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Ethnic composition of the school class and interethnic attitudes: a multi-group perspective

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ABSTRACT

This study investigates the relationship between the ethnic classroom composition and interethnic attitudes of adolescents of the native majority and several ethnic minorities in the Netherlands, Germany, England and Sweden. It contributes to prior research by examining the underlying theoretical features of contact opportunities and levels of threat across multiple ethnic groups more accurately, using group-specific measures. Based on Intergroup Contact Theory and Ethnic Group Conflict Theory, contrasting hypotheses on how the ethnic classroom composition affects out-group and in-group attitudes of adolescents are tested with multilevel regression analyses. Across ethnic groups and countries, we consistently find a moderate to substantial relation between ethnic classroom composition and interethnic attitudes in line with Intergroup Contact Theory: a relatively larger out-group size, compared to the in-group, relates positively to out-group attitudes. At the same time, in several cases, a relatively larger in-group size relates to more positive in-group attitudes. The findings point to the significance of balanced ethnic classroom compositions for promoting favourable attitudes between multiple ethnic groups – benefitting especially those who face high levels of prejudice from others and those who are prejudiced towards others – without compromising positive in-group attitudes.

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Interethnic attitudes; school class; ethnic composition; multi-group relations; contact and conflict perspectives

Introduction

The attitudes of adolescents towards their own and other ethnic group have increasingly become of interest to researchers, for adolescents maintain and possibly amend the ethnically diverse society by replacing older generations (Bekhuis, Ruiter, and Coenders 2013; Vervoort, Scholte, and Scheepers 2011). As such, their interethnic attitudes, that is, in-group and out-group attitudes, are of considerable importance. While mutually positive interethnic attitudes are a precondition for ethnic minorities to integrate (Berry 2001), negative interethnic attitudes are associated with racial prejudice (Quillian 2006), which may threaten social cohesion. Since Putnam's (2007) alarming claim that ethnically diverse environments harm the social cohesion between and within ethnic groups, there has been much debate and empirical study regarding the consequences of ethnic diversity in different geographical contexts.

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Concerning adolescents' interethnic attitudes and how they are affected by ethnic diversity, scholars and policy-makers commonly focus on school (class) contexts (Thijs and Verkuyten 2014). Adolescents spend major amounts of their time in this relatively closed institutional context, wherein durable socialisation processes are generated (Coleman 1994) and social problems can possibly be addressed more readily than in other contexts. In this particular setting, a different perspective on ethnic diversity has prevailed. Ethnic diversity is assumed to increase the probability for intergroup contact (e.g. Blau 1977; Moody 2001), and increased interethnic contact in turn provides adolescents the opportunity to adjust negative ethnic stereotypes and prejudices into more favourable out-group attitudes (Allport 1954).

Yet, empirical evidence regarding the effect of the ethnic class composition on interethnic attitudes is mixed. On the one hand, a meta-analytical study by Tropp and Prenovost (2008) in the U.S. context indicated that ethnic out-group attitudes of European American adolescents are more positive in ethnically balanced classrooms than in dominantly or exclusively European American classrooms. Using different measures of out-group exposure, similar results of tolerant views towards immigrants in ethnically diverse classes are found for youth in European settings (e.g. Germany, Sweden, the Netherlands, Switzerland, Austria, Denmark and Norway) by Janmaat (2012, 2014) and Van Geel and Vedder (2011). On the other hand, Janmaat (2014) found no evidence for a relation between the ethnic composition of classes and out-group attitudes in Flanders, and in newer immigration states such as Greece, Spain, Cyrus and Ireland (Janmaat 2014), with findings suggesting that the non-relationship may be a temporary phenomenon that will turn in a positive relation once immigrants become settled and have children. Yet, other studies also found no significant link between ethnic out-group exposure and out-group attitudes in England (Janmaat 2012, 2015), Belgium (Dejaeghere, Hooghe, and Claes 2012), Sweden (Kokkonen, Esaiasson, and Gilljam 2010) and the Netherlands (Bekhuis, Ruiter, and Coenders 2013). One study in the Netherlands even found evidence for a negative relation between ethnic out-group exposure and out-group attitudes (Vervoort, Scholte, and Scheepers 2011).

Recently, explanations focusing on the quality of classroom contact, rather than its quantity, have been put forward to account for the mixed results. For instance, Bekhuis, Ruiter, and Coenders (2013) found that positively evaluated interethnic contact experiences in the class were related to less xenophobic attitudes. In a similar vein, Stark, Mäs, and Flache (2015) found that larger amounts of liked or disliked ethnic minority classmates were related to more positive or more negative attitudes towards those ethnic minority groups in Dutch classrooms. Such findings suggest that the effect of exposure to ethnic out-groups in the classroom is conditional on it being positive and that previously found null-effects may have been due to negative exposure cancelling out the effect of positive exposure.

While these studies improve our understanding of the relation between classroom composition and interethnic attitudes, there are two other reasons for mixed results in previous research that have received insufficient attention to date. First, the most commonly used indicators of the ethnic classroom composition – ethnic minority proportion (e.g. Dejaeghere, Hooghe, and Claes 2012; Vervoort, Scholte, and Scheepers 2011) and ethnic heterogeneity index (e.g. Bekhuis, Ruiter, and Coenders 2013; Van Geel and Vedder 2011) – are imprecise and insensitive to specific sizes of different ethnic groups (Van Tubergen, Te

Grotenhuis, and Ultee 2005). The former does not distinguish between different minority groups and the latter does not distinguish between obviously different compositions. For example, the degree of ethnic heterogeneity is the same in a class where 80% of the students are Turkish and 20% are Dutch, and in a class where 80% are Dutch and 20% are Turkish. It is likely that the use of these imprecise measures have resulted in imprecise tests. As the size of a specific ethnic group in the classroom increases, so does the probability of contact with that group *in particular* because of proximity (Blau 1974), with contact leading to more favourable attitudes towards that group *in particular* (Allport 1954). Thus, a more precise test of the relation between out-group exposure and out-group attitudes would be to focus on the group sizes of multiple ethnic groups.

Second, previous studies have insufficiently taken into account that population structures are relative in closed settings like school classes: as the out-group size increases, the in-group size decreases and vice versa (Blau 1977; Moody 2001). One the one hand, contact opportunities with another ethnic group in relation to in-group contact opportunities may be of particular relevance in order for actual interethnic contact to occur, considering the initial preference for one's in-group for reasons of familiarity and attachment (Allport 1954) that may lead students to self-select into same-ethnic contact if the in-group size allows it. On the other hand, the size of an out-group relative to the in-group might be indicative of feelings of ethnic threat that hinder the development of positive attitudes (Blalock 1967; Coenders and Scheepers 2008; LeVine and Campbell 1972; Scheepers, Gijsberts, and Coenders 2002). Thus, a more thorough test of the relation between out-group exposure and out-group attitudes would be a two-sided approach of relative out-group and in-group size and attitudes.

Aiming to address these shortcomings in previous studies, the main research question we address is how out-group and in-group attitudes of adolescents from different ethnic backgrounds vary as a function of relative sizes of other ethnic groups and in-groups in the school class in the Netherlands, Germany, England and Sweden.

The present study contributes to the literature and the inconsistent findings in the following ways: First, we study the presumed theoretical components underlying the ethnic classroom composition more accurately. We employ sizes of particular ethnic out-groups *relative to* one's in-group, next to in-group proportion, as measures of classroom composition. Second, using sizes of specific out-groups relative to in-groups, we are able to study multiple ethnic groups. Previous research in Europe has mainly used dichotomous operationalisations of ethnic background, focusing on attitudes towards immigrants (e.g. Dejaeghere, Hooghe, and Claes 2012; Janmaat 2012, 2014, 2015; Van Geel and Vedder 2011) or looking at differences between the native majority and non-Western minorities (e.g. Vervoort, Scholte, and Scheepers 2011). However, to our knowledge, attitudes of multiple ethnic groups towards various ethnic out-groups have not been examined to date. We extend the scope of the literature in the European context by studying adolescents from various ethnic groups in English, German, Dutch and Swedish classrooms using the 'Children of Immigrants Longitudinal Survey for Four European Countries' (CILS4EU) (Kalter et al. 2013). Using the CILS4EU data provides a strict test of generalisability across national contexts with different immigration histories and policies, based on comparable data. Taking a multi-group and cross-country perspective, we aim to examine whether the relationship between ethnic classroom composition and interethnic attitudes is robust across various ethnic groups with different societal statuses.

Theory and hypotheses

We consider two influential theories, Intergroup Contact Theory and Ethnic Group Conflict Theory, with contrasting hypotheses on how the ethnic classroom composition may affect adolescents' interethnic attitudes.

Intergroup Contact Theory

From a contact perspective, ethnic classroom composition can be linked to more positive interethnic attitudes through a number of theoretical steps (Janmaat 2014, 2015): First, in physically bound micro settings like the classroom, the probability of contact with a specific ethnic group increases when it becomes larger, given the proximity of group members and the difficulty to avoid contact with them (Blau 1974). Second, according to Intergroup Contact Theory (Allport 1954), interethnic contact reduces prejudice towards another ethnic group because of enhanced knowledge about the group, as well as enhanced empathy and reduced anxiety (Pettigrew et al. 2011), and thus leads to more positive attitudes towards it. Particularly, contact with out-group members is associated with more positive out-group attitudes, when it occurs under optimal conditions: equal status, cooperation, common goals and institutional support. There is substantial meta-analytical evidence for the positive effect of contact on out-group attitudes across a range of contexts and out-groups, with Allport's aforementioned optimal conditions strengthening the contact effect, without being essential (Pettigrew and Tropp 2006). A meta-analysis among child and adolescent samples showed similar consistent results, including in school contexts (Tropp and Prenovost 2008). Third, the positive effect of interethnic contact on out-group attitudes is not limited to the group members directly involved in contact, but extends to the entire out-group (Pettigrew and Tropp 2006).

European classrooms are a particularly suitable setting to study the association between interethnic contact and interethnic attitudes, because classes are relatively small and adolescents take all subjects within the same fixed class composition throughout the year. As such, adolescents are prone to collaborate on assignments and during physical education under, at least in theory, equal status and institutional support. Thus, in European classrooms that meet several optimal contact conditions, more opportunities for intergroup contact likely result in more actual positive contact and should therefore reveal more positive out-group attitudes. Taking into account the general preference for the in-group (Allport 1954), if another ethnic group is relatively large compared to one's own group, this implies more cross-group contact opportunities, which should result in more positive attitudes towards that group. Based on these considerations, we derive the following hypothesis:

> (H1a) The larger the size of another ethnic group in the classroom in relation to the in-group, the more positive an adolescent's attitudes towards that group will be.

While Allport (1954) recognised a preferential positivity towards in-groups, Intergroup Contact Theory does not make assumptions on how in-group attitudes are affected by out-group contact.

Ethnic Group Conflict Theory

Ethnic Group Conflict Theory (also known as Ethnic Competition Theory) (Blalock 1967; Coenders and Scheepers 2008; LeVine and Campbell 1972), on the other hand, underlines the intrinsically competitive relation between ethnic groups. Specifically, it proposes that (actual or perceived) intergroup conflict or threat on the individual or contextual level reinforces mechanisms of social (contra-)identification, which in turn leads to more negative out-group attitudes and more positive in-group attitudes (Scheepers, Gijsberts, and Coenders 2002). Ethnic Group Conflict Theory is commonly applied to (cross-) national or geographical contexts where conflict refers to economic competition over scarce resources, power and status, or cultural competition over norms, values or identity questions (e.g. Coenders and Scheepers 2008; Schneider 2008).

Also in the classroom cultural competition may play a certain role. Furthermore, intergroup conflict may centre on relative group status and power, such as decisive power over activities or break-time facilities, and general dominance within the classroom. A group is likely to have more power if it holds a numerical majority position (Graham 2006). Hence, power may be indicated by the size of the ethnic group. A threat to the group's power may be experienced when another group is relatively larger. Empirical evidence showed that adolescents from the dominant ethnic group hold more negative out-group attitudes when the proportion of ethnic minority students in the classroom is high (Vervoort, Scholte, and Scheepers 2011). However, conflict may not only arise between the native majority group and ethnic minorities, but also between different minority groups. If another ethnic group is larger in relation to one's own group, it is likely to be perceived as threatening to the in-group's power, resulting in more negative attitudes towards that group. The following hypothesis is derived:

> (H1b) The larger the size of another ethnic group in the classroom in relation to the in-group, the less positive an adolescent's attitudes towards that group will be.

According to Ethnic Group Conflict Theory, processes of social (contra)-identification that are reinforced when threat is experienced, not only result in more negative out-group attitudes, but also in more positive in-group attitudes. Indeed, Vervoort, Scholte, and Scheepers (2011) found that in classrooms with high ethnic minority proportions, members of the native majority group also reported more positive in-group attitudes. Thus, higher degrees of threat as indicated by a relatively larger size of out-group(s), or respectively a smaller in-group size, should reflect in more positive in-group attitudes. The following hypothesis is derived:

> (H2) The smaller the proportion of an adolescent's in-group in the classroom, the more positive his or her in-group attitudes will be.

It has been suggested that the effects of contact and perceived threat vary in strength across native majority and ethnic minority groups. For instance, the positive link between contact and intergroup attitudes is generally weaker among societal minority status groups, compared to majority status groups (Tropp and Pettigrew 2005). Tropp and Pettigrew suggest that ethnic minority groups may constantly perceive a devaluation from the majority status group, which supresses the positive contact effect. Also, different ethnic minorities may be unalike in perceived status, as research on ethnic hierarchies indicates (e.g.

Hagendoorn 1995), and asymmetrical contact effects have been found across different minority groups (Bikmen 2011). Furthermore, it has been suggested that ethnic minorities perceive less threat from the native majority as vice versa, given that they are used and adjusted to a minority position (Vermeij 2006). According to these considerations, we will examine possible quantitative differences in the relation between ethnic class composition and out-group/in-group attitudes across ethnic groups. Regarding in-group attitudes, we further examine possible differences in the relation between in-group proportion and in-group attitudes between classes with a homogeneous out-group and with a diverse out-group, which may not be perceived as equally threatening to the in-group.

Data, measurement and methods

Data and sample

We used data of the first wave of the CILS4EU from the Netherlands, Germany, England and Sweden in 2010/2011 (Kalter et al. 2013). Schools were stratified according to proportions of students with immigrant background and schools with high proportions were oversampled. Usually, two classes per school with mainly 14 year olds were randomly selected. In this study, we excluded classes with less than 10 pupils. The overall response rate among students was 84.9%. A total of 18,716 adolescents were sampled. In each country, we focused on the immigrant groups towards whom in-group and out-group attitudes were assessed. We only selected those immigrant groups that were represented with at least 100 respondents in the respective samples. Specifically, we focused on Turkish (n = 269), Moroccan (n = 248), Surinamese (n = 167) and Dutch adolescents (n = 3014) in 201 school classes in the Netherlands; Turkish (n = 837), Russian (n = 188), Polish (n = 158), Italian (n = 133) and German (n = 2615) adolescents in 242 school classes in Germany; Asian British (n = 383), Black British (n = 210) and native White British (n = 1958) adolescents in 177 school classes in England; as well as Bosnian (n = 125), Finnish (n = 124), Turkish (n = 114), Somali (n = 108) and Swedish (n = 2829) adolescents in 242 school classes in Sweden.

Measurements: independent and dependent variables

The ethnicity of adolescents was assigned consistent with country specific definitions, as also reflected in the CILS4EU questionnaires and in the dependent variable. In the Netherlands, Germany and Sweden ethnicity was based on the parental countries of birth (CBS 2000). If one parent was not born in the host country, the adolescent was assigned the ethnicity of the foreign country (Netherlands: n = 115, Germany: n = 277, Sweden: n = 123). When parents were born in different foreign countries, the adolescent was assigned the ethnicity of the mother (Netherlands: n = 24, Germany: n = 44, Sweden: n = 40).[1]

In England, broader ethnicity categories were used, for example, White British, Black British, Asian British, as well as mixed ethnicity, for example, White and Asian (ONS 2012). As adolescents were not directly asked about their ethnicity, we used parental information. We allocated mothers and fathers in the respective ethnic categories based

on self-identification, which is commonly used in Britain (e.g. Janmaat 2012; ONS 2011) and is more accurate than country of birth, given that ethnic categorisation is partly based on skin colour. Only when the self-identification measure was not available, we used country of birth (Black British corresponding to African and Caribbean countries of birth (with the exception of Northern African countries, as 'Arab' is a separate category); Asian British corresponding to Asian countries of birth; and White British corresponding to the United Kingdom of Great Britain or Northern Ireland as countries of birth). If both parents were, for instance, Black British, this ethnicity was assigned to the child. If parents had different ethnic backgrounds or indicated a mixed ethnicity, the child was assigned mixed ethnicity and excluded from the analyses.

In order to assess the dependent variable – individual *interethnic attitudes* – the well-known and validated feeling thermometer was used (Alwin 1997). It is commonly used to capture affective attitudes towards issues, public persons and social groups (Bobo and Zubrinsky 1996). It read: 'Please rate how you feel about the following groups on a scale that runs from 0 to 100. The higher the number, the more positive you feel, and the lower the number, the more negative you feel towards this group.' Respondents were also able to indicate: 'I don't know that group.' Which ethnic groups had to be rated differed across countries, with *in-group attitude* referring to the rating of the ethnic in-group and *out-group attitude* referring to ratings of specific ethnic out-groups. In order to distinguish which group was evaluated, a variable indicating the ethnicity of the target group was created. We distinguished between *evaluated group* and *rating group* (e.g. Turks (evaluated group) were evaluated on the feeling thermometer by Moroccans (rating group)).

In line with the distinction between in-group and out-group attitudes, we differentiated between two independent group-level variables. *In-group proportion* was defined as the proportion of one's ethnic in-group in the classroom. *Evaluated out-group size* (i.e. the particular out-group evaluated in the feeling thermometer) *relative to the in-group size* was defined as:

$$[\text{Evaluated out} - \text{group proportion}/(\text{in} - \text{group proportion} + \text{evaluated out} - \text{group proportion})].$$

In the following, we refer to the latter index as *relative out-group size*, for the sake of readability. The proportions were calculated based on the available sample, as class lists were unavailable. Taking values between 0 and 1, a larger value indicated a relatively larger size of a certain out-group in the classroom, compared to one's in-group.

Measurements: control variables

We controlled for *gender* and *age*, which was centred at age 14, and *parental socioeconomic status*. Relying on parental information, we created three dummy variables indicating whether the highest educational level of the household was low (no school degree and below upper secondary degree; no or primary education in the Netherlands), medium (upper secondary degree; high school and lower vocational education in the Netherlands) or high (university degree; academic and higher vocational education in the Netherlands). *Immigrant status* was controlled for by distinguishing between four groups of (immigrant)

children: foreign-born children with foreign-born parents, native-born children with foreign parents, children with one native and one foreign parent and children with native parents; since having foreign parents or being born in the host country may affect interethnic attitudes.

Furthermore, we controlled for *classroom size,* as it may affect the relationship between relative group sizes and interethnic attitudes. The classroom size was based on the number of students within a class that participated in the survey. Due to the high response rate on the student level, this likely reflected the actual size of the class. To control for the *social background* of the class, we used three dummy variables indicating whether the majority of children's parents in a class had a low, medium or high educational status. We accounted for *level of ethnic diversity* in sensitivity analyses, given that our measure of relative out-group size captures a certain amount of ethnic diversity in the classroom (to illustrate: in classes with two groups it represents the mere out-group proportion as the denominator becomes 1, but not so in more diverse classes). To measure ethnic diversity, we used the complement of the normalised Herfindahl Index,[2] which accounts for the total number of different ethnic groups in a class, corrected by their size. As the number of ethnic groups on which the Herfindahl Index was based varied across countries, we normalised the index to have a comparable score. The index ranged from 0 (complete homogeneity) to 1 (complete diversity).

Appendix Table A1 shows the means and standard deviations of all variables in the analyses by country, and the independent group-level variables by ethnic group. Appendix Table A2 shows descriptive information about the differing ethnic classroom compositions.

Statistical analyses

Due to the nested nature of the data, with interethnic attitudes towards each of *K* groups (level 1) nested in individuals (level 2), nested in classes (level 3), nested in schools (level 4), multilevel regression analysis was done in Stata (version 13, 2013). Albeit the data have four levels, we did not include a separate school level as usually only two classes per school participated, sometimes just one. We excluded schools where classes were sampled together from the analyses (12 in England and 1 in Germany). As the evaluated groups were differently defined across countries, the analyses were done separately for each country.

With regard to our dependent variables, *in-group and out-group attitudes*, across countries between 6% and 20% of the respondents did not answer the question, or indicated not knowing the target. For the control variables *age* and *gender*, less than 3% of the values were missing. Regarding *parental socioeconomic status*, between 21% and 95% of the values were missing, as we relied on parental information. In Germany, 3% of the values of the variable *immigrant status* were missing, due to lacking information of the parental countries of birth in one federal state.

We used chained multiple equation analyses to deal with item non-response. With Stata's mi package, we used all variables in the analyses and various auxiliary variables (e.g. ethnic identification, interethnic contact, religion, education and occupational status) to construct an imputation model. For each country, we ran the imputation model 20 times, creating 20 imputed datasets. In a subsequent step, we conducted all

analyses for each of these 20 datasets and combined the results as proposed by Rubin (1996).[3] By doing so, we correct the standard errors for the uncertainty that imputed missing values add to the model.[4]

To test our hypotheses, ideally, we would have examined multiple out-group and in-group attitudes simultaneously in a multivariate multilevel regression analysis. Using dummies with class-level random effects for each pair of evaluated and rating group, the class-level variance would subsequently be explained by including relative group size variables (Hox 2010). However, a simultaneous analysis would have, depending on the number of evaluated and rating groups, between 9 and 25 correlated random effects at the class level. Due to the rather small number of classes ($N = 177–242$), the respective regression models could not be fitted.[5] Thus, we tried to simplify the analysis by making reasonable sub-groupings of attitudes (for instance, in-group attitudes or out-group attitudes of the native majority), which we included as dummies with correlated class-level random effects. Again, we ran into numerical estimation problems. As the problem likely related to the inclusion of multiple class-level random effects, we made a drastic simplification: in separate multilevel regression analyses, we only specified random effects for class, but not for the evaluated out-groups. Thereby, we assumed that the random effect for different evaluated groups was the same within classes. In the supplement file, we address limitations of these simplified statistical analyses and technical issues concerning the new index of relative out-group size.

We ran separate analyses for the following evaluations: (1) out-group attitudes of (a) the native majority, (b) ethnic minority groups towards the native majority and (c) between ethnic minority groups, and (2) in-group attitudes. In models estimating attitudes towards multiple groups (e.g. attitudes of the native majority towards several ethnic minority groups), we additionally specified a random effect at the individual level. Given our multi-group approach and previously found quantitative differences, we tested to what extent the relationship between relative group sizes and interethnic attitudes is the same across evaluated or rating groups, using likelihood ratio (LR) tests (see endnote 3). This implied comparing models where the effect of the independent variable was constrained to be the same across evaluated or rating groups, with models where it was allowed to vary. Lastly, we performed sensitivity analyses including ethnic diversity and ran additional analyses in classrooms with only two ethnic groups, as the measure we used to test the link between relative in-group size and in-group attitudes did not capture if the respective out-group is homogeneous (consisting of one ethnic out-group) or ethnically diverse, which may affect the level of threat from the out-group.

Results

We first present the descriptive findings regarding the interethnic attitudes of adolescents. Second, we show the main findings of the analyses on out-group attitudes of (a) the native majority, (b) ethnic minority groups towards the native majority and (c) between ethnic minority groups. Third, the results on in-group attitudes are presented. Finally, we show the results of sensitivity analyses. Complete regression tables of all selected models are included in the supplement file.

Interethnic attitudes of adolescents

Table 1 shows the weighted means and standard deviations of interethnic attitudes by evaluated and rating groups for each country. The diagonal of the matrix shows the mean evaluation of the in-group, while other entries refer to evaluations of the respective out-groups by rating group.

Across countries there were differences in interethnic attitudes. Most groups preferred their in-group (except for Poles who preferred Germans, and Finns and Turks who preferred Swedes). The native majority groups usually received the second highest positive rating, while they clearly preferred certain ethnic minority groups over others (e.g. Germans preferred Italians over Turks). Attitudes towards (other) ethnic minority groups differed within and across countries. In England, interethnic attitudes were overall positive, with the lowest rating being 65. In the other countries, certain out-group ratings were negative, falling below 50. While in Sweden and in the Netherlands, only a few ratings of (other) ethnic minority groups were slightly negative (one to two ratings fall between 45–48 points), with interethnic attitudes being overall neutral to positive, in Germany specifically inter-minority attitudes were quite negative, with the lowest rating being 36. Within countries, there was no common hierarchal structure in interethnic attitudes shared by all groups. Different groups showed different preferences of other ethnic groups, which varied in magnitude. While certain groups evaluated all out-groups similarly (e.g. Moroccans), others demonstrated clear discrepancies in out-group ratings up to 43 points (e.g. Poles rating Germans and Turks).

Table 1. Interethnic attitudes by evaluated group and rating group per country (weighted mean of the feeling thermometer 0–100 (standard deviation)).

	Evaluated group				
Rating group	Dutch	Turkish	Moroccan	Surinamese	
The Netherlands					
Dutch	**86 (13.87)**	50 (22.47)	45 (23.33)	61 (22.01)	
Turkish	72 (22.11)	**83 (20.43)**	50 (27.58)	47 (26.75)	
Moroccan	66 (21.96)	68 (23.97)	**89 (16.31)**	64 (24.41)	
Surinamese	70 (19.34)	58 (25.78)	52 (27.88)	**82 (14.80)**	
	White British	Asian British	Black British		
England					
White British	**88 (17.80)**	69 (29.78)	76 (25.41)		
Asian British	69 (23.74)	**82 (20.46)**	65 (27.02)		
Black British	72 (22.43)	70 (25.51)	**81 (19.62)**		
	German	Turkish	Russian	Polish	Italian
Germany					
German	**88 (17.09)**	47 (28.26)	52 (27.31)	52 (27.13)	59 (26.25)
Turkish	67 (26.90)	**84 (24.29)**	41 (32.47)	37 (29.65)	44 (31.50)
Russian	72 (24.69)	44 (27.98)	**85 (18.06)**	49 (31.13)	48 (27.83)
Polish	80 (21.77)	37 (28.30)	47 (29.72)	**75 (22.76)**	43 (29.13)
Italian	73 (25.13)	49 (31.50)	37 (30.43)	36 (31.80)	**82 (22.92)**
	Swedish	Bosnian	Finnish	Turkish	Somali
Sweden					
Swedish	**90 (19.16)**	62 (28.26)	70 (26.12)	56 (31.34)	56 (31.08)
Bosnian	79 (27.43)	**88 (23.51)**	61 (32.85)	73 (31.16)	64 (33.57)
Finnish	90 (18.49)	63 (26.60)	**86 (18.89)**	52 (34.91)	48 (30.46)
Turkish	79 (23.69)	68 (25.61)	58 (28.45)	**72 (30.93)**	55 (32.54)
Somali	80 (27.29)	68 (30.93)	52 (31.40)	68 (31.27)	**91 (15.46)**

Note: The diagonal of the matrix shows the mean evaluation and standard deviation of the in-group. The remaining entries show the mean evaluations and standard deviations of the respective out-groups.

Out-group attitudes of native majority groups

We tested our first hypothesis that a larger relative out-group size in the classroom relates to more positive (h1a)/more negative (h1b) attitudes towards that out-group, firstly among native majority groups. LR tests (see endnote 3) were computed in order to test for quantitative differences in the relationship between relative out-group size and out-group attitude across evaluations towards ethnic minority groups (Appendix Table A3). In Germany and England, the association between relative out-group size and out-group attitude differed in magnitude across out-group evaluations, while it was the same across out-group evaluations in the Netherlands and Sweden. Accordingly, we report group-specific results for Germany and England, but not for the Netherlands and Sweden.

In line with hypothesis 1a and against hypothesis 1b, we found significantly positive relationships between relative out-group sizes and out-group attitudes in all countries (Table 2). To exemplify, in Germany, the mean out-group attitude of Germans was 43.85 when all control variables were taken into account. When the out-group size of Turks (in relation to the German in-group) increases by 0.25, then the attitudes towards them increase to $43.85 + 0.25 \times 18.62 = 48.51$.

Attitudes of ethnic minority groups towards the native majority

In all countries, LR tests showed that the relationship between out-group size and attitudes towards the native majority was the same across rating ethnic minority groups (Appendix Table A3). In line with hypothesis 1a, we found significantly positive links in the Netherlands and Germany, and a marginally significantly positive link ($p = .051$) in England (Table 3). For example, when the out-group size of the Dutch in relation to an ethnic minority group increases by 0.25, then the mean attitudes of that group towards the Dutch increase to $38.11 + 0.25 \times 11.56 = 41$. In Sweden, the effect of relative out-group size was insignificant.

Table 2. Multilevel regression analyses on out-group attitudes of the native majority group by country.

Country	Effect of out-group size	*B*	*SE*
The Netherlands	Same effect across evaluated groups	16.00***	3.07
	Mean/intercept	56.20***	11.50
Germany	Different effect across evaluated groups		
	Italian	27.32***	6.53
	Polish	29.97***	6.99
	Russian	9.88	5.25
	Turkish	18.62***	2.61
	Mean/intercept	43.85***	2.91
England	Different effect across evaluated groups		
	Black British	2.74	5.18
	Asian British	19.06***	3.43
	Mean/intercept	69.00***	3.42
Sweden	Same effect across evaluated groups	8.68*	4.03
	Mean/intercept	62.06***	4.71

Note: The table displays the regression coefficients of relative out-group size of the selected model by country. The models included the variables age, gender, ethnicity of the evaluated group, parental educational status, class size, social background of the class and random effects at the class level and at the individual level.

*$p < .05$;
**$p < .01$;
***$p < .0001$.

Table 3. Multilevel regression analyses on attitudes of ethnic minority groups towards the native majority group by country.

Country	Effect of out-group size	*B*	*SE*
The Netherlands	Same effect across rating groups	11.56***	2.53
	Mean/intercept	38.11***	5.37
Germany	Same effect across rating groups	9.15**	3.43
	Mean/intercept	53.48***	5.28
England	Same effect across rating groups	9.57	4.89
	Mean/intercept	61.85***	8.40
Sweden	Same effect across rating groups	5.79	6.53
	Mean/Intercept	82.12***	9.23

Note: The table displays the regression coefficients of relative out-group size of the selected model by country. The models included the variables age, gender, immigrant status, ethnicity of the rating group, parental educational status, class size, social background of the class and a random effect at the class level.
*$p < .05$;
**$p < .01$;
***$p < .001$.

Out-group attitudes between ethnic minority groups

Again in line with hypothesis 1a, we found significantly positive relationships between relative out-group size and inter-minority attitudes across countries (Table 4). LR tests revealed that the association between relative out-group size and out-group attitudes was the same across all rating ethnic minority groups in the Netherlands and England (Appendix Table A3). In Germany and Sweden, it varied in magnitude across the different rating groups, with Bosnians and Somalis being the only groups for which no significant link was found.

With respect to out-group attitudes, the intra-class correlations (see endnote 3) indicated that across countries, between 3% and 15% of the variance could be found on the class level, which was reduced to 0–7% in the final models after relative out-group size was accounted for. Between 39% and 70% of the variance remained at the individual level.

Table 4. Multilevel regression analyses on attitudes of ethnic minority groups towards other ethnic minority groups by country.

Country	Effect of out-group size	*B*	*SE*
The Netherlands	Same effect across rating groups	10.75***	1.73
	Mean/intercept	51.74***	4.68
Germany	Different effect across rating groups		
	Italian	19.80***	4.77
	Polish	16.87***	3.72
	Russian	11.00**	3.26
	Turkish	9.55**	2.78
	Mean/intercept	62.16***	4.11
England	Same effect across rating groups	8.67**	3.04
	Mean/intercept	65.42***	5.51
Sweden	Different effect across rating groups		
	Bosnian	1.92	4.12
	Finnish	19.27***	3.90
	Somali	7.68	6.58
	Turkish	11.47*	4.68
	Mean/intercept	70.15***	7.68

Note: The table displays the regression coefficients of relative out-group size of the selected model by country. The models included the variables age, gender, immigrant status, ethnicity of the rating and the evaluated group, parental educational status, class size, social background of the class and random effects at the class level and at the individual level.
*$p < .05$;
**$p < .01$;
***$p < .001$.

In-group attitudes

Our second hypothesis that a smaller proportion of an adolescent's in-group in the classroom relates to more positive in-group attitudes was tested simultaneously across all groups. We tested whether it differed between native majorities and ethnic minority groups or across all groups (Appendix Table A3). Contrary to our expectations based on Ethnic Group Conflict Theory, the relationship between in-group proportion and in-group attitude was either significantly positive or absent (Table 5). In Germany, the positive and significant association between in-group proportion and in-group attitude was the same across all groups. In England, there was a significant positive association for the native majority only. In the Netherlands, the relationship differed across all groups, being absent for Moroccans and Surinamese.

After accounting for in-group proportion, across countries between 1% and 2% of the variance in in-group attitudes remained at the class level, compared to initial 1–6%.

Ethnic diversity

Sensitivity analyses including ethnic diversity revealed no consistent relation between classroom ethnic diversity and interethnic attitudes across analyses and countries and, with a few exceptions, its inclusion did not affect our results. In England, the positive association between relative out-group size and attitudes of White British towards Asian British disappeared when ethnic diversity, which itself had no significant association, was added. Also the positive association between in-group proportion and in-group attitudes disappeared when accounting for ethnic diversity, which had no significant association. In Sweden, the positive link between relative out-group size and attitudes

Table 5. Multilevel regression analyses on in-group attitudes by country.

Country	Effect of in-group proportion	*B*	*SE*
The Netherlands	Different effect across groups		
	Dutch	9.62***	2.16
	Turkish	30.76***	7.46
	Moroccan	−6.17	6.59
	Surinamese	7.32	14.69
	Mean/intercept	77.11***	4.24
Germany	Same effect across groups	6.31**	1.97
	Mean/intercept	82.46***	2.62
England	Different effect across groups		
	Native majority group	11.92***	3.06
	Ethnic minority groups	−4.97	7.75
	Mean/intercept	81.83***	3.57
Sweden	Different effect across groups		
	Swedish	−2.85	2.53
	Bosnian	14.52	28.46
	Finnish	−18.95	43.28
	Somali	31.10	21.05
	Turkish	−52.45	32.55
	Mean/intercept	78.99***	7.83

Note: The table displays the regression coefficients of in-group proportion of the selected model by country. The models included the variables age, gender, immigrant status, ethnicity of the rating group, parental educational status, class size, social background of the class, and a random effect at the class level.

*$p < .05$;
**$p < .01$;
***$p < .001$.

of the native majority towards ethnic minority groups was no longer significant, with ethnic diversity having a significantly positive association.

Regarding in-group attitudes, additional analyses performed in classes with only two ethnic groups (i.e. a homogenous out-group) did not reveal evidence in line with Ethnic Group Conflict Theory. In such classes, there is no relation between in-group proportion and in-group attitudes.

Discussion and conclusion

In Europe's increasingly ethnically diverse societies, it is important to understand how the ethnic composition of school classes relates to interethnic attitudes, not only between immigrants and the native majority, but also between diverse ethnic minority groups. Indeed, our descriptive findings indicate that adolescents hold distinct attitudes towards different ethnic groups. As such, the study of interethnic attitudes calls for an approach that accounts for the group-specific interethnic attitudes of adolescents and that uses a group-specific measurement of the ethnic composition of school classes.

Whereas previous research employed less precise measurements of the ethnic composition (e.g. the share of minority students or an ethnic heterogeneity index) and possibly shows inconsistent results as a consequence, this study examined how out-group and in-group attitudes of adolescents from different ethnic backgrounds vary as a function of relative sizes of out-groups and in-groups in the school class in the Netherlands, Germany, England and Sweden. Our results show evidence of a moderate to substantial composition effect concerning interethnic attitudes in line with Intergroup Contact Theory: the larger the group size of a specific out-group relative to the in-group size, the more positive attitudes adolescents reported towards that specific out-group.

Our main finding is robust across various ethnic groups in the four European countries under study, with a few exceptions. In England, attitudes of White British towards Black British were not related to out-group size. An explanation for this deviating result might be that England is the only country where the survey primed students to rate broad racial groups (i.e. White, Black, Asian, Mixed) instead of the more fine-grained national origin groups in the other three countries (e.g. Dutch, Turkish, Moroccan, Surinamese). In this case, the hyphenated category and corresponding classification of out-group size may be subject to our own criticism as being imprecise. In Sweden, interethnic attitudes were at times so positive that little room for improvement was left.

Consistent with findings from meta-analytical research (Tropp and Pettigrew 2005), we found that the positive relationship between contact opportunities in the classroom and out-group attitudes is generally weaker (England, Germany and the Netherlands) or even absent (Sweden) for ethnic minority groups compared to native majorities. Furthermore, we sometimes found quantitative differences in the link between classroom exposure and out-group attitudes regarding inter-minority attitudes, for instance, in Germany and Sweden. Such quantitative differences have been attributed to distinct societal statuses and public regard of groups, with publicly lower regarded groups benefitting less from contact, as they may constantly perceive being depreciated by others (Bikmen 2011; Tropp and Pettigrew 2005). In line with this idea, our descriptive results clearly indicate that different ethnic groups are liked or disliked by other groups to different degrees. Yet, we did not find consistently weaker links between classroom exposure

and out-group attitudes for groups that are overall less well regarded by others. For example, Poles in Germany received among the lowest evaluations from others, but the link between classroom exposure and positive out-group attitudes was strongest for them. However, our data do not include information on how adolescents perceived their in-group's evaluation from others, that is, to what extent Poles are aware of their unfavourable reputation. On the other hand, we do know that Poles, for their part, think quite negatively about other ethnic minority groups. Similarly, Finns in Sweden have among the least positive views of other minorities. This suggests that particularly minority groups who are most prejudiced towards other minorities might benefit from diverse classrooms in order to improve their interethnic attitudes. The lower the level of out-group attitudes, the more space there is for classroom exposure to increase the level.

Interestingly, we also found quantitative differences in the relationship between relative contact opportunities and out-group attitudes among the native majority. For instance, native Germans have especially more positive attitudes towards Turks when they experience more exposure to them in class, compared to exposure to other ethnic minority groups. Similarly, White British have more positive attitudes towards Asian British with more classroom exposure. Both minority groups are the groups that are least liked by the respective native majority. Thus, out-group exposure might work especially well in terms of improving out-group attitudes towards groups that face most prejudice from the native majority. Also country and group-specific influences may affect the strength of the relation between contact opportunities and out-group attitudes. For instance, while Germans have similar attitudes towards Poles and Russians, their attitudes were only more positive regarding classroom exposure to Poles.

We found no evidence for Ethnic Group Conflict Theory. Previously, only Vervoort, Scholte, and Scheepers (2011) found that in the Netherlands a high non-western minority proportion in the classroom was associated with more negative out-group attitudes and more positive in-group attitudes among Dutch adolescents. Yet, for non-western ethnic minorities, their findings were in line with Intergroup Contact Theory regarding attitudes towards the Dutch, but in line with Ethnic Group Conflict Theory regarding in-group attitudes.

Given the rather weak support of Ethnic Group Conflict Theory, its applicability to interethnic attitudes in the classroom context remains arguable (Vermeij 2006). However, without testing the underlying mechanisms and nature of perceived threat and social identification processes, we cannot conclude its irrelevance with certainty. We assessed levels of perceived threat to power only indirectly and it is possible that our group-specific measure do not reflect perceived levels of threat sufficiently. This may particularly be the case regarding the measure we used to test the relationship between relative in-group size and in-group attitudes. While in classes with two groups it measured the relative size of the in-group to one specific out-group, in more diverse classes it measured the in-group size in relation to a heterogeneous out-group of 'others'. A diverse out-group might induce a different type of threat and subsequent social (contra)-identification than a clearly defined ethnic group. Smith et al. (2016) for example showed that majority students are more likely to resort to same-ethnic friends if school classes include a homogeneous out-group (e.g. it is more threatening if all immigrant students in class are Moroccan) compared to school classes with a diverse out-group (e.g. it is less threatening if immigrant students in class are Moroccan, Turkish,

Surinamese, Chinese and German). Yet, we performed additional analyses in specific classroom settings to investigate this possibility (i.e. in classrooms with only two ethnic groups), and also did not reveal evidence for Ethnic Group Conflict Theory.

Regarding in-group attitudes, we mostly found the opposite effect compared to what we expected based on Ethnic Group Conflict Theory: a relatively larger in-group proportion in the classroom was associated with more positive in-group attitudes. This finding is somewhat surprising, as real or artificial groups in a numerical minority position usually express more in-group favouritism (Brown and Bigler 2002; Hewstone, Rubin, and Willis 2002). Yet, the classroom is a very specific setting. Perhaps, in this context more contact opportunities with in-group members allow more space to develop and express one's ethnic identity, which positively affects in-group attitudes. Initial positive in-group attitudes (Allport 1954) might as such be strengthened even more. Also, within the classroom a relatively larger in-group size may balance the individuals' competing needs for inclusion in a group and differentiation from others and thus result in stronger in-group identification (and more positive in-group attitudes), as proposed by Brewer's Optimal Distinctiveness Theory (1991). Indeed, Leszczensky et al. (2017) found evidence for this relation, with ethnic pride peaking in classrooms with approximately 50% ethnic in-group classmates. Another explanation could be a selection effect: students who attend schools with larger in-group proportions generally do so because they and their parents have high in-group preferences (e.g. Denessen, Driessena, and Sleegers 2005; Karsten et al. 2006; Noreisch 2007; Söderström and Uusitalo 2010).

We cannot fully rule out selection effects as our study was based on cross-sectional data, but it is unlikely that the relation we showed is solely due to selection, as structural classroom properties like relative group sizes are in many instances beyond the adolescent's or parents' control. School choice is limited to schools available in the near environment and we know that even parents with high in-group preferences have their children enrolled in diverse schools (Smith, Maas, and Van Tubergen 2014). Nevertheless, we recommend future research to repeat our study with longitudinal data to fully address causality issues. In addition, longitudinal designs provide the opportunity to study the length of out-group exposure in school classes as this may influence its relationship with interethnic attitudes.

Other directions for future research are the following. This study focused on out-group exposure relative to in-group exposure. Further research could disentangle the effects of correlated and overlapping classroom composition properties, such as relative group sizes and group proportions. Moreover, our results are controlled for students having mixed origins, but it was beyond the scope of our paper to fully explore how having multi-ethnic origin relates to out-group attitudes in varying classroom compositions. We suggest this question for further study.

To conclude, this study found evidence that a relatively larger out-group size in the classroom, compared to the in-group, relates positively to out-group attitudes across ethnic groups and countries. At the same time, a larger in-group size in the classroom relates to more positive in-group attitudes. This indicates the importance of a balanced ethnic classroom composition for promoting favourable attitudes between various ethnic groups (i.e. not merely between the native majority and ethnic minorities, but also between ethnic minority groups), without compromising positive in-group attitudes: no single ethnic group should be segregated or in a large numerical majority. Balanced

classrooms are by no means sufficient for promoting interethnic liking in Europe's increasingly diverse societies. Balanced classrooms should be seen as a fertile soil that has potential to facilitate the development of positive interethnic attitudes between several ethnic groups and that may benefit especially those who need it the most: those who face most prejudice from others, and those who are most prejudiced towards others.

Notes

1. In one federal state in Germany, no questions about third persons were asked. Usually, parents provided information about their countries of birth directly. If that information was unavailable, we used a question about the adolescent's migration background to assign his/her ethnicity.
2. Normalised Herfindahl Index = $\left[\left(\sum p_i^2 - 1/k\right)/(1 - 1/k)\right]$, where p refers to the proportion of ethnic group i within the class, and k refers to the number of distinguished ethnic groups. The measure of ethnic diversity is the complement of the Normalised Herfindahl Index = 1 – Normalised Herfindahl Index.
3. Post-estimation tests are not sufficiently developed for multiple imputation analyses (StataCorp 2013). Therefore, we present post-estimation tests (i.e. intra-class correlations and likelihood ratio tests) based on regular multilevel models, using averages and modes from the 20 imputed datasets for the variables with missing data. Because the results were very similar to the results of the multiple imputation models, we assume that the bias in the post-estimation tests is not problematic.
4. A small number of multiple imputation multilevel models did not converge. In those cases, we excluded one or more datasets from the 20 created datasets that caused non-convergence. Only 8% of all models did not converge, but did so after deleting no more than 3 of the 20 datasets.
5. Trials with simulated data showed that 10,000 classes would suffice to fit the respective multivariate multilevel regression models.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix

Table A1. Descriptive statistics of all variables by country (means (*M*) and standard deviations (SD)).

	Range	The Netherlands *M* (SD)	Germany *M* (SD)	England *M* (SD)	Sweden *M* (SD)
N (Level 2)		3698	3931	2551	3300
Out-group attitudes	0–100	55.24 (20.32)	49.14 (23.77)	73.32 (23.18)	65.46 (24.92)
In-group attitudes	0–100	85.78 (15.36)	86.55 (19.49)	86.06 (18.93)	88.77 (20.27)
In-group proportion	0–1	Dutch 0.81 (0.15) Turkish 0.25 (0.16) Moroccan 0.30 (0.17) Surinamese 0.15 (0.09)	German 0.65 (0.21) Turkish 0.34 (0.17) Russian 0.13 (0.10) Polish 0.09 (0.05) Italian 0.17 (0.19)	White British 0.57 (0.19) Asian British 0.25 (0.14) Black British 0.19 (0.12)	Swedish 0.71 (0.20) Bosnian 0.13 (0.10) Finnish 0.09 (0.06) Turkish 0.14 (0.08) Somali 0.21 (0.14)
Relative out-group size	0–1	Dutch 0.56 (0.36) Turkish 0.10 (0.18) Moroccan 0.09 (0.18) Surinamese 0.08 (0.15)	German 0.58 (0.27) Turkish 0.26 (0.26) Russian 0.09 (0.15) Polish 0.08 (0.14) Italian 0.06 (0.13)	White British 0.50 (0.22) Asian British 0.15 (0.20) Black British 0.09 (0.16)	Swedish 0.55 (0.32) Bosnian 0.06 (0.13) Finnish 0.06 (0.12) Turkish 0.05 (0.13) Somali 0.04 (0.13)
Controls Individual level					
Age	13–18	14.58 (0.66)	14.76 (0.74)	14.66 (0.50)	14.14 (0.38)
Gender (1 = female)	0/1	0.50	0.50	0.48	0.50
Parental SES					
Low	0/1	0.05	0.79	0.66	0.16
Medium	0/1	0.73	0.13	0.21	0.60
High	0/1	0.22	0.08	0.13	0.24
Immigrant status					
Foreign-born children with foreign parents	0/1	0.02	0.06	0.10	0.02
Native-born children with foreign parents	0/1	0.13	0.19	0.13	0.08
Children with mixed parents	0/1	0.03	0.07		0.04
Children with native parents	0/1	0.82	0.66	0.77	0.86
Controls Classroom level					
N (Level 3)		201	242	177	242
Class size	10–40	20.93 (5.10)	19.88 (5.06)	21.10 (5.48)	20.47 (4.15)
Class SES					
Low	0/1	0.03	0.94	0.58	0.11
Medium	0/1	0.89	0.02	0.17	0.73
High	0/1	0.08	0.04	0.25	0.16
Ethnic diversity index	0–1	0.45 (0.26)	0.64 (0.23)	0.69 (0.17)	0.53 (0.23)

Table A2. Descriptive statistics of the different ethnic classroom compositions by country.

	The Netherlands				Germany				England				Sweden			
N (Level 3)	201				242				177				242			
No. of ethnic groups in the school class	1	2	3	≥4	1	2	3	≥4	1	2	3	≥4	1	2	3	≥4
Percentage of classes	0.05	0.18	0.31	0.46	0.01	0.08	0.12	0.79	0.00	0.24	0.29	0.47	0.01	0.09	0.18	0.72
Ethnic diversity level of the school class	0–0.25	0.25–0.5	0.5–0.75	>0.75	0–0.25	0.25–0.5	0.5–0.75	>0.75	0–0.25	0.25–0.5	0.5–0.75	>0.75	0–0.25	0.25–0.5	0.5–0.75	>0.75
Percentage of classes	0.28	0.31	0.21	0.19	0.08	0.17	0.33	0.42	0.03	0.07	0.52	0.38	0.12	0.30	0.34	0.24

Table A3. LR tests of differences in the effect of relative out-group size/in-group proportion on out-group/in-group attitudes across groups by country.

	The Netherlands			Germany			England			Sweden		
	LR χ^2	df	*p*	LR χ^2	df	*p*	LR χ^2	df	*p*	LR χ^2	df	*p*
Effect of out-group size on out-group attitudes of the native majority												
No differences across evaluated eth. minority groups	1.91	2	<.3839	12.19	3	<.0068	17.19	1	<.0000	0.22	3	<.9745
Effect of out-group size on out-group attitudes of eth. minority groups towards the native majority												
No differences across rating eth. minority groups	0.37	2	<.8316	3.41	3	<.3324	0.29	1	<.5872	2.29	3	<.5148
Effect of out-group size on out-group attitudes of eth. minority groups towards other eth. minority groups												
No differences across rating eth. minority groups	1.71	2	<.4252	12.50	3	<.0059	0.30	1	<.5862	21.41	3	<.0001
Effect of in-group proportion on in-group attitudes												
No differences between native majority and eth. minority groups	0.01	1	<.9166	0.55	1	<.4582	6.00	1	<.0143	0.60	1	<.4391
No differences across all groups	17.55	2	<.0002	3.46	3	<.3257	0.79	1	<.3739	9.32	3	<.0254