Before administering the main study, a small pilot study was conducted. The goal of this pilot study was to investigate if learning differences were salient features of adolescents' perceptions of differences in inclusive classroom (i.e., at least one student received support from an SEN teacher). Thus, we shortly outline the results of the qualitative pilot study before going into detail about the main study addressing the research question how adolescents' cross-group friendships and socio-moral experiences relate to their inclusive attitudes.

3.1. Pilot study

In the pilot study, 58 students from four school classes (71% girls) in grades 5–6 (ages 11–13, $M_{age} = 12.39$ years, $SD = 0.62$) participated. We elicited students' perceptions of differences with the following instruction: "Students can be different from each other. Two individuals can be different from each other on many different attributes. What differences do you perceive in your classroom?" Participants listed as many differences as came to their mind.

Next, a qualitative content analysis (e.g., [Graneheim & Lundman, 2004](#)) was used. In a first step, all diversity attributes were transcribed. In a second step, we identified meaning units that described differences between students, and in a third step, these meaning units were abstracted as codes and labeled. After several readings, eight categories were identified as further abstraction of the codes. These categories were: appearance, personality, social competencies, status, learning differences, sex, age, and ethnicity. Two researchers independently coded the responses and achieved a mean Kappa of .96.

Some of the statements were as follows: "We have very smart children in our classroom, but also students who need additional time to understand certain things", "There are some children who are slow learners and some who are fast learners". Based on these findings, we concluded that students' ability to learn is a salient feature for adolescents in inclusive classrooms; therefore, in the context of inclusive education, learning differences may serve as a criterion to categorize students into different social groups ([Turner, Hogg, Oakes, Reicher, & Wetherell, 1987](#)); thereby, adolescents with SEN may be perceived as out-group members by the majority group of students without SEN. As academic achievement represents an important norm in educational contexts, this classification in turn may lead to negative consequences for students with SEN, such as their exclusion from peer activities.

3.2. Participants

Participants were 1225 adolescents (50% girls) in grades 5–6 (ages 11–13, $M_{age} = 11.57$ years, $SD = 0.57$) from 70 school classes of 55 public schools in Switzerland. As this study focused on friendships between students with and without SEN, we were interested in adolescents that attended inclusive school classes. Parents' educational level was estimated based on governmental data about the school community where the adolescents lived in. On average, 24% completed obligatory school, 50% completed a post-secondary diploma and 20% achieved a bachelor's degree or higher. Among the adolescent participants, 38% were of non-Swiss nationality (Germany: 39%, Albania: 28%, Serbia/Croatia: 18% and other nationalities: 15%).

Table 1
Description of subsamples of students with SEN and students without SEN.

	Students with SEN <i>n</i> = 280	Students without SEN <i>n</i> = 945
Sex (girls)	45%	51%
Migration background	50%	34%
Diagnosed ADHD	9%	3%
Diagnosed conduct disorder	9%	2%

Twenty-three percent of participants were classified as having SEN. We obtained this information from class teachers. SEN reflected that a student received more than one additional lesson of special support per week from an SEN teacher. In line with the concept of inclusion that focuses on including every student regardless of his or her special needs (Lindsay, 2007), we did not differentiate between types or levels of SEN. We assumed that the additional help of the SEN teacher would be sufficient for the classmates to perceive the special needs of a student. As the results of the qualitative pre-study suggest, students are sensitive in their perception of learning differences. To validate our SEN criteria, teachers' perceptions of their students' academic achievement were assessed by three items from Hughes, Dyer, Luo, and Kwok (2009) (e.g., "Performing academically at grade level"), which were responded on a five-point response scale (almost always – almost never). Students with SEN ($M = 2.85$, $SD = 1.05$) received significantly lower scores than students without SEN ($M = 4.31$, $SD = 0.82$), $t(1437.89) = -109.29$, $p < .001$, $d = -4.65$.¹ A more detailed description of the SEN subsample is given in Table 1. As the percentage of students with a migration background was higher in the SEN sample, we controlled for migration background in subsequent analyses.

In order to analyze our research question concerning the inclusive attitudes of the majority group students without SEN, we removed the adolescents with SEN from the statistical analyses. However, as we employed a reciprocal friendship measure (see subsection 2.4.2), we also required the information regarding friendship from students with SEN in order to compute this measure. For this reason, SEN students were included in the sample description. However, the final sample size for the analysis included $n = 945$ students, all of them without SEN.

3.3. Procedure

Students completed a survey that contained all the measures during 15–20 minutes. Five trained research assistants guided the students through the study. Meanwhile, class teachers filled in a questionnaire on their students' educational needs and their academic performance. After completing the survey, adolescents were briefed shortly, thanked, and dismissed. The educational department of each Swiss Canton in which students were surveyed and the respective school boards gave their approval for the study. In addition, written information was provided for parents and their informed consent was obtained. Only 1% of the parents did not give their consent. In addition, oral assent of adolescents was requested prior to commencement of the study and they were able to cease the study at any point.

3.4. Measures

3.4.1. Attitudes towards the inclusion of students with SEN

Students read two short descriptions about hypothetical adolescents from another school class. The first student was described in terms of SEN (*a*. "This student needs a lot of time and support to do class work"). The second individual was described as conforming to conceptions of socially desired behavior during class (*b*. "This student is fast in doing class work and asks interesting questions") (Grütter & Meyer, 2014). Subsequently, adolescents rated on a four-point Likert-scale (not at all, very much) how willingly they would include these adolescents into three different social activities (i.e., birthday party, play, shared break time; e.g. "How much would you like to invite this adolescent to your birthday party?") (for similar scales see Cameron & Rutland, 2006; Cameron et al., 2007). The order in which these two descriptions were presented was randomized. From the two ratings, difference scores were created; these scores reflected adolescents' attitudes towards the inclusion of students with SEN compared to students from the majority group without SEN. The total difference in the ratings between student *a* and student *b* thus represented adolescents' inclusive attitudes ($\alpha = .83$, $M = 0.04$, $SD = 2.25$).

3.4.2. Cross-group friendship

Cross-group friendships between adolescents with and without SEN were operationalized as mutual relationships in their social networks. Specifically, adolescents were asked to list their best friends from their classroom. To enhance reliability, the number of choices was unlimited (Knoke & Yang, 2008). Additionally, for each classmate that was nominated, students rated the closeness of their friendship with this respective peer on a 3-point Likert-scale (not very close, very close).

¹ In order to correct for the lack of equality of variance, the Welch's *t*-test was used for this comparison (Ruxton, 2006).

Table 2
Correlations of study and control variables.

	1.	2.	3.	4.	5.
1. Sex (girls=0)					
2. Age	.07*				
3. Migration background	-.03	.04			
4. Inclusive attitudes	-.08**	.03	-.05		
5. Friendship closeness	.10**	-.04	.04	.05	
6. Positive emotions ratio	.09**	.01	.07*	-.16***	-.01

Note. Positive emotions ratio = intensity of positive emotions/(intensity of positive and negative emotions following social exclusion).

* $p < .05$, two tailed.

** $p < .01$, two tailed.

*** $p < .001$, two tailed.

Based on these choices, social networks were constructed for each classroom in the statistical environment R (R Development Core Team, 2013). From these networks, reciprocated friendships with SEN adolescents (i.e., both adolescents nominated each other as friends) were obtained (Grütter & Meyer, 2014). The number of students without SEN with cross-group friends was 42% ($n = 400$, range: 1–5 cross-group friends). As friendship is defined as mutual relationship (Bukowski, Motzoi, & Meyer, 2009), we did not consider unilateral friendship nominations. In order to consider the transactional nature of friendship and to create a measure for mutuality in affection (Bukowski et al., 2009), closeness ratings of both parties were added together over each friendship. If an adolescent had multiple cross-group friends, the scores were averaged over these friendships, such that higher values indicated higher average friendship closeness. The idea behind averaging the closeness scores over the number of friends was our primary focus on friendship closeness while accounting for friendship as a limited resource. A score of 0 meant that the adolescent had no cross-group friends (average friendship closeness: $M = 1.90$, $SD = 2.37$, range = 0–6).

3.4.3. Emotions following social exclusion

This measure consisted of a hypothetical social exclusion dilemma (Gasser et al., 2014) that described an adolescent with his/her friend who was looking for a third member to resolve a complex math task. In this story, the protagonist excluded the student with SEN from the group activity. Participants were then asked to take the perspective of the excluder and to rate the intensity of five different emotions (i.e., pride, happiness, shame, guilt, sadness) on a 4-point Likert-scale (not at all, very intense). As the emotions following exclusion were highly inter-correlated (range: $r = -.19-.61$, $p < .001$; $r_{\text{mean}} = .37$), an overall score was calculated dividing the average of positive emotions (happiness & pride) over the total of emotions (happiness, pride, shame, guilt, and anger). From a conceptual point of view, this was done to acknowledge that multiple emotions can be experienced simultaneously (Arsenio, 2014). The mean level of positive emotions following exclusion was $M = 0.54$ ($SD = 0.16$).

3.5. Data analytic approach

Before testing our hypotheses, we first tested for possible differences in our primary study variables (i.e., inclusive attitudes, closeness in cross-group friendship, and emotions following social exclusion) between boys and girls and between adolescents with and without a migration background by using t -tests. Second, we had to consider between-group variance because the participants were part of different school classes (Bliese, 2000). Therefore, we tested if adolescents' inclusive attitudes depended on their school class membership by using an analysis of variance (ANOVA). The ICC(1) value, which expresses the proportion of overall variance that is explained by school class membership, was .02 (ICC(2) = .18). Therefore, adolescents' association with their school class explained only 2% of the variance in their inclusive attitudes. As the variance of the intercept was not significantly larger than zero, $F(69, 867) = 1.22$, $p = .12$, the hierarchical structure of the data was not considered in subsequent analyses. To test our hypotheses, we used hierarchical multiple linear regression analysis. To prevent multicollinearity, all variables were mean-centered prior to the analyses (Aiken & West, 1991).

4. Results

4.1. Preliminary analyses

To test for effects of sex and migration background on study variables, a set of preliminary analyses was conducted. The correlations between study and control variables are displayed in Table 2. The analyses revealed that – compared to girls – boys had less inclusive attitudes, $t(1027.29) = -5.94$, $p < .001$, $d = -0.27$; reported higher average closeness in cross-group friendship, $t(1028.11) = 17.89$, $p < .001$, $d = 0.82$; and higher positive emotion attributions, $t(1150.06) = 2.84$, $p = .005$, $d = 0.13$. In addition, adolescents with a migration background showed less inclusive attitudes, $t(1000.95) = -2.51$, $p = .01$, $d = -0.12$, higher cross-group friendship closeness, $t(1003.84) = 21.32$, $p < .001$, $d = 0.98$, and higher positive emotion attribu-

Table 3

Multiple regression model predicting adolescents' attitudes towards the inclusion of SEN students by closeness of cross-group friendship, intensity of positive emotions regarding the exclusion of a student with SEN, and their interaction.

	Step 1			Step 2		
	B (SE)	β	t	B (SE)	β	t
Sex (girls=0)	−0.41 (.15)	−.09	−2.70**	−0.40 (0.15)	−.09	−2.60**
Age	0.15 (.14)	.04	1.07	0.15 (0.14)	.04	1.06
Migration background	−0.30 (.18)	−.06	−1.65	−0.31 (0.18)	−.06	−1.69 [†]
Friendship closeness (FC)	0.06 (.03)	.06	1.84 [†]	0.06 (0.03)	.06	1.80 [†]
Positive emotions ratio (PER)	−2.08 (.48)	−.15	−4.38***	−2.05 (0.48)	−.15	−4.32***
FC × PER				−0.38 (0.19)	−.07	−1.97*
Total R ²	.03			0.04 (0.01) [†]		
F	7.12 (5, 860)**			6.60 (6, 859)**		

Note. Positive emotions ratio = intensity of positive emotions divided by the intensity of positive and negative emotions following social exclusion. The variables friendship closeness and positive emotions ratio are mean-centered. Control variables included age, sex and migration background.

[†] $p < .10$, two-tailed.

* $p < .05$, two-tailed.

** $p < .01$, two-tailed.

*** $p < .001$, two-tailed.

tions, $t(1224.63) = 20.88$, $p < .001$, $d = 0.95 - d = 0.95$ – compared to adolescents without migration background.¹ To control for these differences, sex and migration background were included in subsequent analyses.

4.2. Cross-group friendship and adolescents' attitudes towards the inclusion of students with SEN

To test the first hypothesis regarding adolescents' closeness in cross-group friendship and their inclusive attitudes, we regressed adolescents' inclusive attitudes on friendship closeness. The findings are presented in Table 3 (Step 1). In line with our directional hypothesis that the closeness in cross-group friendship would be positively associated with adolescents' inclusive attitudes, the results showed a positive association² between closeness in cross-group friendship and inclusive attitudes towards students with SEN. In other words, the closer adolescents felt with their cross-group friends, the more positive they were about including SEN students in their social activities.

4.3. Emotions following exclusion and adolescents' attitudes towards the inclusion of students with SEN

Next, we tested if adolescents who anticipated stronger positive emotions for themselves after hypothetically excluding an individual with SEN would report less positive attitudes towards the inclusion of SEN students (hypothesis 2). The analysis (see Step 1, Table 3) revealed a significant main effect that was in line with this assumption.

4.4. The moderating role of emotions in the relation between cross-group friendship and inclusive attitudes

In a next step, we tested our third assumption that emotions following the exclusion of students with SEN would moderate the relation between closeness in cross-group friendship and inclusive attitudes. Therefore, the interaction of cross-group friendship and emotions was added to the previous regression model. The results are displayed in Table 3 (Step 2). In line with our expectations, there was a significant interaction between closeness in cross-group friendship and emotions on inclusive attitudes. To test if the model including this interaction explained significantly more variance than the model only containing the main effects, we compared these two models using an analysis of variance (Baron & Kenny, 1986); the later model explained significantly more variance, $F(1, 859) = 3.90$, $p = .049$. Fig. 1 displays the interaction effect plotted following the procedure of Aiken and West (1991) in the statistical environment R. Simple slopes tests revealed that adolescents' closeness in cross-group friendship was significantly related to positive attitudes towards the inclusion of hypothetical SEN students – but only under the condition that adolescents anticipated a low intensity of positive emotions for themselves after hypothetically excluding a SEN peer (simple slope $B = 0.12$, $t = 2.70$, $p = .007$). In contrast, when adolescents reported a high intensity of positive emotions, their friendship closeness was not significantly related to their inclusive attitudes (simple slope $B = -0.01$, $t = -0.07$, $p = .95$).

² As we specified a directional hypothesis (i.e., that adolescents with close cross-group friends would have more inclusive attitudes than adolescents without cross-group friends), we used one-tailed hypothesis testing for this specific hypothesis (Cho and Abe, 2013).

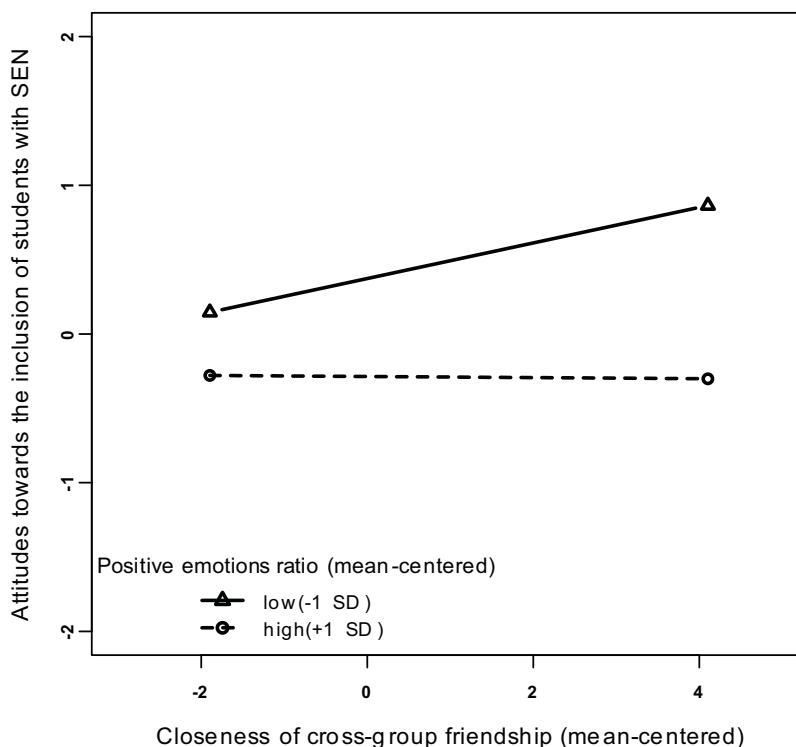


Fig. 1. Adolescents' attitudes towards the inclusion of students with special educational needs (SEN) as a function of their closeness in friendships with SEN students and their intensity of positive emotions regarding the exclusion of students with SEN.

5. Discussion

This study focused on friendships among students with and without special educational needs (SEN) and adolescents' emotions following social exclusion. We investigated if such friendships and emotions were related to more inclusive attitudes towards SEN students in adolescents without SEN.

In corroboration with previous research (e.g., [Chen & Graham, 2015](#)), we found that adolescents' friendship closeness with SEN students was positively related to their attitudes towards the inclusion of students with SEN. Extending this previous research, this is the first study that not only assessed mutual friendship choices, but also considered the closeness ratings of both: majority group students without SEN and minority group students with SEN. This finding demonstrates that cross-group friendship may increase majority group members' inclusive attitudes towards minority group students with SEN – even during the sensitive period of adolescence, a time when peer pressure and peer group identity are at their peak. In short, our findings indicate that cross-group friendship can enhance positive intergroup attitudes before they become more deeply entrenched in adulthood ([Rutland & Killen, 2015](#)). This plasticity of intergroup attitudes due to cross-group friendship may be linked to adolescents' increasing ability to include others into their self-concept. For example, central characteristics of the friendship, such as positive emotions and feelings of trust and closeness, may transfer to the social group of the out-group friend ([Aron, Aron, & Smollan, 1992](#)). As a result, individuals with cross-group friends may have more positive expectations about the out-group ([Page-Gould et al., 2010](#)). Since adolescents are in a sensitive phase of identity formation ([Bronk, 2011](#)), their social identities may be more flexible; as a consequence, adolescents may be more likely to integrate their out-group friends' social characteristics (i.e., attributes related to their social group) into their own self-concept. Furthermore, close friendships in adolescence are characterized by self-disclosure and trust; both characteristics have been identified as important mechanisms of cross-group friendship ([Turner, Hewstone, & Voci, 2007](#)).

Concerning the role of adolescents' emotions following the exclusion of a SEN student, our results indicated that individuals who anticipated less positive emotions following exclusion reported more positive attitudes towards the inclusion of students with SEN. This finding resonates with research on the happy victimizer phenomenon; thereby, high levels of positive emotion expectancies (e.g., happiness) are related to more aggressive behavior and peer victimization (e.g., [Malti & Krettenauer, 2013](#)). In contrast, the anticipation of negative emotions is related to socially inclusive behavior ([Chilver-Stainer et al., 2014](#); [Gasser et al., 2013](#)).

In addition, the results showed that emotions following social exclusion moderated the relationship between adolescents' cross-group friendship and their inclusive attitudes. This finding was in line with our assumption that adolescents who anticipated more positive emotions would be less likely to benefit from cross-group friendship as opposed to adolescents

who expected more negative emotions. Consequently, having a close relationship with a SEN peer was not sufficient to increase adolescents' inclusive attitudes; rather, they needed to anticipate negative emotions when a student with SEN was excluded. The relationship between cross-group friendship and inclusive attitudes became non-significant for individuals who differed more than one standard deviation from the mean level of positive emotions (see Fig. 1). This finding suggests that possible benefits of cross-group friendship depend on individual differences in adolescents' emotions following social exclusion. Even though adolescents with cross-group friends may be more aware of negative consequences for the excluded individual (Gasser et al., 2013), they might still choose to exclude that individual. For example, the inclusion of the individual with SEN could be experienced as a threat for effective group functioning (as reflected in the anticipation of positively valenced emotions following decisions to exclude a peer). As a result of the academic pressure in upper elementary school, adolescents might have chosen to be in a well functioning group rather than being inclusive. In addition, group affiliations might have been very influential given the age of the participants (Rubin, Bukowski, & Parker, 2006). Thus, students who are characterized by a strong motivation for group affiliation may be more sensitive regarding aspects of group functioning and favor their in-group over principles of equality. This finding likely reflects the everyday experiences of adolescents in having to weigh aspects of group functioning and fairness in an educational system with conflicting demands: efficiency and social acceptance.

Consequently, in order to promote positive attitudes in inclusive classrooms, professionals working in education may provide opportunities for friendship formation between students with and without SEN. Fostering friendship development between students with different ability levels may pose a challenge for teachers: Research shows that students perceive the exclusion from friendship dyads as legitimate because it reflects a decision that is related to personal autonomy (Killen, Lee-Kim, McGlothlin, & Stangor, 2002; Killen & Rutland, 2011). Thus, inclusive classrooms may need to create environments that foster voluntary and positive interactions between students who are different from each other. For example, teachers can specifically plan group activities that require achieving a common goal, as interactions between students who are different from each other are more positive if students work towards a common target (Allport, 1954). Furthermore, as adolescents' socio-moral competencies play an important role for their inclusive attitudes, teachers may specifically try to promote their students' socio-moral development (Nucci & Turiel, 2009). Teachers can foster adolescents' understanding of the dynamics that underlie the exclusion of students with SEN. For example, teachers can encourage students to take the perspectives of excluders and excluded, to reflect on emotions in peer exclusion conflicts, and to think about strategies how conflicts about peer inclusion and exclusion can be resolved in constructive ways (Horn, Daddis, & Killen, 2008).

Despite a number of strengths, this study is not without limitations. First, the findings relied on cross-sectional data. Future longitudinal research needs to determine if adolescents who report more positive attitudes towards the inclusion of students with SEN are also more open for cross-group friendship. Second, while our study is among the first ones to investigate cross-group friendship using reciprocated friendship measures, another limitation pertained to the small effect sizes of this study. Meta-analyses on intergroup contact have suggested that smaller effect sizes can be expected for field studies compared to experimental designs (Pettigrew & Tropp, 2006); additionally, smaller effect sizes have been shown to result whenever intergroup contact is assessed by asking participants to list all their friends, instead of specifically asking whether they have out-group friends (Davies, Tropp, Aron, Pettigrew, & Wright, 2011). A third limitation is the missing perspective of students with SEN. Prior research has shown that cross-group friendship is more effective for the majority group (Feddes, Noack, & Rutland, 2009). Future research could investigate the quality of cross-group friendship from the perspective of adolescents with SEN.

6. Conclusion

In summary, our findings highlight the interplay between cross-group friendships and adolescents' socio-emotional experiences for their attitudes towards the inclusion of peers with SEN. Specifically, cross-group friendship between adolescents with and without SEN may be associated with more positive attitudes towards the inclusion of SEN peers in individuals who resist group norms and favor norms of equality.

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