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Structural and normative conditions for interethnic friendships in multiethnic classrooms



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ABSTRACT

Interethnic friendships between students are important for harmonious intercultural relations at school. Drawing on research on intergroup contact and cultural distance between immigrant and non-immigrant groups, we examined how structural and normative conditions in the classroom context are associated with friendships between early adolescents with and without an immigrant background in ethnically heterogeneous schools. The sample comprised 842 students ($M_{age} = 11.50$ years, $SD_{age} = .71$; 53% male) attending multiethnic schools in Southwest Germany.

Results revealed that perceived positive contact norms in class and perceived cultural distance predicted friendships between immigrant and non-immigrant students in both groups, even when the ethnic composition of the classroom was taken into account. The associations were largely the same for immigrants and non-immigrants. We conclude that interventions to foster interethnic friendships should aim to reduce perceptions of cultural distance and monitor and improve contact norms in intergroup settings.

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1. Introduction

In Western Europe, the population is becoming increasingly multicultural. In Germany about one third of school-aged children have an immigrant background (Statistisches Bundesamt, 2012). However, members of different ethnic groups are often separated from the mainstream society and intercultural encounters restricted to the public, formal domain. Schools can provide valuable opportunities for interethnic contact and the formation of interethnic friendships. Such relationships have been shown to promote positive intergroup attitudes (Pettigrew & Tropp, 2006) and are an important acculturation outcome for immigrant youth (e.g., Schachner, Van de Vijver, & Noack, 2014a). Yet, the opportunity for contact is a necessary but often insufficient condition for such friendships. The preference for friends who are similar, including culturally similar, is strong, a phenomenon called homophily (McPherson, Smith-Lovin, & Cook, 2001). Interethnic friendships are less prevalent,

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less stable over time, and often less intimate than intraethnic friendships (Aboud, Mendelson, & Purdy, 2003; Jugert, Noack, & Rutland, 2011).

We examine structural and normative conditions for German-immigrant friendships in multiethnic classrooms in order to increase our understanding about the mechanisms behind the formation of such friendships. Research on intergroup contact (Allport, 1954; Blau & Schwartz, 1997) and perceived cultural distance (Galchenko & Van de Vijver, 2007; Hagendoorn, 1995) specifies conditions that affect the relationship between different ethnic groups in a society. Research on intergroup contact is mainly concerned with characteristics of the contact situation and how they impact intergroup relations, whereas research on perceived cultural distance is concerned with characteristics of the groups involved and the effect of perceived differences between ethnic groups. We test the effect of these conditions on intergroup friendships by employing the Theory of Planned Behaviour (Ajzen, 1991, 2012), which distinguishes between conditions, intentions, and actual behaviour.

1.1. The contact hypothesis: Normative conditions and structural composition

The contact hypothesis by Allport (1954), one of the most cited theories on majority-minority relations, proposes that contact between members of different groups leads to more positive intergroup attitudes. Contact is proposed to be most effective when both groups have an equal status and common goals, there is intergroup cooperation, contact is supported by the authority, and there is the possibility to establish intergroup friendships (Allport, 1954; Pettigrew & Tropp, 2006). Hence, intergroup friendships, a context in which these conditions are met at an interpersonal level, are regarded as a highly intimate and effective form of intergroup contact. Intergroup friendships, however, can also be a potential outcome of optimal conditions at the community level. The numerous classroom interventions that have been designed and implemented, generally lead to better interethnic relations amongst students (for a review see Slavin & Cooper, 1999). Remarkably, only a handful of studies have measured perceived normative conditions for interethnic contact, particularly in classrooms where no intervention takes place. It was found that these normative conditions had a significant impact on children's level of prejudice (Molina & Wittig, 2006) and native children befriending immigrant children (Jugert et al., 2011).

Research on intergroup contact has focussed primarily on studying contact effects on intergroup attitudes of majority group members, while studies including a minority perspective are still rare. Studies that do investigate effects for both groups often find that effects are stronger for the majority group (Tropp & Pettigrew, 2005). This may be rooted in a different evaluation of the contact situation, with low status groups being more sensitive to subtle status differences or discrimination in the contact situation than members of the majority (Dixon, Durrheim, & Tredoux, 2005; Tropp & Pettigrew, 2005). It is therefore important to consider individual perceptions of such normative conditions and how they facilitate intergroup friendships, even in classrooms without a specific contact-focussed intervention. We expect that immigrant children perceive these normative conditions as less favourable than non-immigrant children. Yet, we expect the effect of these perceived conditions on interethnic friendships to be the same in both groups.

Beyond these normative conditions, there are also structural aspects of the contact situation that may affect intergroup outcomes, such as the proportion of in-group and out-group members in the class (Blau & Schwartz, 1997) – in our case immigrant and non-immigrant students – and their diversity in terms of the number and relative size of subgroups (Putnam, 2007). Findings concerning the association between ethnic composition and interethnic relations in the classroom context are mixed (for a review see Thijss & Verkuyten, 2014). On the one hand some studies have found that a higher share of immigrant students was associated with indicators of more positive interethnic relations, such as lower levels of ethnic victimisation (Agirdag, Demanet, Van Houtte, & Van Avermaet, 2011) and more out-group friends amongst majority group members (Titzmann, Brenick, & Silbereisen, 2014; Van Houtte & Stevens, 2009; Wilson & Rodkin, 2011). On the other hand, some studies have found negative effects of the proportion of immigrants in the school population on interethnic relations. In classrooms with more immigrants, higher levels of perceived discrimination are reported by immigrants (Brenick, Titzmann, Michel, & Silbereisen, 2012), and both groups hold more negative out-group attitudes (Vervoort, Scholte, & Scheepers, 2011). Yet, Brenick et al. (2012) suggest that differential effects of the proportion of immigrants on interethnic relations may be related to normative conditions in these schools. We expect that in classrooms with more immigrants there will be more interethnic friendships between immigrants and non-immigrants after controlling for norms around intergroup contact.

Beyond the proportion of immigrants in class, some studies have found a positive relation between the ethnic diversity of the immigrant group and the formation of interethnic friendships between minority and majority students (Moody, 2001; Van Houtte & Stevens, 2009). Other studies did not find a link between classroom diversity and interethnic relations when the proportion of immigrants in the classroom was controlled (Agirdag et al., 2011; Vervoort et al., 2011). This suggests that more diversity in the immigrant group may be associated with more contact and friendships with members of the majority group. So, the mere ratio of immigrants to non-immigrants in class seems to be a more important predictor of friendships occurring between the groups.

1.2. Perceived cultural distance

The cultural distance between ethnic groups (i.e., perceived differences in values, attitudes, and beliefs) moderates the relationship between those groups (Galchenko & Van de Vijver, 2007; Hagendoorn, 1995). The perception of cultural distance between the culture of origin and the host country has been shown to negatively affect adaptation to a new country and the relationship with members of the mainstream society for adult (Galchenko & Van de Vijver, 2007) and

adolescent immigrants (Phalet & Hagendoorn, 1996). At the same time, cultural distance underlies evaluations of different immigrant groups. In the so-called ethnic hierarchy (Hagendoorn, 1995), different ethnic groups are ranked in terms of the status they hold in a particular society, with the national group having the top rank. Usually, groups that are considered to be more similar to the national group rank higher in terms of status. It has been shown that there is agreement on this order between members of different ethnic groups. Groups at the bottom are typically rejected by higher ranking minority groups (Verkuyten, Hagendoorn, & Masson, 1996). The notion of such a hierarchy can already be found amongst minority and majority early adolescents (Verkuyten et al., 1996) and even children from lower ranking groups report experiencing more discrimination by peers (Verkuyten, 2002). Baerveldt, Zijlstra, De Wolf, Van Rossem, and Van Duijn (2007) found that in a classroom context with a higher share of immigrants from countries that are culturally more similar, the likelihood of friendships between immigrant and non-immigrant children was higher than in a context with a high share of immigrants from culturally more distant backgrounds. We expect that greater perceived cultural distances amongst immigrant and mainstream children will be linked with less motivation to engage with out-group members and fewer intergroup friendships. Also, social identity theory suggests that individuals are motivated to improve their own status by establishing relationships with members of higher status groups (Tajfel & Turner, 1986); therefore, we expect that immigrant children will be more motivated to engage in intergroup friendships than mainstream children.

1.3. The theory of planned behaviour: Developing our conceptual framework

The Theory of Planned Behaviour (TPB; Ajzen, 1991, 2012) is one of the most cited social psychological theories in explaining the link between individual attitudes and behaviour. It proposes that attitudes towards a certain behaviour, subjective norms, and perceived behavioural control predict behaviour via the intention to perform the behaviour. Perceived behavioural control can also serve as a moderator of the link between behavioural intention and actual behaviour and can have a direct effect on behavioural outcomes. The theory has been supported with empirical evidence from a wide range of areas, including social behaviour (Armitage & Conner, 2001). In recent years, there has been increasing interest in effects of normative antecedents. As a consequence, descriptive norms have been added to the theory as an antecedent (Rivis & Sheeran, 2003). Unlike *prescriptive norms*, which directly state – or prescribe – *how individuals should behave* in a certain situation or context, *descriptive norms* describe *how individuals normally behave* in a particular context. Especially in younger (non-adult) samples, descriptive norms have a high predictive power beyond the originally specified antecedents and should therefore be included in studies with this age group.

We designed a conceptual model in which perceived (descriptive) norms around intergroup contact in the classroom and perceived cultural distance serve as normative and attitudinal antecedents to the intention to establish intergroup friendships. This intention, in turn, is expected to predict the actual intergroup friendships. We did not include a measure of perceived behavioural control. Yet, conceptually speaking, the proportion of out-group members in a class can be seen as a measure of behavioural control as it facilitates or restricts an individual's opportunity to establish friendships with members of the out-group. We therefore also included a direct path from the proportion of out-group members in a class to the proportion of out-group friends. In our case we used the proportion of immigrants as a positive indicator of opportunity for mainstream children and as a negative indicator of opportunity for immigrant children (see Fig. 1 for our full conceptual model).

1.4. Hypotheses

Pulling together the findings from the different lines of research presented above, we expect that the context surrounding a contact situation (i.e., structural composition, normative condition, and perceived differences between the groups involved) will be associated with the occurrence of friendships between immigrant and non-immigrant children as specified in our conceptual model. Concerning specific patterns and relationships for immigrant and non-immigrant children we have the following expectations:

Hypothesis 1. Immigrant children will perceive contact norms in the classroom as more negative than non-immigrant children.

Hypothesis 2. Immigrant children will have a stronger intention to engage with out-group members than German children.

Hypothesis 3. The relationships between variables will be the same in both groups, except for a stronger effect of contact opportunity amongst majority children (Hypothesis 3a).

2. Method

2.1. Participants

A total of 842 students were included in the study. Of these, 352 students were ethnically German ($M_{\text{age}} = 11.38$ years, $SD = .65$; 54% male) and 490 students had an immigrant background ($M_{\text{age}} = 11.59$ years, $SD = .74$; 52% male), with at least

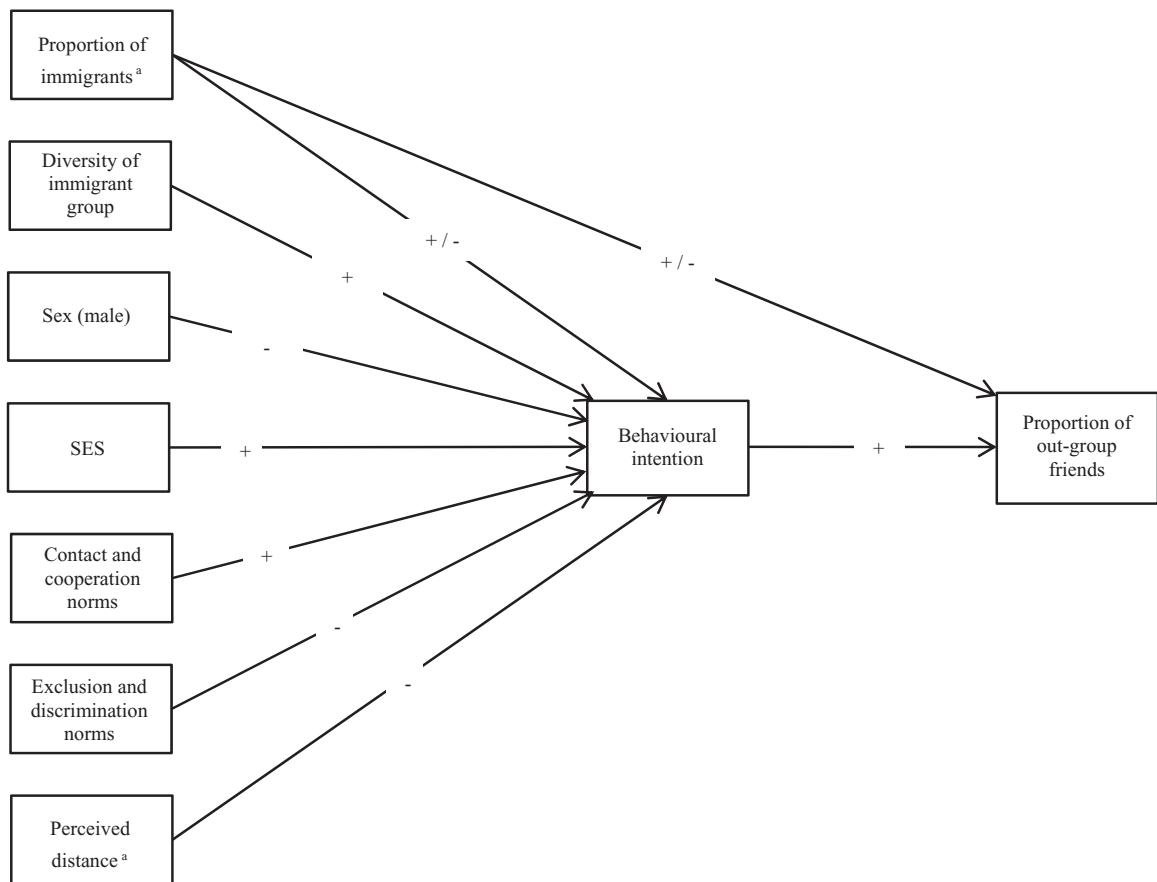


Fig. 1. Conceptual model of hypothesised relations. ^a Differential effect expected between groups; signs behind slash are for the immigrant group.

Table 1
Descriptive statistics classroom level by school track.

School type (track)	<i>N</i> _{students}	<i>N</i> _{classes}	% (<i>SD</i>) students with migration background	<i>M</i> _{ELF} (<i>SD</i>) students with migration background
Low vocational	203	14	65 (15)	.72 (.15)
High vocational	348	16	56 (26)	.79 (.12)
Academic	291	12	55 (20)	.85 (.08)

ELF = Ethnolinguistic Fractionalisation Index, see Section 2.3.6 for details.

one parent from another country¹. The majority ($N=425$) of immigrant children were born in Germany or had migrated at a very young age ($M=4.39$ years, $SD=3.55$). In total, these children came from 64 different countries of origin, with the largest group coming from Turkey ($N=129$), followed by the Balkan countries ($N=100$), Eastern Europe and the former USSR ($N=82$), and Southern Europe ($N=78$).

2.2. Procedure

Data were collected as part of a larger study on acculturation and intergroup relations in the school context. The study targeted multiethnic secondary schools in Southwest Germany that varied in terms of the proportion and diversity of immigrant students (see Table 1 for details) and represented the three main secondary school types in Germany (low and medium vocational tracks and high academic track). In order to have some variance in terms of the interethnic climate, we selected some schools that had a reputation of being very active in this field (e.g., by participating in large-scale projects

¹ In order to make sure that our results are not affected by the decision to include children with only one immigrant parent in the immigrant group, we also ran all analyses with a narrower conceptualization of the immigrant group excluding all children with one German and one immigrant parent. The results were very similar, both concerning measurement invariance and our path model. We can therefore exclude the possibility that our results are biased by the inclusion of children of intercultural marriages in the immigrant group.

against racism in schools) and some schools that had a reputation as being rather problematic in terms of interethnic relations (e.g., where a number of racist incidences occurred). The questionnaire was administered during class time. Participation was voluntary and subject to permission from the relevant school authorities and active consent of parents. Schools were promised feedback about their interethnic climate for an internal evaluation as a reward for participation. Participation rates were high, with a rate of 90% amongst the immigrant students and 89% amongst the non-immigrant students of the participating classrooms. The questionnaire was administered in German, which is the language of instruction.

2.3. Measures

The self-report questionnaire consisted of some established measures as well as measures that were either newly developed or adapted for the context and age group of this study. All measures were pilot tested with 88 students of the target age group ($N_{\text{immigrant}} = 51$).

2.3.1. Socioeconomic status

Children's socioeconomic status (SES) was measured using a combination of the well-established Family Affluence Scale (FAS; [Boyce, Torsheim, Currie, & Zambon, 2006](#); German version by [Richter & Leppin, 2007](#)) and the number of books in the household as a measure of the educational background of the family (e.g., [Bos et al., 2003](#)), both of which are frequently used with this age group. The FAS comprises three items tapping into the financial standing of the family by asking about the number of cars in the household—(0) *none*, (1) *one*, or (2) *two or more*; whether the child has his or her own room—(0) *no* or (1) *yes*; and how many times the family has been on holiday during the past year—(0) *not at all*, (1) *once*, (2) *twice*, or (3) *three times or more*. The educational background of the family was obtained by asking children to estimate the number of books in the household on a 5-point Likert scale from (1) *none or very few* to (5) *more than 200 books*, accompanied by pictures of a book shelf with an increasing number of books on it. As recommended when working with such indices ([Vyas & Kumaranayake, 2006](#)), a principal component analysis was carried out on these four items and a single factor was extracted, which explained 35% of the total variance amongst immigrant children and 37% of the total variance amongst non-immigrant children (with individual loadings ranging between .45 and .79).

2.3.2. Perceived contact norms

Descriptive norms for intergroup contact ([Allport, 1954](#)) between immigrant and non-immigrant children in the classroom (in the German context referred to as "foreign" and "German" children) were measured using an adaptation of the School Interracial Climate Scale ([Green, Adams, & Turner, 1988](#); [Molina & Wittig, 2006](#)). Items assessed the perceived contact norms of both teachers and students and formed five subscales: (1) perceived unequal treatment by teachers (6 items, e.g., "When a German child and a foreign child get into mischief, it is often only the foreign child who gets punished."), (2) perceived support for contact and cooperation by teachers (8 items, e.g., "Our teachers encourage German and foreign children in our classroom to work together."), (3) perceived unequal treatment by students (6 items, e.g., "Some children in my classroom treat foreign children as if they were better than them."), (4) perceived support for contact by students (8 items, e.g., "During breaks, German children like to hang out with foreign children."), and (5) perceived support for cooperation by students (5 items, e.g., "German and foreign children help each other when one of them has problems understanding something."). Responses were given on a 5-point Likert scale from (1) *no, that's not right* to (5) *yes, that's right*. In order to establish measurement equivalence between immigrant and non-immigrant respondents, we carried out confirmatory factor analyses (CFA) on the five subscales. Scalar invariance could be confirmed with an adequate fit of the intercept invariance models (see Appendix 1 for fit indices of all models).

These five subscales were then merged into a positive and a negative factor using principal component analyses with oblique rotation based on the subscale means. The positive factor comprised the subscales of perceived support for both contact and cooperation by teachers and by students, whereas the negative factor comprised the subscales of perceived unequal treatment by teachers and students. Reliabilities of the higher order scales were acceptable in both groups (perceived unequal treatment: $\alpha_{\text{Immigrant}} = .65$; $\alpha_{\text{German}} = .63$; perceived support for contact and cooperation: $\alpha_{\text{Immigrant}} = .75$; $\alpha_{\text{German}} = .74$). The division into a positive and a negative factor has also been found in other school settings ([Dejaeghere, Hooghe, & Claes, 2012](#)).

2.3.3. Perceived cultural distance

Perceived cultural distance was measured using different scales for immigrant and German children. For the immigrant children, the perceived distance of their own culture of origin in comparison to the German culture was measured using a 6-item adaptation of [Galchenko and Van de Vijver \(2007\)](#). Items measured how similar or different the children perceived their ancestral culture and the German culture, tapping into public and private life domains ([Arends-Tóth & Van de Vijver, 2007](#)) relevant and familiar to children of this age, such as family life, general way of life, dress, and parenting styles (e.g., "How similar or different do people dress in Germany and your other country?"). Responses were given on a 5-point Likert scale from (1) *very similar* to (5) *very different*. A factor analysis confirmed a single factor structure with good reliability ($\alpha = .86$). In another study using the same measure, Schachner and colleagues ([Schachner, Van de Vijver, & Noack, 2014b](#)) showed that children's perceptions of cultural distance correlated with more objective characteristics of their country of origin. This suggests that children of this age already have a fairly adequate perception of cultural differences between countries.

Table 2

Group means of friendship nominations.

	Group	
	German	Immigrant
Total nominations		
N (SD)	4.67 (.83)	4.63 (.90)
% Reciprocated (SD)	50(26)	51(25)
Interethnic nominations		
N (SD)	1.91 (1.41)	4.09 (1.21)
% Reciprocated (SD)	54(37)	53(25)
Immigrant-non-immigrant nominations		
N (SD)	1.91 (1.41)	1.34 (1.33)
% Reciprocated (SD)	40(40)	31(40)
Opposite sex nominations		
N (SD)	.04 (.77)	.06 (.81)
% Reciprocated (SD)	10(27)	10(27)

For the German children, perceived cultural distance was measured with respect to the largest immigrant groups in Germany. The questionnaire items were adapted from [Te Lindert and Van de Vijver \(2010\)](#) and asked how much the German children feel they have in common with children from Turkey, Southern Europe, former USSR, former Yugoslavia, Eastern Europe, Asia, and other Western countries. For the regional groups, the most exemplary countries were listed in parentheses to make sure all categories were meaningful for the children (e.g., “How much do you have in common with children from Southern Europe (e.g., Italy, Portugal, Greece)?”). Responses were given on a 5-point Likert scale from (1) *almost nothing* to (5) *a lot*. The items also mapped onto a single factor and showed good reliability ($\alpha = .81$). In order to have a measure of the perceived distance by the German children to immigrant children in general, the mean score across these seven groups was included in the analyses.

2.3.4. Intention to socialise with an out-group member

The intention to socialise with a member of the out-group (German or immigrant) was measured using two items, which referred to the preference of socialising with out-group members at school and outside of school (e.g., “At school I like to be with German/foreign children.”). Responses were given on a 5-point Likert scale from (1) *no, that's not right* to (5) *yes, that's right*. As the measure was comprised of only two items, we could not employ CFA to test for measurement invariance between groups. However, the items showed a high reliability in both samples, with $\alpha_{\text{Immigrant}} = .88$ and $\alpha_{\text{German}} = .89$.

2.3.5. Children's friendships within the classroom

We asked the children to list their five best friends in the classroom. This procedure allows participants' own demographic information (sex, ethnicity) to be matched to that of their listed friends as self-reported by the friends on their own questionnaires. This procedure is less likely to be affected by problems, such as social desirability or children simply not knowing the ethnicity of their friends, and has been used in other recent studies ([Hamm, Brown, & Heck, 2005](#); [Vervoort et al., 2011](#)). Since the focus of our study was on German-immigrant friendships, the proportion of friends from the respective out-group was computed for each child. In order to have a more accurate measure of children's actual friendships, only reciprocated friendships were considered. The proportion of reciprocated out-group friends was computed as the number of reciprocated out-group friends divided by the total number of reciprocated friends. Descriptive statistics of friendship nominations in the German and immigrant group are displayed in [Table 2](#).

2.3.6. Ethnic composition of the classroom

The ethnic composition of the classroom was measured using (1) the actual share of immigrant children in every classroom and (2) a measure of the diversity of the immigrant group using the Ethnolinguistic Fractionalisation Index (ELF; [Alesina, Devleeschauwer, Easterly, Kurlat, & Wacziarg, 2003](#)). The ELF was computed for the immigrant groups in every classroom, accounting for both the number of groups (in our case national groups) and their relative size. The ELF is calculated as $1 - \sum_{k=1}^K p_k^2$, where K is the number of groups and p_k is the proportion of each group out of the total. Values range from 0 to 1, with values closer to 1 representing higher levels of heterogeneity. To ensure we accurately represented the ethnic composition of the classroom, we obtained the ethnicities for all non-participating children from the schools. By using two measures of the ethnic composition rather than a single index as in some previous studies ([Moody, 2001](#)), we were able to disentangle the effect of the proportion of immigrants and the effect of the heterogeneity of the immigrant group.

Table 3

Intercorrelations, descriptive statistics of measures and differences between groups.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. School type	–	–.15**	.33**	.02	.12*	–.09*	–.12**	–.05	.06	.11*
2. Proportion of immigrants	–.17**	–	.10*	–.02	–.25**	–.07	.05	.15**	–.30**	–.44**
3. Diversity of immigrant group	.51**	.41**	–	.01	.02	.03	–.18**	–.03	.05	–.08†
4. Sex (male)	–.04	–.06	–.02	–	.00	–.12*	.07	–.05	–.11*	.00
5. SES	.19**	–.26**	.05	.04	–	.07	–.04	–.14**	.29**	.21**
6. Contact and cooperation norms	.06	.12*	.13*	–.14*	.05	–	–.31**	–.15**	.35**	.12**
7. Exclusion and discrimination norms	–.25**	–.07	–.22**	.19**	.02	–.29**	–	.22**	–.27**	–.12**
8. Perceived distance	–.07	–.12*	–.11*	.08	–.02	–.14**	–.01	–	–.24**	–.16**
9. Behavioural intention	.05	.31**	.25*	–.16**	.00	.42**	–.20**	–.32**	–	.34**
10. Proportion of out-group friends	–.04	.39**	.12*	–.08	–.14*	.11*	–.08	–.19**	.32**	–
M (SD) immigrants	2.05 (.77)	.66 (.19)	.81 (.11)	.52 (.50)	–.32 (.96)	.03 (1.04)	.07 (1.06)	3.37 (.97)	3.63 (1.22)	.26 (.35)
M (SD) Germans	2.18 (.74)	.46 (.20)	.78 (.14)	.54 (.50)	.45 (.87)	–.04 (.95)	–.10 (.90)	4.30 (.72)	2.98 (1.22)	.36 (.37)

Numbers above the diagonal reflect correlations in the immigrant group and numbers below the diagonal reflect correlations in the German group. School type coded as 0 = low vocational track, 1 = high vocational track, 2 = academic track.

† $p < .10$ * $p < .05$ ** $p < .01$.**Table 4**

Fit statistics for the multigroup analysis (German vs. Immigrant).

Model	χ^2/df	RMSEA	TLI	CFI	AIC
Unconstrained	1.32	.03	.98	.99	11,443.14
Structural weights	1.05	.01	1.00	1.00	11,435.14
Structural covariances	2.05***	.05	.94	.93	11,585.00

Most restrictive model with a good fit is printed in italics.

*** $p < .001$.

3. Results

We were interested in friendships and antecedents of friendships between immigrant and non-immigrant students. We first conducted a MANCOVA to test for differences in the perception of contact norms in the classroom and the intention to engage in intergroup contact. Controlling for the proportion and diversity of immigrants in the classroom, school type, and SES, immigrant children did perceive significantly more negative contact norms than mainstream children, $F(1, 836) = 5.90$, $p < .05$, $\eta^2_{\text{partial}} = .01$ (**Hypothesis 1**). They also showed a stronger intention to socialise with out-group members than German children, $F(1, 836) = 65.00$, $p < .01$, $\eta^2_{\text{partial}} = .07$ (**Hypothesis 2**). Although German children scored higher on perceived cultural distance, it was not possible to test for significant differences on this variable as different measures had to be used for immigrant and mainstream children. Means, standard deviations, and intercorrelations for all variables are displayed in **Table 3**.

Next, a path model was computed in Mplus 6.11 (Muthén & Muthén, 2010), testing our conceptual model (**Fig. 1**) in the two groups². School type was not included in the model as it was found not to explain anything beyond the effect of ethnic composition and SES. All paths were set to be equal between groups, except for those from the proportion of immigrants to the outcomes as opposite signs were expected in the two groups, and from perceived distance to behavioural intention as different measures were used in the two groups. The structural weights model was accepted as the most restrictive model with an adequate fit. Fit statistics for all four models are displayed in **Table 4**. Coefficients and significance levels for individual paths can be seen in **Fig. 2**.

All direct paths were significant, except for SES, which was only a significant predictor for behavioural intentions in the immigrant group, and diversity of the immigrant group in the classroom, which was only a marginally significant predictor for behavioural intentions in both groups. A larger proportion of out-group members in class also predicted a higher intention to engage with out-group members. Yet, the strongest predictors of a higher intention were contact and cooperation norms, followed by the negative effect of perceived cultural distance, which was much stronger amongst the German children than amongst the immigrant children. It can be concluded that the pattern of relations was very similar for immigrant and mainstream children, as expected (**Hypothesis 3**). The differential effect of SES for immigrants and non-immigrants has also

² Initially, we planned to employ a multilevel framework. However, the intraclass correlations were very low, revealing that there was only very little variance at classroom level and therefore multilevel analyses would not be justified.

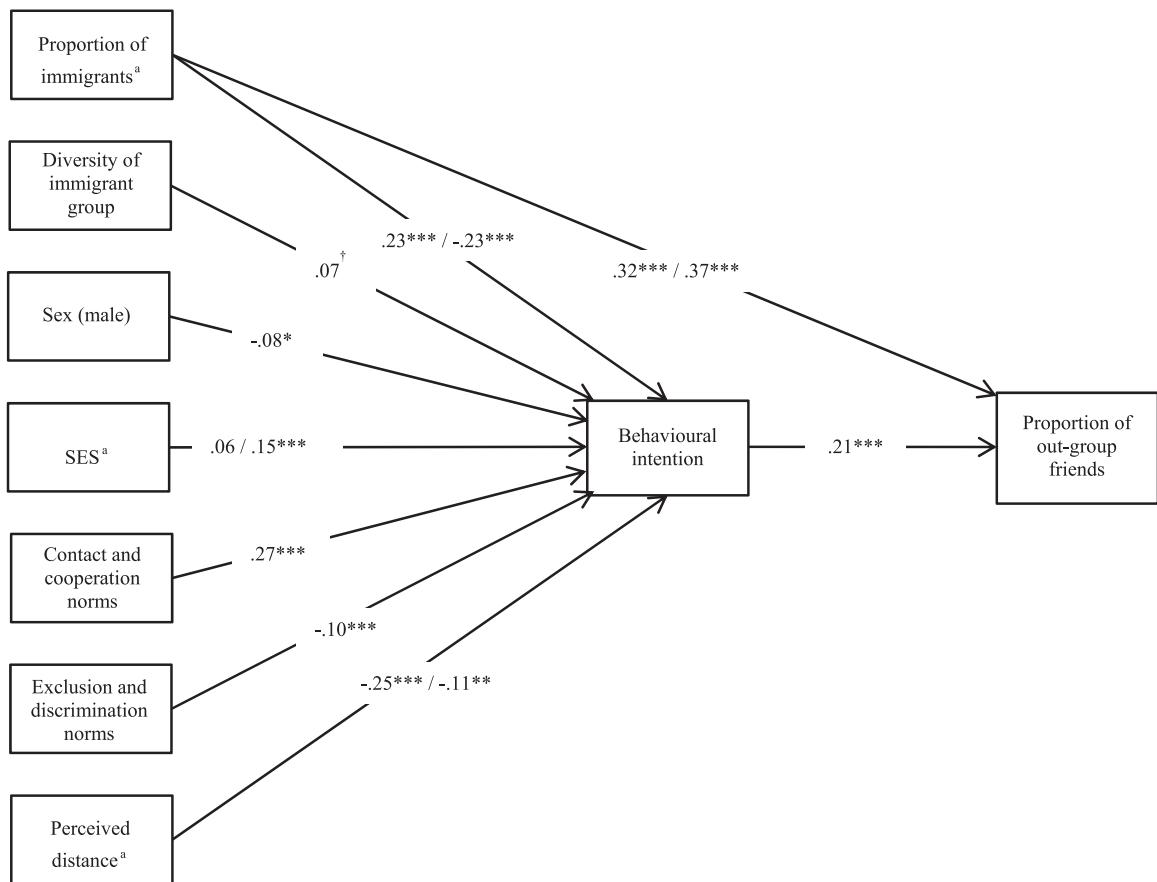


Fig. 2. Conceptual model with coefficients in the two groups. $R^2_{\text{behavioural intentions}} = 28.2\%$, $R^2_{\text{out-group friends}} = 17.5\%$ for Germans; $R^2_{\text{behavioural intentions}} = 26.6\%$, $R^2_{\text{out-group friends}} = 24.8\%$ for immigrants. ^a Path(s) from IV freed to allow for variation between groups; coefficients behind the slash for the immigrant group where parameters were freed. [†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

been reported in previous studies (e.g. [Van Houtte & Stevens, 2009](#)). Contrary to our expectation (Hypothesis 3a), the effect of contact opportunity on actual friendships was stronger for the minority group. Bootstrapping tests revealed that all indirect effects of the predictors on the proportion of out-group friends via behavioural intention were significant, except for SES in the German group and diversity of the immigrant group, which was only marginally significant in both groups ($p < .10$). However, coefficients for the indirect effects were very small ($-.06 < \beta < .06$).

4. Discussion

We investigated how structural and perceived characteristics of the interethnic contact situation in the classroom are associated with friendships between 842 immigrant and non-immigrant children at German secondary schools. Our main findings were: (1) When mere opportunity to establish intergroup friendship is controlled, the perception of the contact situation as well as the perceived distance between the groups involved are more strongly associated with intergroup outcomes than structural aspects, like the proportion and diversity of these groups. (2) The mechanisms behind the formation of intergroup friendships, namely the effect of (perceived) contact conditions, contact norms, and cultural distance, are largely the same for immigrant and non-immigrant children. In the following, these findings are discussed in more detail, followed by a discussion of some shortcomings of our study and the implications of our research.

4.1. Conditions for interethnic friendships

The proportion of out-group members (in our case immigrants vs. non-immigrants) in class had the strongest direct effect on intergroup friendships of all antecedents specified in our conceptual model. Yet, the indirect effect suggests that a higher proportion of out-group members in class implies more positive intergroup attitudes and the conscious decision to socialise with members of the other group. Heterogeneity of the immigrant group was weakly associated with more intergroup friendships. This falls in between what has been found in previous studies, which either reported a positive

effect of diversity on interethnic relations in the classroom (Moody, 2001; Van Houtte & Stevens, 2009) or no effect at all (Agirdag et al., 2011; Vervoort et al., 2011). Our results do not support findings from some macrolevel studies on the ethnic composition of neighbourhoods, which concluded that higher levels of diversity lead to a loss of social cohesion in community and deterioration of interethnic relations (Putnam, 2007). Although our findings have policy implications, more research is needed to confirm the implications of immigrant group diversity for interethnic relations in a classroom setting.

More positive and less negative perceived norms around interethnic contact in the classroom were associated with a higher proportion of out-group friends, supporting previous findings (Dejaeghere et al., 2012; Jugert et al., 2011; Molina & Wittig, 2006). Yet, the positive norms appear to be more critical for positive intergroup outcomes than the negative norms. One reason for this may be that self-reported evaluations of exclusion are more strongly affected by concerns for fairness and inclusivity, but actual inclusion behaviors are thwarted by social desirability and group dynamics concerns if there are not also strong inclusion group norms as well (Brenick & Killen, 2014). Supporting our expectations and relevant findings from previous research (Baerveldt et al., 2007; Verkuyten et al., 1996), children who perceive a greater cultural distance between immigrants and non-immigrants reported fewer intergroup friendships. This suggests that even children of this age seem to be aware of and are influenced by perceptions of cultural differences when it comes to choosing friends in multiethnic classrooms.

Taken together, we found that intergroup friendships are dependent on the availability of out-group members in a class. However, looking at the indirect effects via the intention to socialise with the out-group, the effect of positive contact norms was stronger than that of contact opportunity. Similarly, the effect of perceived cultural distance on the outcomes was stronger than that of structural diversity of the immigrant group. This suggests that the perception of the contact situation as well as the perceived distance between the groups involved are more strongly associated with intergroup outcomes than structural aspects, like the proportion and diversity of these groups.

4.2. Differences between immigrant and non-immigrant children

As expected (*Hypothesis 1*), immigrant children did perceive more negative, discriminatory norms around interethnic contact in the classroom. This confirms that minority members may be more sensitive to subtle status differences and discrimination, which may not be observed by majority members (Brenick et al., 2012; Dixon et al., 2005). Still, immigrant children were more willing to engage in contact with German children than the other way round, confirming what we had expected (*Hypothesis 2*) on the basis of social identity theory (Tajfel & Turner, 1986).

Looking at the relationship between contact conditions and intergroup friendships however, no differences were observed between immigrant and non-immigrant children with respect to the effect of perceived contact norms. Most of the research studying contact effects on prejudice and intergroup attitudes takes the mere occurrence of such contact as a predictor, often simply assuming that a particular situation was in line with the ideal conditions for intergroup contact as specified by Allport (1954) and Pettigrew and Tropp (2006). It is likely that the observed difference in perception of the contact situation by immigrant and non-immigrant students explains the difference in contact effects between minority and majority group members that has been found in many previous studies.

Contrary to our expectation (*Hypothesis 3a*) and previous research (Pettigrew & Tropp, 2006; Vervoort et al., 2011; Wilson & Rodkin, 2011), the direct effect of contact opportunity appeared to be stronger for immigrants. This may reflect the particular situation in our study, where immigrants – despite having a minority status in society – actually made up a numerical majority in most classrooms. The proportion of Germans may therefore be more decisive for intergroup friendships of immigrant children and they may be more motivated to engage in intergroup contact when there are fewer Germans in a class. At the same time, German children may feel threatened in their position of being the numerical minority in most classrooms and therefore have a heightened need to seek friendships within their own group. Indeed, it was found in previous studies that children representing the national mainstream group held more negative attitudes towards ethnic minority groups in classrooms where the proportion of ethnic minority members was greater than 50% (Vervoort, Scholte, & Scheepers, 2011). Thijs and Verkuyten (2014) therefore suggest that there may be a tipping point where interethnic relations actually become worse when one group becomes numerically dominating.

Perceived distance seems to hinder interethnic friendships more for German children than it does for immigrant children. Yet, this conclusion has to be made with some caution as perceived distance was measured with different scales in the two groups. Homophily and the tendency to seek friends who are similar is a well-known phenomenon in social networks (McPherson et al., 2001). However, immigrant children may be more accustomed to interacting with culturally different children than are German children. Especially for second- and third-generation immigrants as in our sample, who have never lived in their ancestral country, cultural differences may not affect them to the extent they would affect children who have migrated themselves. This supports previous findings that although immigrant children of this age have adequate perceptions of cultural differences between their ancestral country and their country of residence (Schachner et al., 2014b), these perceived differences are not associated with their adjustment in the mainstream culture (Schachner et al., 2014a). Additionally, it may be easier for German children to find friends who are culturally similar (even if this has to be outside of their own classroom or school) and avoid friendships with children who are perceived to be very different in cultural terms. This need for friends who are culturally similar may be further heightened due to the fact that in our study German children were the numerical minority in most classrooms.

Taken together, our results suggest immigrant children are more willing to cross cultural boundaries when seeking friends in a classroom context than non-immigrant children. Further, different effects of intergroup contact for minority and majority members, which are often found, may not mean that the psychological mechanisms differ between these groups, but that they have a different perception of the contact situation to begin with. We even found that the direct effect of contact opportunity was stronger for immigrant children. Since the overall opportunity for intergroup contact was lower for immigrant children in our study, these encounters may have been more powerful if and when they did occur.

4.3. Limitations and future directions

While the overall sample size was quite large, we did not have enough children from specific countries or regions of origin to differentiate between them in a multigroup analysis. There was also insufficient variance at classroom level for multilevel analyses. One reason for this may be that immigrants and non-immigrants do not always agree on contact norms and they would have to be taken into account separately. However, it is not uncommon that individual perceptions of school climate differ considerably (Gniewosz & Noack, 2008). Future research should recruit a larger number of participants in the different ethnic subgroups in order to get a more detailed picture of the specific relationship between variables in different groups. Similarly, future studies should strive to recruit greater variation in ethnic compositions in the classroom (from majority immigrant to majority non-immigrant) in order to identify potential tipping points in the effect of contact on interethnic relations as suggested by Thijss and Verkuyten (2014).

As it is typical for this kind of research, it is difficult to methodologically disentangle conditions and outcomes of intergroup relations (see Thijss & Verkuyten, 2014, for a review and a more in-depth discussion). In particular when working with self-report measures as in our study, items aiming to capture the intention to carry out certain behaviours in the future could also be interpreted as a self-report measure of present behaviour. Future studies should therefore employ alternative measures that more clearly separate intentions from actual behaviour. Although our measure of interethnic friendships already comes close to a behavioural outcome, it would be interesting to replicate this study with observational data of contact and friendships in the classroom setting rather than self-reported friendships. Measures of the behavioural intention could be more clearly separated from self-reports of present behaviour by explicitly assessing the intention to carry out a specific behaviour in the future.

Finally, future studies could use longitudinal designs in order to more unambiguously establish the causal sequence of friendship-related variables and include additional friendship measures, such as friendship quality.

4.4. Conclusion and implications

Despite an increasing interest in interethnic friendships in recent years, few studies have examined friendship networks in ethnically highly diverse settings as we did. Taking actual friendship nominations as an outcome and accounting for the ethnic composition of the entire classroom allowed us to derive both accurate and objective measures of children's own ethnic background, the ethnic background of their friends, and the ethnic composition of the classroom, which is rarely achieved to this extent. In particular, children's friend nominations provide a behavioural indicator of intergroup relations that is much less likely to be skewed by social desirability than self-reported attitudinal measures. Further, we used reciprocated friendships between immigrants and non-immigrants as an outcome, which is rarely done but more accurate than one-sided nominations. Finally, our study integrated different lines of relevant research in the area of intergroup relations, namely intergroup contact (Allport, 1954; Blau & Schwartz, 1997) and perceived cultural distance (Galchenko & Van de Vijver, 2007; Hagendoorn, 1995). To our knowledge, our study is the first one integrating the notion of cultural distance into the study of intergroup contact and simultaneously studying structural and perceived aspects of the contact situation. Also, our study is one of very few investigating perceptions of cultural distance amongst pre-adolescent children.

Our findings confirm that it is necessary to consider all of these aspects in order to fully understand the interplay of mechanisms that drive the formation of intergroup friendships in multiethnic classrooms and any differences in these processes between children belonging to different ethnic groups. Although the physical presence of out-group members is clearly an important requirement for the formation of intergroup friendships, the role of perceived norms around intergroup contact as well as the perceived differences between the groups involved cannot be neglected either. Although immigrant children perceive the contact norms to be slightly more negative than non-immigrant children, they are more motivated to overcome cultural boundaries and make friends with non-immigrant children. The inconsistent finding concerning the effect of contact opportunity further raises the question of what "minority" or "majority" in the intergroup contact sense actually refers to—the status and relative size of a particular group in society at large or in the contact setting. The wider (societal) context should therefore always be considered when studying intergroup contact in a particular setting.

In terms of practical implications, our study suggests that educators should consider and target these perceptions, which may differ between groups. Cooperative learning techniques, which are based on research on intergroup contact, should be evaluated concerning the perceived normative climate they may create amongst members of different subgroups. In addition, learning about and discussing cultural beliefs and practices of different ethnic groups, including those of the biggest immigrant groups, should become part of the school curriculum in multiethnic societies. That way, perceptions of cultural distance and feelings of anxiety may be reduced when dealing with members of other ethnic groups. In the context of this research, we were faced with the problem that we could not include certain classrooms as they did not have a single

German student. Some children even reported that they do not know any German children at all. "White flight" affects more and more schools in Germany and other countries. If this is the case, encounters with the so-called majority will become increasingly rare and segregation may surface, preventing children in these schools from making friends with mainstream children, which could ease their integration into mainstream society. At policy level, measures should be taken to prevent the segregation of ethnic groups in the education system and ensure interethnic contact continues to take place in our schools.

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Appendix A.

Measurement invariance tests for perceived contact norms using confirmatory factor analyses (CFA)

		χ^2/df	CFI	TLI	RMSEA	AIC
Perceived support for contact and cooperation by teachers ^a	Unconstrained	5.36 ^{**}	.93	.89	.07	296.77
	Measurement weights	5.23 ^{***}	.92	.90	.07	314.70
	Intercept	4.82 ^{**}	.92	.91	.07	317.16
Perceived support for cooperation by students ^b	Unconstrained	4.74 ^{**}	.98	.96	.07	101.95
	Measurement weights	3.99 ^{***}	.98	.97	.06	103.83
	Intercept	3.78 ^{**}	.97	.97	.06	110.33
Perceived support for contact by students	Unconstrained	14.86 ^{***}	.98	.93	.13	107.45
	Measurement weights	9.01 ^{***}	.98	.96	.10	105.06
	Intercept	6.44 ^{**}	.97	.97	.08	104.82
Perceived unequal treatment by teachers ^c	Unconstrained	2.49 ^{**}	.99	.98	.04	115.87
	Measurement weights	2.00 [*]	.99	.98	.04	108.06
	Intercept	3.02 ^{**}	.97	.97	.05	135.62
Perceived unequal treatment by students ^d	Unconstrained	5.83 ^{***}	.95	.91	.08	169.21
	Measurement weights	5.17 ^{***}	.95	.92	.07	174.50
	Intercept	4.86 ^{**}	.94	.93	.07	182.28

Most restrictive model with a good fit is printed in italics.

^{**} $p < .01$. ^{***} $p < .001$. ^a Allowed correlated errors between items 3 and 4; 7 and 8; released intercept of item 6. ^b Allowed correlated errors between item 4 and 5. ^c Allowed correlated errors between items 2 and 3. ^d Allowed correlated errors between items 4 and 5; released intercept of item 6.

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