

What Buffers Ethnic Homophily?

Explaining the Development of Outgroup Contact in Adolescence

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Abstract

Although literature provides strong evidence for the beneficial role of outgroup contact, longitudinal knowledge regarding the formation and change of outgroup contact remains improvable. Using a longitudinal, large-scale dataset including 6,726 majority and minority participants ($M_{AGE} = 14.98$ years at wave 1; 55% girls) from four Western European countries that were followed in three waves over two years, we systematically examined the development of outgroup contact during adolescence and tested the role of hypothesized predictors (i.e., intergroup attitudes and social identity) for explaining this development. In the majority, growth curve models revealed consistent patterns of ethnic homophily characterized by a continuous decline of outgroup contact, while this negative growth was buffered by a positive change of intergroup attitudes and a negative change of national identity during adolescence. In contrast, in the minority, outgroup contact was characterized by higher mean levels and a nonlinear development (i.e., no systematic decline or increase) of outgroup contact. Findings highlight the developmental importance of adolescence for promoting positive intergroup relations, especially for the majority, and emphasize the usefulness of contact interventions with adolescent students in school.

Keywords: intergroup contact, ethnic homophily, intergroup attitudes, social identity

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Explaining the Development of Outgroup Contact in Adolescence

Based on the contact hypothesis (Allport, 1954), research has consistently demonstrated the beneficial role of outgroup contact with regard to numerous outcomes. That is, positive face-to-face interactions with the outgroup have a positive effect on intergroup attitudes (Pettigrew & Tropp, 2006), intergroup forgiveness (Hewstone, Cairns, Voci, Hamberger, & Niens, 2006), intergroup trust (Paolini, Hewstone, & Cairns, 2007), and reduced intergroup aggression (Schmid, Hewstone, Küpper, Zick & Tausch, 2013), which altogether are likely to promote positive intergroup relations and social cohesion within increasingly diverse societies. At the same time, however, relatively little is known about how outgroup contact develops in the first place. That is, why do some people engage in outgroup contact and others not?

This research is particularly important, because literature indicates that outgroup contact is something that does not always happen naturally. Typically, individuals have a preference for relationships with similar others, also known as *homophily*, because with similar others we have common ground that makes it more likely to understand each other, to engage in similar activities, or to share similar beliefs and values; all of these things make it easier to establish and maintain this social relationship. Homophily can be based on many different dimensions including gender, age, religion, education, social class, behavior, or attitudes, but the most salient dimension that divides modern societies seems to be ethnicity (see McPherson, Smith-Lovin, & Cook, 2001). Ethnic homophily (i.e., the preference for relationships with others from the same ethnic group), in particular, is oftentimes further enhanced by the empirically well-established ingroup bias (Hewstone, Rubin, & Willis, 2002; Mullen, Brown, & Smith, 1992), which is the preference for one's own ethnic and other ingroups over ethnic and other outgroups. This bias can be explained by two central assumptions of the seminal social identity theory (Tajfel & Turner, 1979): (1) the group that

individuals belong to is part of their social identity, and (2) individuals desire a positive identity. As a consequence, we tend to shed a more positive light on our own group and favor our ethnic ingroup over other outgroups which, in turn, increases the likelihood of interacting with and befriending ingroup members. Finally, this ingroup bias is bi-directionally related to an increasing degree of segregation (Nightingale, 2012), as levels of integration barely keep pace with the growing diversity in modern societies. Even in ostensibly desegregated settings, individuals' ingroup bias and their tendency for homophily can result in re-segregation (Al Ramiah, Schmid, Hewstone, & Floe, 2015). Once (re)segregated structures have emerged, it becomes even more difficult for individuals to engage in intergroup contact or even develop stable outgroup friendships. All of these aspects prevent, or at least discourage, the experience of beneficial face-to-face interactions with the outgroup, so that individuals are likely to remain trapped in their "homophily bubble". The main research objective of the present paper is, therefore, to examine factors that potentially buffer against (i.e., reduce) individuals' tendency for ethnic homophily. For this purpose, we focus on the longitudinal development of intergroup relations between the native majority and the ethnic minority, defined as the largest country-specific immigrant groups, from four Western European countries (i.e., England, Germany, the Netherlands, and Sweden).

Developmental Importance of Adolescence

We contend that adolescence is a particularly relevant period for the experience and development of potential buffering factors against ethnic homophily due to fundamentally important cognitive and psychosocial changes that affect intergroup behavior. After children start to classify others into psychologically salient groups, to conceptualize them differently, and sometimes to develop an ingroup bias (cf., developmental intergroup theory; Bigler & Liben, 2007), this development is boosted in adolescence in two major ways. First, many developmental changes during adolescence influence the level and the development of intergroup attitudes. For example, developing social cognitions improve the understanding of

group norms (Abrams & Rutland, 2008) and affect beliefs about morality, fairness, and justice that together shape adolescents' level of tolerance or prejudice (Rutland, Killen, & Abrams, 2010). This social-cognitive development is accompanied by an increased relevance of peers for adolescents' social development (Brechwald & Prinstein, 2011). As a consequence, intergroup attitudes are shaped by a person-environment interaction between adolescents' social-cognitive development and the more salient social norms they are exposed to and influenced by. Once these attitudes are formed during a period of mental plasticity in adolescence, they remain relatively stable afterwards (cf., 'impressionable years hypothesis'; Krosnick & Alwin, 1989). This literature is supported by a recent study, which demonstrated the importance of intergroup contact experiences during adolescence for the development of intergroup attitudes, before they tend to crystalize in adulthood (Wölfer, Schmid, Hewstone, & van Zalk, 2016).

A second relevant development that affects adolescents' intergroup behavior is their identity formation, which is even considered the key developmental task in this age period (Erikson, 1963). The identity construct includes different social groups (e.g., ethnic group, religious community, or football club) that contribute to our individual self, while the salience or personal relevance of different social groups differs across individuals (Tajfel & Turner, 1979). In this way, individuals' specific identity compositions affect their intergroup behavior in that, for example, a more salient ethnic identity is likely to facilitate ethnic homophily. And as is found for intergroup attitudes, individuals continue to have a relatively stable identity and understanding of their self, once developed in adolescence (French, Seidman, Allen, & Aber, 2006).

Potential Buffering Factors against Ethnic Homophily

Literature provides scarce insight regarding the role of potential buffering factors against ethnic homophily, which is partly due to the limited number of longitudinal studies in this field, in particular during adolescence. Some studies produced valuable knowledge by

identifying predictors for the change of outgroup contact, such as perceived peer group norms (Jugert, Noack, & Rutland, 2013), pre-existing attitudes (Binder et al., 2009), or the interest in interacting with others (Al Ramiah, et al., 2015, Study 3). Despite this progress, however, the existing research lacks longitudinal studies covering a broader period of many years and across multiple waves, which is required in order to examine the developmental trajectory of outgroup contact and to consider the long-term change of potential buffering factors as explaining predictors.

To our knowledge, so far only two studies examined the development of outgroup contact over a broader period of time in adolescence. Titzmann, Brenick, and Silbereisen (2015) predicted different categories of change (i.e., maintain, gain, lose, or never had an intergroup friendship) using a medium-sized German sample followed over three annual waves. Their results revealed that most trajectories of these categories of change could be well explained with the available wave-1 predictors (e.g., contact opportunities, contact willingness, norms, and self-efficacy), apart from the category that captures the actual homophily effect (i.e., individuals who lose an intergroup friendship, differed from the maintain group only in terms of lower contact opportunities). Moreover, Wölfer and colleagues (2016, Study 2) investigated the longitudinal trajectories of intergroup attitudes and intergroup contact in Swedish adolescents over four waves covering three years. They found a linear decline of outgroup contact, but lacked predictors to explain this pattern of homophily, except for intergroup attitudes that, however, revealed mixed results with no effect of the wave-1 score but rather the change of attitudes on the development in outgroup contact. Furthermore, both studies focused on the majority group only and were restricted to one country. Thus, despite some initial research that contributed important findings regarding the development of outgroup contact in adolescence, there is room, and indeed need, for an improved understanding of factors that explain or buffer against ethnic homophily.

Based on the literature outlined above, two key factors that are likely to influence if individuals engage in outgroup contact are their intergroup attitudes and their social identity, of which national and religious identity might have a particular relevance for ethnic outgroup contact. That is, literature indicates that national identity predicts intergroup relations between natives and immigrants in Western Europe (Meeus, Duriez, Vanbeselaere, & Boen, 2010; Pehrson, Vignoles, & Brown, 2009; Verkuyten, 2001), as it encourages ingroup favoritism and creates or further enhances social distance towards the outgroup. Similarly, religious identity was found to predict intergroup relations (Ciftci, Nawaz, & Sydiq, 2016), in particular between the traditionally Christian majority and the predominantly non-Christian immigrant group in Western Europe (Fleischmann & Phalet, 2012; Phalet, Maliepaard, Fleischmann, & Güngör, 2013), as it can foster perceived ingroup superiority and contribute to perceived intergroup dissimilarity (Ysseldyk, Matheson, & Anisman, 2010).

Given the relevant cognitive and psychosocial changes in adolescence, it is plausible that the hypothesized decline of outgroup contact is buffered by the degree and, in particular, the development of adolescents' intergroup attitudes and their social identity. Besides these psychological factors, the mere opportunity for contact seems to additionally affect ethnic homophily (cf., Titzmann et al., 2015), so that the potential buffering effect of intergroup attitudes and social identity has to be examined while controlling for the diversity of adolescents' social environment.

Objective and Hypotheses

The present study investigates the level of ethnic homophily, which contributes to increasing levels of segregation in modern societies and, consequently, prevents the beneficial experience of outgroup contact. Defined as the preference for similar others, homophily is inherently a longitudinal tendency, which we operationalize as continuously decreasing levels of outgroup contact over time. In doing so, we analyzed both outgroup contact of the native majority group with immigrant minority groups and outgroup contact of immigrant minority

groups with the native majority group. Moreover, we examined the development of intergroup attitudes and social identity in adolescence as possible buffering factors for ethnic homophily, which have the potential to help overcome individuals' tendency for ingroup members. More specifically, for the majority, we predict that a high national identity with the hosting country and a high religious identity with Christianity, the most common religion in Western Europe, are likely to increase majority members' perceived dissimilarity with the predominantly non-Christian immigrant group and positively predict ethnic homophily. In turn, for the minority, a low national identity with the hosting country and a low religious identity with Christianity are likely to increase minority members' perceived dissimilarity with the predominantly Christian majority group and positively predict ethnic homophily.

In order to test our hypotheses, we used a unique dataset that (a) followed adolescents longitudinally in three waves over a two-year period, (b) included both the majority group and oversampled immigrant minority groups, (c) provided a large sample that yielded sufficient analytic power, and (d) considered international data from four different Western European countries (i.e., England, Germany, the Netherlands, and Sweden). These four countries were selected because they differ regarding their specific immigration history, their immigration policy, and the specific immigrant groups. Overall, these countries constitute a representative selection of Western European countries, a context with increasing intergroup tensions between natives and migrants due to a continuous migration flow towards Europe, resulting in an immigrant population of more than 40 million people ($\approx 10\%$) in the European Union (European Commission, 2011).

Based on the outlined literature, we tested the following hypotheses:

1. In the majority and minority, ethnic homophily will exist in the form of linear decreasing levels of outgroup contact over time.

2. In the majority, ethnic homophily will be buffered by a high level of and positive change of intergroup attitudes as well as a low level and a decrease of national and Christian religious identity.

3. In the minority, ethnic homophily will be buffered by a high level and positive change of intergroup attitudes as well as a high level and an increase of national and Christian religious identity.

Method

Sample

Participants were part of the "Children of Immigrants Longitudinal Survey in Four European Countries" (CILS4EU; Kalter et al., 2016a, 2016b, 2016c), which focused on examining the integration process of adolescent immigrants, including their intergroup relations with majority peers in the hosting country. Specifically, the presented data include longitudinal information from majority and immigrant minority adolescents in four European countries (i.e., England, Germany, the Netherlands, and Sweden), covering three waves with a one-year gap each. Ethical approval was obtained in each country from the respective ethical committee of the university to which the coordinating research team is affiliated (England: University of Oxford's Central University Research Ethics Committee; Germany: Research Ethics Committee of the University of Mannheim; Sweden: Research Ethics Committee of the of the Sociology Department at the University of Stockholm), except for the research team in the Netherlands who did not had to follow a formal ethical procedure but considered the same ethical guidelines as all other research teams. Participants were ensured of confidentiality and anonymity prior to completion of the survey, and gave written consent to take part in the survey.

Adolescents were recruited by applying a school-based sample selection design that systematically oversampled ethnically diverse schools with a high proportion of immigrant minority groups (i.e., participants who were not born in the survey country). Participation

rates were high for schools (84%) and students (85% within participating schools). A total of 18,646 students participated, including 16,554 majority group members and 2,092 immigrant minority group members, mainly from Turkey, Morocco, Iraq, and Pakistan. At wave 1, completed data of interest were available from 77% of the majority students ($n = 12,817$) and 75% of the minority students ($n = 1,565$), while in both groups participants differed marginally from students with missing data regarding gender, age, intergroup attitudes, national identity, religious identity, and outgroup contact ($d < .20$). At wave 2, 76% majority students ($n = 9,728$) and 76% minority students ($n = 1,192$) continued to participate, while in both groups participants differed marginally from students who dropped out regarding the same key variables ($d < .20$). Finally, at wave 3, 62% majority students ($n = 5,999$) and 61% minority students ($n = 727$) continued to participate, while in both groups participants again differed marginally from students who dropped out regarding the same key variables ($d < .20$; with one exception: majority students who dropped out had slightly more outgroup friends, $d = .23$). Thus, missing data and attrition can be considered unsystematic (detailed missing-data and drop-out analyses can be found in the supplementary online material). The final longitudinal sample comprised 6,726 participants including $n = 1,624$ students from England (53% girls; M_{AGE} : $w1 = 15.08$ yrs, $w2 = 15.90$ yrs, $w3 = 17.20$ yrs), $n = 2,190$ students from Germany (54% girls; M_{AGE} : $w1 = 15.17$ yrs, $w2 = 16.15$ yrs, $w3 = 17.34$ yrs), $n = 1,615$ students from the Netherlands (56% girls; M_{AGE} : $w1 = 14.96$ yrs, $w2 = 15.93$ yrs, $w3 = 17.00$ yrs), and $n = 1,297$ students from Sweden (56% girls; M_{AGE} : $w1 = 14.61$ yrs, $w2 = 15.80$ yrs, $w3 = 16.90$ yrs).

Measures

Data for the first two waves were collected by trained test administrators in a school-based survey, within the regular school setting, during the school years 2010/2011 and 2011/2012, respectively. Data for wave three were, due to an educational or labor market transition of some participants, collected outside the school context in most countries (except

for the Netherlands) using telephone, postal or web surveys in the year 2013. In all waves, participants answered standardized and internationally harmonized questions that primarily assessed migration-specific characteristics (detailed information is available in the respective codebooks: CILS4EU, 2014, 2015, 2016), from which we analyzed the measures described below.

Outgroup contact. At all three waves, participants reported the quantity of outgroup friends ("Thinking now about all of your friends. How many of them have a [OUTGROUP] background?"; from 1 = *none or very few* to 5 = *almost all or all*). Majority students reported their outgroup contact with the main minority groups within each respective country, while minority students reported their outgroup contact with the country-specific majority group. For majority students, we averaged all minority-specific contact scores in each country (i.e., England: Asian and Blacks; Germany: Turks, Russians, Poles, and Italians; the Netherlands: Moroccans, Turks, and Surinams), with the exception of Sweden where a generic single-contact item with 'Foreigners' was used due to the large number of different minority groups. The resulting general outgroup contact scale provides a more reliable and cross-nationally comparable measure, which was supported by EFA one-factor solutions in each country and every wave. The longitudinal change of outgroup contact from wave 1 to 3 will be used to analyze the level of ethnic homophily, while decreasing outgroup contact corresponds to high ethnic homophily.

Intergroup attitudes. At waves 1 and 3, participants evaluated the outgroup on the so-called feeling thermometer ("Please rate how you feel about [OUTGROUP] 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."). Majority students reported their intergroup attitudes towards the main immigrant minority groups within each respective country, while minority students reported their intergroup attitudes towards the country-specific majority group. For majority students, we averaged minority-specific attitude scores

in each country (e.g., for Germany: intergroup attitudes towards Turks, Russians, Poles, and Italians) into a general intergroup attitude scale to provide a more reliable and cross-nationally comparable measure of general intergroup attitudes, which was supported by EFA one-factor solutions in each country and every wave. The wave-1 score measured initial intergroup attitudes, whereas the wave-3 score was used to calculate the change in intergroup attitudes over time.

National identity. At waves 1 and 3, participants reported the salience of their identity regarding the respective survey country ("How strongly do you feel [nationality of survey country]?"; from 1 = *not at all strongly* to 4 = *very strongly*). The wave-1 score measured initial national identity, whereas the wave-3 score was used to calculate the change in national identity over time.

Religious identity. At waves 1 and 3, participants reported their religious affiliation ("What is your religion?") on a nominal scale covering different categories (e.g., Christianity, Islam, Judaism, Buddhism, Hinduism, other religion, no religion) and their religious salience ("How important is religion to you?"; from 1 = *not at all important* to 4 = *very important*). Based on this information, a variable was created reflecting Christian religious salience (0 = *no Christian affiliation*, 1 to 4 = *Christian religious salience*). The wave-1 score measured initial religious identity, whereas the wave-3 score was used to calculate the change in religious identity over time. For additional analyses in the minority, we also created a variable reflecting non-Christian religious salience (0 = *Christian or no religion*, 1 to 4 *salience of non-Christian religion*).

Control variables. We controlled for relevant socio-demographics, such as sex, age, and parents' immigration background. In addition, we controlled for contact opportunities by considering the diversity of participants' schools. For this, we used the stratum variable that guided the school-based sample selection and includes four different categories of immigrant proportions (1: < 10%, 2: 10-30%, 3: 30-60%, and 4: > 60% immigrant minority students;

further information about this classification procedure can be found in the technical report: CILS4EU, 2014b).

Statistical Analyses

We tested the main hypotheses using latent growth curve models that, separately for the majority and minority group, modeled the starting value (intercept) and change (slope) using the outgroup contact scores from waves 1 to 3. We tested hypothesis 1 by evaluating the fit of linear growth curve models, and hypotheses 2 and 3 by examining the associations between predictors and the two latent parameters (intercept and slope). The intercept was regressed on wave-1 predictors (intergroup attitudes, national identity, and religious identity), whereas the slope was additionally regressed on the respective change scores (intergroup attitude change, national identity change, and religious identity change), while controlling for sex, age, parents' immigration background, and diversity. The main model using the pooled sample was replicated for robustness checks in every single country. For all analyses, we used the package 'lavaan' (Rosseel, 2012) within the R environment (R Core Team, 2015).

Results

Descriptives

Table 1 summarizes the descriptives of and intercorrelations among all predictor variables, separately for the majority and minority group. Findings reveal that majority students have less favorable intergroup attitudes than minority students at both waves, supported by medium-large effect sizes and statistically significant group differences ($d_{w1} = .47, p < .05$; $d_{w3} = .53, p < .05$), and they have, as expected, a more salient national identity than minority students at both waves, supported by large effect sizes and statistically significant group differences ($d_{w1} = .96, p < .05$; $d_{w3} = .81, p < .05$). However, both groups do not differ in terms of their religious identity ($d_{w1} = .02, p > .05$; $d_{w3} = .09, p > .05$), which is due to a relatively large group of atheistic majority members (33%) and the existence of some traditionally Christian minority groups in Western Europe (e.g., Poles or Italians in Germany).

Moreover, although a slightly larger proportion of majority than minority respondents report being affiliated with the Christian religion (wave 1: 48% vs. 39%, wave 3: 45% vs. 39%), Christian majority members have a lower religious identity salience than Christian minority members at wave 1 ($M_{Maj} = 2.36$, $SD_{Maj} = 0.87$; $M_{Min} = 2.93$, $SD_{Min} = 0.89$; $d = .65$, $p < .05$) and wave 3 ($M_{Maj} = 2.29$, $SD_{Maj} = 0.91$; $M_{Min} = 2.91$, $SD_{Min} = 0.99$; $d = .68$, $p < .05$).

Finally, with regard to the change of predictors over time, our findings indicate that intergroup attitudes and national identity are characterized by a small to moderate but significant increase in the majority ($d = .09$, $p < .05$; $d = .08$, $p < .05$) and minority group ($d = .13$, $p < .05$; $d = .26$, $p < .05$). Religious identity, in turn, is characterized by a small but significant decrease in the majority ($d = .08$; $p < .05$), while it remains stable in the minority group ($d = .00$; $p > .05$).

Insert Table 1 about here

The intercorrelations on the right side of Table 1 reveal two insights. First, the autocorrelations of measures across different waves are moderately high ($r_{mean} = .55$), indicating some stability as well as a substantial change in adolescents' intergroup attitudes and social identity over time. Second, all remaining intercorrelations are at best of small to moderate size ($r_{mean} = .07$), which demonstrates a low risk of multicollinearity in the main models and suggests that the different predictors provide unique aspects for explaining the development of outgroup contact in adolescence.

Development of Outgroup Contact

Figure 1 summarizes the trajectories of participants' outgroup contact from wave 1 to wave 3 in the pooled sample and in each single country, separately for the majority and minority group. In the majority, results follow the hypothesized pattern in that outgroup contact continuously decreases over time ($M_{w1} = 2.02$, $SD_{w1} = 1.01$; $M_{w2} = 1.93$, $SD_{w2} = 0.97$; $M_{w3} = 1.87$, $SD_{w3} = 0.92$), which corresponds to an overall mean decrease of 15% compared to the initial value. In other words, in response to the item asking for the number of outgroup

friends, there was a 5% increase of participants in the lowest rating category ('none or very few'), no change in percentage of participants in the second lowest rating category ('a few'), and a 5% decrease in all other categories ('about half', 'a lot', 'almost all or all') from wave 1 to wave 3. It is interesting to note that this trajectory occurs despite the overall low levels of outgroup contact and the consequential likelihood of a regression-to-the-mean effect.

Importantly, this longitudinal pattern can be replicated in every single country, although the intercept of outgroup contact differs across these subsamples. Moreover, we can also replicate this continuous decline of outgroup contact in all diversity strata, except for stratum 1 where low levels of outgroup contact have little room to further decrease (stratum 1: $M_{w1} = 1.43$, $SD_{w1} = 0.60$; $M_{w2} = 1.39$, $SD_{w2} = 0.54$; $M_{w3} = 1.40$, $SD_{w3} = 0.58$; stratum 2: $M_{w1} = 1.80$, $SD_{w1} = 0.83$; $M_{w2} = 1.70$, $SD_{w2} = 0.76$; $M_{w3} = 1.67$, $SD_{w3} = 0.76$; stratum 3: $M_{w1} = 2.20$, $SD_{w1} = 1.02$; $M_{w2} = 2.10$, $SD_{w2} = 0.99$; $M_{w3} = 2.00$, $SD_{w3} = 0.93$; stratum 4: $M_{w1} = 2.74$, $SD_{w1} = 1.18$; $M_{w2} = 2.64$, $SD_{w2} = 1.16$; $M_{w3} = 2.48$, $SD_{w3} = 1.11$).

Evaluating the fit of linear growth curve models by using the conventional cut-off criteria ($TLI > .95$ & $RMSEA < .06$; Hu & Bentler, 1999) confirms the continuously decreasing levels of outgroup contact over time: The overall model reveals an excellent fit ($\chi^2 > .05$, $TLI = 1.00$, $RMSEA = .02$), which is supported in all country-specific models (ENG: $\chi^2 > .05$, $TLI = 1.00$, $RMSEA = .00$; GER: $\chi^2 > .05$, $TLI = 1.00$, $RMSEA = .00$; NL: $\chi^2 > .05$, $TLI = 1.00$, $RMSEA = .02$; SWE: $\chi^2 < .05$, $TLI = 0.99$, $RMSEA = .06$). Moreover, all models are characterized by a slope that differs significantly from zero in terms of size (TOTAL: $B (SE) = -.08 (.01)$, $p < .001$; ENG: $B (SE) = -.11 (.01)$, $p < .001$; GER: $B (SE) = -.07 (.01)$, $p < .001$; NL: $B (SE) = -.06 (.01)$, $p < .001$; SWE: $B (SE) = -.07 (.02)$, $p < .001$) and variance (TOTAL: $B (SE) = .05 (.01)$, $p < .001$; ENG: $B (SE) = .05 (.02)$, $p < .001$; GER: $B (SE) = .02 (.01)$, $p < .01$; NL: $B (SE) = .03 (.01)$, $p < .01$; SWE: $B (SE) = .17 (.03)$, $p < .001$). Thus, in the majority, we find strong and consistent support for the expected homophily effect, which is of

significant size with a significant degree of variance that, therefore, holds the potential to be explained by individual predictors.

Insert Figure 1 about here

In the minority, however, findings do not support our hypothesis, given a nonlinear trajectory of outgroup contact ($M_{w1} = 3.13$, $SD_{w1} = 1.24$; $M_{w2} = 2.98$, $SD_{w2} = 1.25$; $M_{w3} = 3.01$, $SD_{w3} = 1.24$). At the same time, the overall levels of outgroup contact are consistently higher in the minority than in the majority, supported by large effect sizes ($d_{w1} = 1.07$, $d_{w2} = 1.05$, $d_{w3} = 1.19$), and have, therefore, a larger statistical possibility to decrease. The revealed nonlinear pattern over time can be replicated with similar intercepts in every country, apart from England. A missing fit of linear growth curve models statistically confirms the nonlinear trajectory of outgroup contact in the minority: The overall model reveals an unsatisfactory fit ($\chi^2 < .05$, TLI = 0.98, RMSEA = .09), which is supported in all country-specific models, with the exception of England (ENG: $\chi^2 > .05$, TLI = 1.01, RMSEA = .00; GER: $\chi^2 < .05$, TLI = 0.92, RMSEA = .15; NL: $\chi^2 > .05$, TLI = 0.95, RMSEA = .15; SWE: $\chi^2 < .05$, TLI = 0.75, RMSEA = .23).

In sum, the longitudinal trajectories of outgroup contact support ethnic homophily in the majority, while this pattern was, except for England, not found in the minority. Therefore, we will focus on the majority group and the English minority group only, when explaining this negative growth of outgroup contact in the following section.

Buffering Factors of Ethnic Homophily

Figure 2 illustrates the analyzed growth curve model in the overall majority sample, in which the intercept and slope of outgroup contact were regressed on the hypothesized predictors. A detailed summary of all effects in the main and each country-specific model is presented in Table 2.

Insert Figure 2 about here

Insert Table 2 about here

Results demonstrate, first of all, a negative association between the intercept and slope of outgroup contact, which is replicated consistently in every country and indicates a regression-to-the-mean effect to the extent that participants with higher starting levels of outgroup contact have a larger decrease in this outcome variable. Furthermore, associations with the intercept showed that a high level of intergroup attitudes at wave 1 and a low level of national identity at wave 1 are associated with higher starting levels of outgroup contact, while religious identity at wave 1 is unrelated with the intercept. Whereas the associations of the intercept with intergroup attitudes at wave 1 and national identity at wave 1 are replicated in every country-specific model, we reveal inconsistent results with regard to religious identity at wave 1, which yields a negative relationship with the intercept in the Netherlands and a positive relationship with the intercept in Sweden. Finally, we tested our second hypothesis using associations with the slope, by examining potential buffering factors for the negative growth of outgroup contact in the majority. Findings partly support our hypothesis in that a positive change of intergroup attitudes and a negative change of national identity are, as hypothesized, related with a larger than average slope in outgroup contact, while this finding is consistently replicated in every country-specific model. However, in contrast to our hypothesis, the starting level of these variables is not related with the slope, nor do we find a negative effect for the change in religious identity. In fact, religious identity was even positively related with the slope of outgroup contact in the main model, although the country-specific models failed to replicate this finding.

Especially in Germany, the non-significant associations of majority members' religious identity might be a consequence of the fact that most minority groups in this country are primarily Christian (i.e., Russians, Poles, and Italians). Therefore, we conducted an additional analysis of the German majority focusing on contact with and attitudes towards non-Christian Turks only. Results of this subsample support all previously reported findings: (a) outgroup contact continuously decreases, confirmed by an excellent fit of a linear growth

curve model ($\chi^2 > .05$, TLI = 1.00, RMSEA = .00), (b) a high level of attitudes at wave 1 and a low level of national and religious identity at wave 1 are associated with higher starting levels of outgroup contact ($\beta = .32$, $\beta = -.17$, $\beta = -.12$; all $p < .05$), (c) a positive change of intergroup attitudes and a negative change of national identity are related to a larger than average slope in outgroup contact ($\beta = .41$, $\beta = -.15$; all $p < .05$), and (d) neither the starting level nor the change in religious identity are related to the slope.

Insert Table 3 about here

Table 3 summarizes the growth curve model of the English minority group. Findings replicate the majority models for the most part, including the negative association between the intercept and slope, associations between the intercept and intergroup attitudes at wave 1 but not religious identity, and associations between the slope and the change of intergroup attitudes, but not the starting level of any predictor or the hypothesized change in religious identity. The main difference regards the role of national identity, which is – in contrast to the majority models – not related to the intercept or slope, neither with its starting level at wave 1, nor its change score between waves 1 and 3. In additional analyses, we added minority members' salience of non-Christian religion to this model. All effects remained stable, while non-Christian salience at wave 1 was negatively associated with the intercept ($B = -.149$, $SE = .051$, $\beta = -.250$, $p < .05$) indicating that minority members with a more salient non-Christian identity have fewer outgroup friends at wave 1, but neither the starting level of this variable nor its change affected the slope of outgroup contact.

Discussion

The main purpose of the present paper was (a) to study the development of outgroup contact by systematically testing individuals' tendency for ethnic homophily and (b) to explain this hypothesized longitudinal pattern by examining the role of potential buffering factors in a large, international sample of Western European adolescents. The main findings refer to the consistently revealed negative growth of outgroup contact (i.e., ethnic homophily)

in the majority and in the minority in one national sample as well as the buffering role of developing intergroup attitudes and national identity in adolescence. We discuss these findings in terms of, first, ethnic homophily in adolescence, and, second, the importance of attitudes and identity development in adolescence, and then consider some limitations of the research and possible directions for future research.

Ethnic Homophily in Adolescence

While the beneficial role of outgroup contact has been demonstrated repeatedly (e.g., Pettigrew & Tropp, 2006), research lags behind in explaining the longitudinal change and formation of outgroup contact. The importance of this research is reflected in individuals' tendency for similar others (McPherson et al., 2001), especially ethnically similar others, which implies a linear negative growth of outgroup contact over time. The present study provided partial evidence for this tendency by revealing large and consistent ethnic homophily effects in the majority group. This finding is particularly worrying as it comes along with low mean levels of outgroup contact in the majority. Results differ to some extent for the minority group in that outgroup contact, apart from England, does not continuously decrease and is characterized by substantially higher mean levels. It should be noted, however, that a comparison between the first and last wave also demonstrates, apart from Sweden, an overall decrease in minority members' outgroup contact, but the nonlinear trajectory makes a further decrease less likely compared to the majority group. Instead, the unsystematic pattern of longitudinal trends across countries in the minority indicates, rather, some fluctuation around the mean or simply longitudinal noise.

While acknowledging that the developmental trajectories of minority group members' outgroup contact cannot be fully explained in the present study, the lacking linear decrease along with higher mean levels question concerns regarding a lacking social integration of immigrants in the hosting country. Our data instead suggest that ethnic homophily and low mean levels of outgroup contact seem, rather, to be an issue for the majority. This general

pattern differs, however, as a function of individual factors that develop in adolescence and could present potential buffering factors against the preference for ingroup members and the consequential segregation in diverse societies.

Importance of Attitudes and Identity Development in Adolescence

Explaining the negative growth of majority members' outgroup contact demonstrated the importance of developing intergroup attitudes and national identity as potential buffering factors for ethnic homophily. Interestingly, growth curve models revealed no association between the slope of outgroup contact and the wave-1 score, but rather between the slope and the change score of these predictors in that a positive change in intergroup attitudes and a negative change in national identity were related to a larger than average slope of outgroup contact. It is important to note that in the reported models we were controlling for many relevant variables and were able to replicate these associations of the main model in every single country-specific model. That is, what seems to be important is not so much the score of intergroup attitudes and national identity at the beginning of adolescence, but rather the change or the development of these factors during adolescence. This finding is promising, because independently of how individuals enter adolescence, the development of these factors within this critical window of time determines their engagement in future outgroup contact. The present research extends previous work that aimed at explaining homophily of majority members in adolescence (Titzmann et al., 2015; Wölfer et al., 2016), it is in line with literature highlighting the developmental importance of adolescence ('impressionable years hypothesis'; Krosnick & Alwin, 1989), and it underscores the usefulness of contact interventions with adolescent students in school (Wölfer, Hewstone, & Jaspers, in press).

We were unable to systematically test hypothesis 3 due to the nonlinear trajectory of outgroup contact in all minority models except for England. The reason why we reveal the hypothesized pattern of ethnic homophily for the minority in England only remains unclear, because of the difficulty in empirically explaining this country-level difference with four

analytic units and the lack of macro-level predictors in our data. Speculatively, possible factors that might enhance minority members' tendency for ethnic homophily in England, compared to other Western European countries, could be the longer immigration history, differences in immigration policy, the specific immigrant groups, or more general socio-cultural factors. Nonetheless, the only homophilous minority model in England supports the role of developing intergroup attitudes as a potential buffering factor for ethnic homophily. In contrast to the majority, however, this model revealed no effects for national identity. A possible explanation for this difference might be that the mean levels of national identity in the minority group are closer to a 'healthy' mean value. That is, while the majority is characterized by a ceiling effect in national identity, there is no floor effect for the minority that presents a potential barrier for outgroup contact.

In both groups, the majority and the minority, we revealed no support for the hypothesis that dissimilarity in religious identity (e.g., between Christian majority members and non-Christian minority members) explains ethnic homophily. All majority models failed to reveal the hypothesized negative relation between Christian religious salience and the slope in outgroup contact, and the English minority model failed to reveal any relation between Christian as well as non-Christian religious salience and the slope in outgroup contact. Although non-Christian salience at wave 1 was negatively associated with the starting level of outgroup friends, the present study indicates that outgroup contact seems to develop independently of participants' religious identity, which challenges recent literature suggesting that religious salience contributes to the explanation of anti-immigrant attitudes (Ciftci et al., 2016). It is plausible that the lack of a more differentiated measure of religion could explain these non-confirming effects in the present study. For example, past research indicates the importance to distinguish between (a) religious salience and religious beliefs (Bloom, Arikan, & Courtemanche, 2015), while the latter emphasizes compassion and caring for others which, in turn, positively relates to intergroup attitudes, or (b) between religious orthodoxy and

progressivism (Jensen, 1998), suggesting that individuals rather divide along lines of a general world view than the salience of a specific religion.

Limitations and Future Research Directions

While this study contributed novel insights to our understanding of ethnic homophily and potential buffering factors against it, we acknowledge some limitations that could be addressed in future research. One main limitation refers to the fact that we were testing the potential buffering role using only some of the theoretically plausible predictors. We believe that this research represents an important start, but contact researchers should continue to examine additional factors in order to better understand and, ideally, to develop strategies for overcoming individuals' tendency for ingroup members and the consequential failure to exploit opportunities for and accrue beneficial outgroup experiences. Besides intergroup attitudes and social identity, other potentially relevant buffering factors that might influence individuals' willingness to engage in outgroup contact are, for example, self-efficacy, acculturation strategies, negative contact, intergroup anxiety, and perceived discrimination.

A second relevant limitation regards the self-reported nature of key measures in this study. This pragmatic research method allowed the study of a large sample and, therefore, the systematic examination of our hypotheses across different subsamples. On the other hand, self-reports have the potential to be biased, especially when participants report sensitive measures like outgroup contact or intergroup attitudes that are likely to be affected by the tendency for socially desirable responding. The present line of research should therefore be enriched by other measures, such as social network analysis or behavioral observations, which have recently been applied to the study of intergroup contact (Al Ramiah, et al., 2015; Wölfer & Hewstone, 2017).

Relatedly, a third limitation concerns the measurement of key constructs studied in this paper, which could be improved upon. Specifically, the unidimensional operationalization of outgroup contact as number of intergroup friends, although it represents the optimal form

of intergroup contact (Davies, Tropp, Aron, Pettigrew, & Wright, 2011), could be improved with the use of more items that capture other valuable aspects of outgroup contact (i.e., less intimate and more general forms of intergroup interactions). This approach would allow researchers to combine different contact measures into more reliable scales or, within structural equation frameworks, error-free latent constructs. Moreover, our results also indicate that it might be valuable to use more differentiated measures of religious identity when explaining intergroup relations by differentiating between religious salience and religious beliefs (Bloom et al., 2015), or between religious orthodoxy and progressivism (Jensen, 1998).

Another limitation of the present paper regards the drop out of participants, something that affects more or less every longitudinal study. Although the present drop-out rates are comparable to those found in other longitudinal studies with a similar survey design (Ketende, 2008) and are characterized by a largely unsystematic attrition rate (see supplementary online material), participant losses can complicate the analysis of developmental trajectories. In particular, despite the small effect size ($d = .23$), and although being the only existing difference between participants and drop outs, the lower number of outgroup friends at wave 3 in the majority could have affected the results and underscores the need for replications in future studies.

Furthermore, while studying the developmental trajectories over a broader period of time covering multiple waves, the analyzed data in this paper do not allow us to take participants' development prior to adolescence into account, which has been shown to matter and form the basis for intergroup behavior in adolescence and later life (Bigler & Liben, 2007). Although our findings indicate that the development of the studied predictors during and not their score at the beginning of adolescence buffer ethnic homophily, future longitudinal research following children through their transition to adolescence would provide valuable knowledge and further our developmental understanding of intergroup relations.

Finally, we focused on one main context only, namely Western Europe, albeit using large samples from four European countries. This context is particularly relevant given the continuous waves of immigration from former colonies, so-called "guest workers", or war refugees since the second half of the last century (Zick, Pettigrew, & Wagner, 2008), which will most likely not slow down as indicated by the recent waves of desperate people seeking asylum in the EU. However, one should not generalize these findings to other non-European countries such as the US (Foner & Alba, 2008), given historical, political, and social immigration-specific differences across contexts. Moreover, despite the robustness of results across different European countries included in our paper, it is even difficult to generalize findings to other European countries. Therefore, future research in other European and non-European contexts is needed in order to identify more general mechanisms of social integration in diverse contexts.

To conclude, the present study supported a worrying tendency of individuals, especially in the majority group, to 'flock together' (McPherson et al., 2001) with ethnically similar others, which raises a barrier against beneficial outgroup experiences. The identification of factors that buffer this tendency, however, indicates promising ways to encourage integration between ethnically different groups in modern societies. Of particular relevance seems to be the developmental change of psychological factors in adolescence (i.e., intergroup attitudes and social identity), which have the potential to attenuate individuals' preference for ingroup members and the consequential lack of beneficial outgroup experiences as well as growing levels of segregation in increasingly diverse societies.

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Tables

Table 1. Descriptives of predictor variables

	Majority (<i>n</i> = 5,999)		Minority (<i>n</i> = 727)		Zero-order Correlations ¹					
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1 Intergroup attitudes - w1 (scale: 0-100)	61.39	24.21	72.81	24.38		.42	.03	.02	-.01	-.04
2 Intergroup attitudes - w3 (scale: 0-100)	63.47	23.41	75.64	20.62	.34		.01	.05	.03	.02
3 National identity - w1 (scale: 1-4)	3.36	0.79	2.59	0.89	.33	.12		.50	.08	.08
4 National identity - w3 (scale: 1-4)	3.42	0.73	2.82	0.85	.16	.21	.43		.08	.08
5 Religious identity - w1 (scale: 0-4)	1.12	1.32	1.14	1.53	-.02	.00	-.05	-.05		.76
6 Religious identity - w3 (scale: 0-4)	1.02	1.29	1.14	1.55	-.02	.02	-.07	-.06	.83	

Note. ¹Correlation coefficients for the majority are above and for the minority below the diagonal; w1 and w3 denote waves 1 and 3, respectively.

Table 2. Growth curve models predicting intercept and slope of majority members' outgroup contact

	Pooled Sample			England			Germany			Netherlands			Sweden		
	(N = 5,999)			(n = 1,412)			(n = 1,935)			(n = 1,518)			(n = 1,134)		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Intercept with slope</i>	-.057	.009	-.399*	-.082	.017	-.608*	-.023	.008	-.469*	-.040	.008	-.529*	-.061	.029	-.374*
<i>Intercept regressed on</i>															
Diversity	.260	.011	.301*	.181	.018	.280*	.144	.014	.298*	.171	.016	.260*	.570	.032	.481*
Parents' background ¹	.594	.029	.304*	.651	.052	.379*	.223	.033	.219*	.580	.049	.390*	.656	.078	.272*
Sex ²	-.095	.021	-.053*	-.129	.042	-.082*	-.094	.025	-.095*	-.005	.029	-.004	-.003	.056	-.001
Age	.223	.017	.151*	.010	.043	.006	-.071	.018	-.099*	-.043	.024	-.043	.257	.159	.043
Attitudes - w1	.008	.000	.213*	.004	.001	.103*	.003	.001	.135*	.006	.001	.198*	.004	.001	.080*
National identity - w1	-.160	.016	-.139*	-.131	.033	-.116*	-.147	.018	-.273*	-.132	.024	-.153*	-.364	.045	-.237*
Religious identity - w1	.014	.009	.021	-.017	.015	-.031	-.019	.010	-.050	-.048	.012	-.092*	.043	.021	.048*

Slope regressed on

Diversity	-.025	.005	-.126*	-.006	.009	-.032	-.018	.008	-.123*	-.022	.008	-.116*	-.067	.018	-.265*
Parents' background ¹	-.026	.013	-.056	-.059	.027	-.121*	-.035	.020	-.117	-.033	.023	-.076	.036	.043	.069
Sex ²	-.001	.010	-.002	.006	.022	.012	.031	.014	.105*	-.042	.015	-.118*	-.015	.032	-.030
Age	-.003	.008	-.009	-.025	.022	-.055	.003	.010	.014	.003	.012	.009	-.124	.088	-.097
Attitudes - w1	.000	.000	.019	-.001	.001	-.049	.000	.000	.056	.000	.000	.046	.001	.001	.072
National identity - w1	.007	.008	.026	-.023	.019	-.071	.014	.012	.085	.000	.013	.000	-.018	.029	-.055
Religious identity - w1	.004	.004	.025	.015	.008	.095	.003	.006	.030	.002	.006	.010	-.005	.012	-.027
Attitude Δ	.002	.000	.211*	.001	.000	.146*	.001	.000	.264*	.002	.000	.199*	.002	.001	.180*
National identity Δ	-.026	.007	-.093*	-.047	.015	-.157*	-.018	.008	-.105*	-.027	.011	-.109*	-.092	.024	-.265*
Religious identity Δ	.011	.005	.049*	.017	.009	.080	.007	.009	.035	-.006	.006	-.030	.020	.016	.078
Fit (TLI, RMSEA)	(.99, .02)			(1.00, .00)			(.99, .02)			(1.00, .00)			(.96, .05)		

Note. ¹0 = no immigration background, 1 = immigration background; ²1 = boys, 2 = girls; two-tailed significance, * $p < .05$

Table 3. Growth curve model of minority members' outgroup contact in England ($n = 212$)

	<i>B</i>	<i>SE</i>	β
<i>Intercept with slope</i>	-.141	.060	-.408*
<i>Intercept regressed on</i>			
Diversity	-.415	.087	-.376*
Sex ¹	-.056	.144	-.027
Age	.189	.141	.089
Attitudes - w1	.012	.003	.268*
National identity - w1	.044	.088	.037
Religious identity - w1	.062	.041	.103
<i>Slope regressed on</i>			
Diversity	-.019	.039	-.044
Sex ¹	.031	.080	.038
Age	-.013	.074	-.016
Attitudes - w1	.004	.002	.213
National identity - w1	.033	.051	.069
Religious identity - w1	-.015	.021	-.064
Attitude Δ	.006	.002	.326*
National identity Δ	-.052	.056	-.100
Religious identity Δ	.071	.040	.178
Fit (TLI, RMSEA)	(1.02, .00)		

Note. ¹1 = boys, 2 = girls; parents' background not included, as minority members parents with an immigration background as well; two-tailed significance, * $p < .05$

Figures

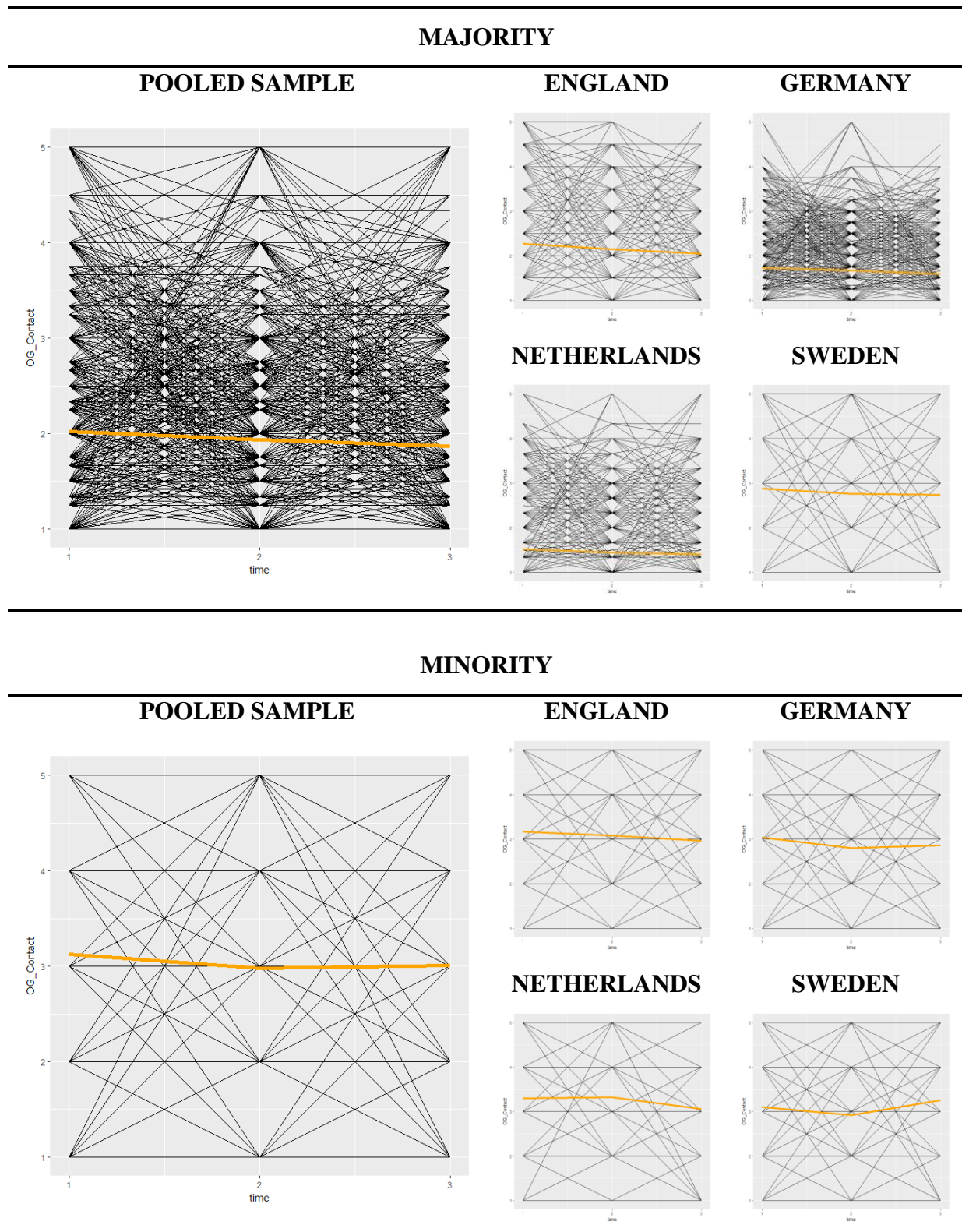


Figure 1. Outgroup contact trajectories

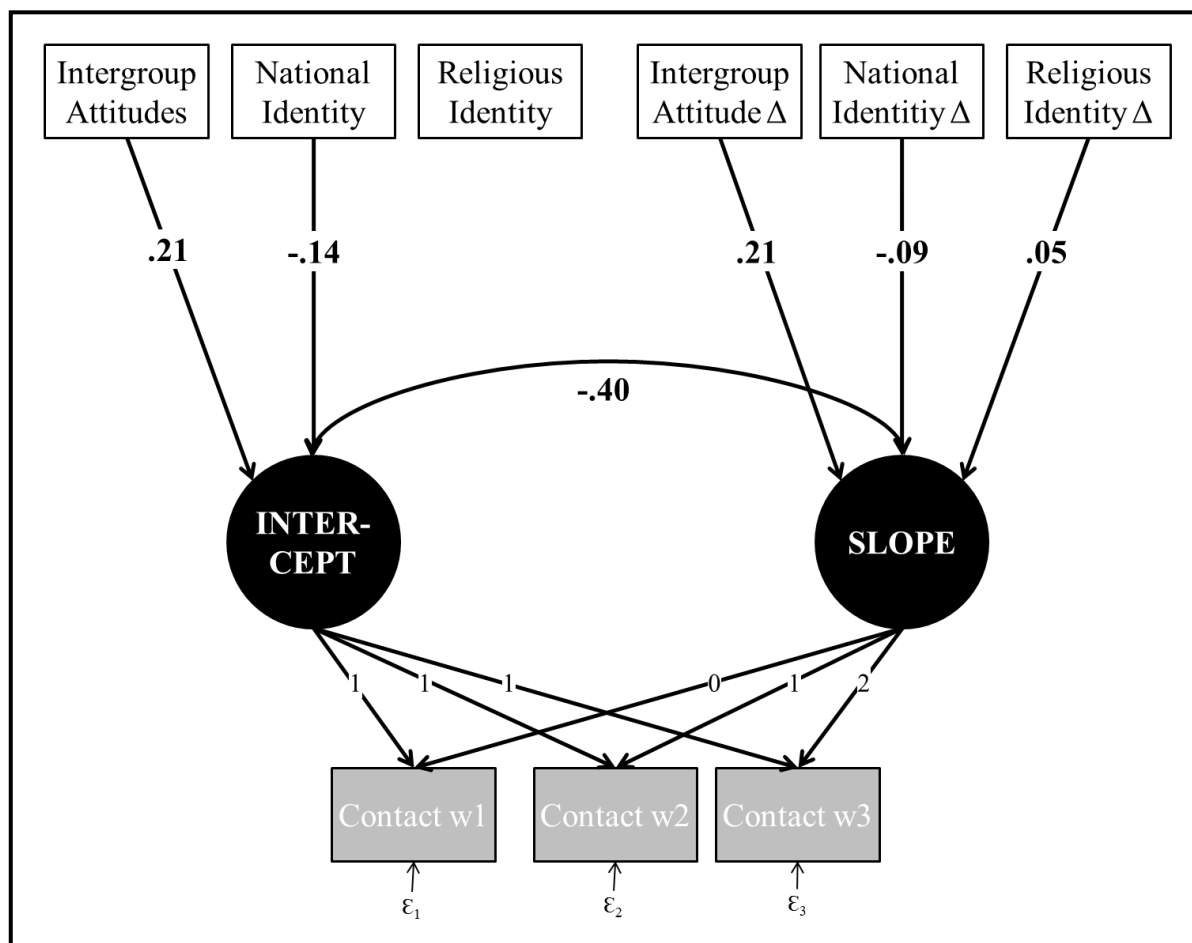


Figure 2. Growth curve model predicting majority members' change in outgroup contact, while controlling for sex, age, parents' immigration background, and diversity. Double-headed arrows denote covariances; single-headed arrows represent standardized regression coefficients (β). Only statistically significant effects are shown ($p < .05$; for all effects see Table 2).