Merging top-down and bottom-up influences on fitting in at school : the role of ethnic congruence in overall and interethnic friendship formation

Merging Top-Down and Bottom-Up Influences on Fitting in at School. The Role of Ethnic Congruence in Overall and Interethnic Friendship Formation

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Abstract

This study assesses whether ethnic congruence associates with students' share of cross-group friendships and number of overall friendships. We investigate differences between natives, Western-European immigrants, and non-Western European immigrants. Multilevel analyses on 11,759 students across 83 Flemish secondary schools demonstrated that, for natives and Western-European immigrants, higher congruence linearly related to lower shares of cross-group friendships. For non-Western European immigrants we observed a U-curved relationship. Moreover, for the latter, higher congruence associated with more friendships overall. As such, non-Western European immigrants are better integrated in the peer group when at least a critical share of co-ethnics is present at school.

KEYWORDS: Ethnic congruence, Cross-ethnic Friendships, Friendships, Multilevel research, Secondary education

Introduction

Starting from the assumption that schools are key institutions in improving interethnic relationships (Putnam 2007; Stearns 2010), a plethora of research has investigated the implications of ethnic school composition for the interpersonal relationships at school. Commonly, such studies have adopted a top-down approach to examine effects of an overall index of the ethnic school diversity, a school-level concept denoting the 'ethnic mix' of the student population (Braster and Dronkers 2013). Most research shows that students are more likely to have friendships with students from ethnic outgroups in more diverse schools (Bagci et al., 2014; Goldsmith 2004; Moody 2001; Van Houtte & Stevens, 2009). Therefore, scholars mostly advise that ethnic segregation is to be avoided, and therefore advocate to promote ethnic diversity in all schools by means of active school composition policies (Vervoort et al. 2011).

Recently, scholars have adopted a bottom-up focus to studying ethnic composition effects. Such research starts from a person-environment fit framework (Magnusson and Stattin 2006), which holds that having characteristics typical of the context improves people's adaption to that context. Scholars in this research line have investigated implications of ethnic congruence – which is, for each individual student the number of co-ethnic students at school (Georgiades et al. 2013). Beneficial effects are ascribed to ethnic congruence, including a higher sense of belonging (Benner and Graham 2007; Georgiades et al. 2013; Johnson et al. 2001), better academic outcomes (Benner and Crosnoe 2011) and less depressive symptoms (Adan and Felner 1995). According to Georgiades and colleagues (2013), congruence has such beneficial effects because students have less difficulties establishing friendships in environments with which they are congruent. Given the positive impacts of higher ethnic congruence, those studies suggest that the promotion of ethnic diversity in schools may decrease the fit for students in their school environment and might have negative implications for these students.

These two research lines have developed rather independently. As such, the effects of ethnic school diversity and individual-level ethnic congruence have not yet been investigated simultaneously, so it is not clear what the net effects of each construct are. While some scholars view both constructs as inherently opposite – i.e. higher ethnic school diversity implies low congruence, and vice versa – others maintain that these constructs can vary independently and thus may have different implications (Georgiades et al. 2013). As we will explain, for some students high ethnic congruence may go hand in hand with high ethnic diversity at the school level. Therefore, it is important to separate each construct's effects. Moreover, being a rather recent research line, ethnic congruence literature is still fragmentary. Notably, no research has focused yet on implications of ethnic congruence for friendships at school. Given that scholars hypothesize that the beneficial outcomes of ethnic congruence are due to students having less difficulties making friends in environments with which they are congruent (e.g., Georgiades et al. 2013), it is striking that the empirical relationship between ethnic congruence and friendships has not been investigated yet.

The current study investigates the net effects – that is, accounting for the established ethnic school diversity effect – of ethnic congruence on friendship relationships at school. More specifically, we will focus on students' share of cross-group friendships and their total number of friendships. Contextual factors might impact students from different ethnic backgrounds to a different degree (Benner and Graham 2007). It has been argued and demonstrated empirically that ethnic congruence affects ethnic minority students to a larger degree than ethnic majority students (e.g., Benner and Graham 2007; Johnson et al. 2001). Therefore, it is important in the current study to ascertain whether ethnic congruence effects on students' cross-group and overall friendships differ between ethnic majority and minority students. Last, given that previous research established that ethnic composition effects on friendships might be non-linear (e.g., Joyner & Kao, 2000; Kruse, 2017), we test for non-linear effects of congruence as well.

Background

School Effects Studies

The top-down studies investigating diversity effects fit within the research line of School Effects Research (SER), which involves large-scale quantitative studies of the effects school features exert on various student outcomes (Teddlie and Reynolds 2000). Ethnic composition has been shown to affect students' academic achievement (Agirdag et al. 2012), aspirations (Van Houtte and Stevens 2010), self-esteem (Gray-Little and Hafdahl 2000), deviancy and crime (Demanet and Van Houtte 2011; Eitle and Eitle 2010), and school attachment (Cheng and Klugman 2010).

Ethnic school composition also influences students' interpersonal relationships at school (Moody 2001; Smith et al. 2016). Schools are found to play a crucial role in interethnic integration, as schools catering a more ethnically heterogeneous student population engender more interethnic friendships among their students (Goldsmith 2004; Moody 2001; Smith et al. 2016). Such findings are congruent with macrostructural theory (Blau 1974), which coins two principles of human association. The first principle circles around preference – people prefer to associate with similar others. Similarity may arise out of countless individual properties, but research has established that the most important similarity feature is ethnicity (McPherson et al. 2001), which means that, in general, individuals prefer to associate with co-ethnics. A second principle of macrostructural theory deals with the structural opportunities of contact. Such structural conditions are said to determine whether this preference for in-group association may be realized (Blau 1974). As people are expected to prefer out-group associations over having no associations at all (Blau 1974), out-group associations are more likely to occur when less in-group members are present.

The outcome of increased outgroup association, then, is dependent upon several conditions. According to contact theory (Allport 1954), interpersonal contact reduces

prejudices when several conditions are met – more specifically, ethnic groups have equal status, work together collaboratively to attain a common goal, and receive explicit support for intergroup contact from authority figures. This may facilitate the formation of interethnic friendships (Pettigrew 1998). Conflict theory (Blumer 1958), on the other hand, points out that people may feel threatened and have even more ethnic prejudices by increased interethnic contact under insecure circumstances, yielding interethnic conflict. While scholars demonstrate that higher ethnic diversity at school indeed increases interethnic conflict, it also yields more interethnic friendships, thereby supporting both conflict and contact theories (Goldsmith 2004).

More recently, scholars stated that ethnic composition of the school also associates to overall peer group integration. In this regard, Putnam's (2007) constrict theory is particularly relevant, holding that higher diversity propels individuals to 'hunker down' and therefore leads to social isolation (Demanet, Agirdag, and Van Houtte 2012). Focusing on the total number of friendships as an indicator of peer group integration, Demanet et al. (2012) demonstrated that ethnic majority students in ethnically diverse schools had fewer friends in general. However, this appeared to be due to the lower socioeconomic composition of these schools, contradicting Putnam's point. Moreover, for ethnic minority students, higher diversity even resulted in more friendships. Other emerging research supports the view that constrict theory is not applicable to school diversity (Braster and Dronkers 2013; Munniksma et al. 2016). For instance, Braster and Dronkers (2013) hypothesize that higher ethnic diversity, by decreasing social capital at school, yields lower performance. Their analyses showed that, conversely, ethnic diversity relates positively to student performance. Focusing explicitly on friendships, Munniskma and colleagues (2016) find school ethnic diversity to be unrelated to the total number of friendship nominations at school.

Summarizing, school effects studies demonstrate that ethnic diversity is related to both interethnic integration and overall peer group integration at school. Given that higher diversity

enhances interethnic friendships but does not preclude overall peer group integration, such studies mostly advocate a dispersal of co-ethnic students across schools.

Ethnic Congruence Research

A long-lasting research tradition in the social sciences investigates how personal and contextual factors interact to promote adaptation to the contexts in which people reside (Moos 1987). In general, contexts bring forth better adaptation when there is a certain level of correspondence between the individual and the context. Adaptation means that people feel contented – they have a higher morale, a higher self-esteem and a better well-being. This viewpoint is the person-environment fit framework (Magnusson and Stattin 2006; Moos 1987). The person-fit framework implies that students are more at ease when they hold characteristics typical for the school context in which they are enrolled. This logic figures prominently in the literature on ethnic congruence. In essence, studies expect higher ethnic congruence to be associated with a range of beneficial outcomes (Benner and Graham 2007; Georgiades et al. 2013; Johnson et al. 2001), and this idea is supported by empirical research. Most studies relate a higher ethnic congruence to a stronger sense of belonging (Adan and Felner 1995; Benner and Graham 2007; Johnson et al. 2001). Other outcomes of ethnic congruence have been studied as well. For instance, higher ethnic congruence has been related to better academic outcomes (Benner and Crosnoe 2011), lower levels of school-deviant behavior (Demanet, Van Praag, and Van Houtte 2016), and lower chances of depression (Adan and Felner 1995), but it is unrelated to school liking (Benner and Graham 2007). Moreover, students are less likely to be victimized and have stronger interpersonal skills in schools where a higher proportion of co-ethnic students are present (Benner and Crosnoe, 2011; Bellmore et al. 2004; Mehari and Farrell 2015).

It is important to consider whether ethnic congruence has implications for friendships. First, that is because the explanation for *why* ethnic congruence has beneficial effects revolves

around the concept of friendship (Georgiades et al. 2013). The argument starts from the well-known finding discussed above that people are more likely to prefer homophily in their interpersonal relationships (McPherson et al. 2001). As it would be easier to find students similar to oneself in environments with which one is congruent, higher ethnic congruence is said to facilitate friendship formation (Georgiades et al. 2013). As a result, ethnic congruence would be associated with a host of beneficial outcomes through the friendships it generates.

One study suggested that the proportion of same-ethnic students at school is related to interethnic relationships (Joyner & Kao 2000). Specifically, Joyner and Kao (2000) found that students have a lower likelihood of having at least one cross-ethnic friendship in environments where more co-ethnic peers were present. As the school effects research discussed above, these findings fit in structural arguments that ethnic congruence affects the structural opportunities of intergroup contact (Joyner and Kao 2000): when fewer students of the own ethnic group are present, it is more difficult to satisfy the preference for homophily, which propels students into the establishment of more interethnic friendships. Following this argument, one would expect higher ethnic congruence to be related to a lower share of interethnic friendships. We should note, however, that the Joyner and Kao (2000) study remained limited on a number of aspects. First, the outcome was dichotomous, capturing whether students at least had one interethnic friendship, or not. It therefore does not account for the share of interethnic friendships, which could give a more detailed insight into the ethnic congruence implications for interethnic friendships. Moreover, the logistic regression analyses were not run in a multilevel model. It therefore does not account for the known problems of nested data (see e.g. Raudenbush and Bryk, 2002), nor does it account for the established effect of ethnic school diversity. In short, it is important to investigate with more advanced statistical techniques whether these findings still hold.

Given the important benefits of friendships – increased school performance and school liking (Hartup 1996; Ladd 1990), school belonging (Hamm and Faircloth 2005) and lower levels of school avoidance (Hartup 1996; Ladd 1990) – and the negative consequences of social isolation – increased depression, sleeping problems, and decreased intellectual performance (Parker and Asher 1993) – it is important to study the interrelations between congruence and overall friendship formation as well. We argue that ethnic congruence may be related to overall peer group integration. For this, we start from Putnam's (2000) distinction between bonding and bridging capital. Bonding social capital involves ties within homogeneous groups, for instance, between members from the same ethnic group. It is a form of social capital that is exclusive and inward looking. Bridging social capital, on the other hand, involves ties between individuals who differ from each other in some way, for instance, because they belong to a different ethnic group. Putnam (2007) expects that bridging social capital arises out of a transition from bonding social capital. Leonard (2004) considers bridging social capital as a transformation of bonding social capital. These ideas suggest that students need a certain amount of bonding social capital before they may acquire bridging social capital. This mechanism seems to be consistent with the literature on intergroup anxiety (see e.g. Levin et al. 2003; Stephan, Stephan and Gudykunst 1999). Overall, intergroup anxiety means that people experience many concerns when they interact with outgroup members (Stephan, Stephan and Gudykunst 1999). Applied to the domain of interethnic relationships, this concept has been applied to explain why cross-ethnic friendships are relatively rare (Levin et al. 2003). It may be that cross-ethnic friendships are especially risky to undertake for students without same-ethnic friendships. Having secured a certain amount of same-ethnic friendships might curb this 'intergroup anxiety' (see e.g., Stephan & Stephan, 1985), explaining why a certain amount of bonding social capital is needed before students engage in bridging social capital. If so, higher ethnic congruence would, because of the opportunities it creates to develop bonding capital,

eventually associate with a higher number of total friendships. This would be consistent with the general notion of person-environment fit theory (Moos 1987). While the argument connecting ethnic congruence to interethnic association is structural, the argument tying it to overall peer group integration is rather social-psychological. Students feel more at ease in environments with which they are congruent, and higher levels of bonding capital make them less anxious to develop bridging capital, resulting in higher overall peer group integration.

From this brief overview, it is clear that the school effects and ethnic congruence research lines have developed rather independently from each other. Consequently, there is little empirical research on how ethnic diversity and congruence impact overall friendships independently, and on how they relate to *each other*. Previous studies already indicate that ethnic diversity and ethnic congruence should be seen as two different concepts that may vary independently (Bagci et al., 2014; Georgiades et al. 2013; Koopmans and Schaeffer 2015). This idea is supported by empirical studies. For instance, Bagci and colleagues (2014) control for the percentage of same-ethnic peers in assessing the effects of diversity, noting that the ethnic diversity effect is established over and above the effect of ethnic congruence. Furthermore, Benner and Crosnoe (2011) found that students had higher academic scores in ethnically more diverse schools, especially so when confronted with a higher ethnic congruence in those schools. This implies that ethnic diversity and congruence are not necessarily each other's opposites and that more research is needed about how they interrelate, and how they affect outcomes independently – that is, accounting for each other's effects.

The Role of Ethnic Minority/Majority Status

Several scholars have shown that ethnic congruence matters to a higher extent for some ethnic groups (e.g., Benner and Graham 2007; Georgiades et al. 2013), although this finding was not replicated in all studies (see e.g., Benner and Crosnoe 2011). Benner and Graham (2007)

specified that ethnic congruence effects are stronger for those students who are in the numerical minority in society (Georgiades et al. 2013). In contrast to ethnic majority students, ethnic minority students often perceive a discrepancy between the home and school culture, and therefore they feel a higher need to adjust to the school environment. The numerical presence of co-ethnics, then, can facilitate identification with peers at school, can increase teachers' attention to cultural differences, and can diminish ethnic discrimination (Kinket and Verkuyten 1999). These factors may result in higher levels of acceptance at school (Georgiades et al. 2013). Furthermore, Koopmans and Schaeffer (2015) specify that the relationship between diversity and congruence differs for ethnic majority and minority members. While for ethnic majority members more diversity implies lower congruence, for minority members the opposite might be true. This occurs because, due to their numerical majority in society, the vast majority of homogeneous contexts are populated by the ethnic majority. For minority members then, the diverse contexts may be the only ones where they can meet co-ethnics. Consequently, it is important for the current study to account for eventual differences between ethnic majority and ethnic minority students.

Non-Linear Effects

Another concern is that we need to account for possible non-linearity. Sigelman and colleagues (1996), for instance, showed that interethnic friendships increase with higher shares of ethnic minority members, but this increase ceases when the ethnic groups are almost equally large. Other researchers demonstrate that interethnic conflict does not increase linearly with relative group size, but reaches its maximum in an ethnically mixed situation (Goldsmith 2004; Longshore 1982; Moody 2001). According to Longshore (1982), interethnic conflict only arises when the dominance structure is unclear, which is the case when ethnic groups are roughly the same size. This unclear dominance structure strengthens the salience of ethnicity as a

homophily marker in such a situation, countering the structural effect of increasing meeting opportunities on friendships. Since Joyner and Kao (2000) find a curvilinear effect of the proportion of same-ethnic students at school on the probability of having at least one interethnic friend, it is likely that such a non-linear relationship is observed between ethnic congruence on the one hand, and interethnic and overall peer group integration in school on the other as well.

In summary, we investigate four research questions. First, we investigate the net effects of ethnic congruence – that is, accounting for the established effect of ethnic school diversity – on students' cross-group friendships – which we define as friendships occurring between ethnic majority and ethnic minority students. We hypothesize that ethnic cross-group friendships are more likely for individuals with lower congruence. Second, we investigate the net effect of students' congruence – again, accounting for the school-level diversity effect – on the total number of friendships. From the person-environment fit theory (Moos 1987), we would expect higher congruence to lead to more friendships overall. Third, we examine differences between ethnic majority and minority students, and we hypothesize congruence effects to be more outspoken for ethnic minority students. Fourth, we account for potential non-linear relationships between ethnic congruence and the outcomes.

Immigration and Education in Flanders

Flanders is the Dutch-speaking, northern part of Belgium, and is a region with its own parliament and government. Since 1988, the Flemish government has the jurisdiction to implement and govern its own educational system. From the end of the second World War on, Belgium has actively recruited migrants, first from Southern Europe, later from Turkey and Morocco. Migrants were imported as guest workers, to fill in temporary job positions in some sectors. Although initially it was believed that the immigrants would return to their home country, it became clear in the 1970s that they would not. In 1973, together with other European

countries, Belgium issued a migration stop, but the reunification of families continued (Sierens 2006).

Immigrants and their children mostly came to live in particular districts within the larger cities in which industries were located. The immigrants chose to send their school-aged children to schools in their communities and neighborhoods, in which, at that time, ethnic majority students with working-class backgrounds were enrolled (Sierens 2006). As these migrant communities were mostly inhabited by a wide range of different ethnic groups, the influx of immigrant children in these schools increased the schools' ethnic diversity (Van Houtte and Stevens 2009). In time, these schools were confronted with a 'white flight', as native, mostly middle-class, parents interpreted the increase of immigrant students as a decline of educational quality, and decided to enroll their children in other schools (Agirdag, et al. 2012). Eventually, white flight led to the development of schools with a high concentration of members of diverse ethnic minority groups: the so-called ethnic concentration schools (Leman 2002). This has led to the particular situation in Flanders that schools with a higher concentration of ethnic minority students are also more ethnically diverse. As such, in Flanders the vast majority of schools where ethnic minority students meet their co-ethnics, are precisely ethnically diverse school contexts. Hence, higher diversity and higher congruence go hand in hand, be it only for ethnic minority students (Koopmans and Schaeffer 2015).

Methods

Research Design

Given that we were dealing with a clustered sample, as students are nested within schools, it was imperative to use multilevel modeling (HLM7; Raudenbush and Bryk 2002). As is common in multilevel analyses, we first estimated unconditional models, which enabled us to partition the variance between the school and student level for each outcome.

To test the research questions, we tested models taking first the share of cross-group friendships, and second the number of total friendships as outcome. Because a specific research question is to ascertain differences according to migration status, we performed separate analyses for 1) native Belgian students, 2) Western-European immigrants, and 3) non-Western European immigrants. Within the overall group of immigrants, a second distinction has thus been made between Western-European immigrants and their non-Western-European counterparts. We do this because these groups of immigrants are differently regarded in Flemish society. This distinct perception of immigrants according to their region of origin is clearly reflected in the distinction that is commonly made between 'autochtonous' – ethnic majority members – and 'allochtonous' students – ethnic minority members (Brans et al. 2004). Being 'allochtonous' literally means "those who are not from here", but it does not include all migrant groups to the same extent (Essed & Treinekens, 2008). These are generally people 1) who reside in Belgium, whether or not they hold the Belgian nationality, 2) of whom at least one of their parents or grandparents was born outside Western-Europe, and 3) who hold a disadvantaged position in society (Brans et al. 2004). As a result, Western-European immigrants are in Flemish research included in the 'autochtonous' group with the native students (e.g. Agirdag et al. 2012). Nevertheless, in the context of the current study, it is important to note that Western-European immigrants have very different levels of ethnic congruence than the native Belgian population (see below). Therefore, it is important to treat them as a separate group in these analyses.

For every outcome per group, we tested two models. In each first model, we investigated the role of ethnic congruence – an individual-level feature. This allowed to test the first two research questions, namely whether ethnic congruence is respectively related to the share of cross-group friendships and the total number of friendships. Given that we aim to establish the net effect of congruence, it was important to account for ethnic school diversity – a school-level feature. To rule out spurious relations and selection effects, control variables

were included. At the school level, we controlled for school size, SES composition, and school sector. At the individual level, we controlled for the socio-demographic characteristics gender, SES, and grade. Furthermore, in Flanders, it is important to account for the track one is enrolled in, as students in the vocational track have been shown to have fewer friends compared to those in academic/technical tracks (Demanet et al. 2012). Moreover, we included an indicator of academic achievement. As no (state administered) standardized tests exist in Flemish education, it is hard to compare academic achievement based on GPA across schools. As grade retention is a reliable indicator of poor previous achievement (see Alexander et al. 1994), we included whether students had ever been retained. To test the fourth research question, namely whether the associations between ethnic congruence and the two respective outcomes were non-linear, in the second model, we included the squared measure of ethnic congruence alongside the untransformed variable. This is a well-known technique to detect curvilinearity (Osborne and Waters 2002).

Data

The data were part of the FlEA (Flemish Educational Assessment), gathered in the 2004–2005 school year in 85 Flemish secondary schools. We used multistage sampling. First, we selected proportional-to-size postal codes, size being defined by the number of schools within each postal code, information provided by the Educational Department. From the 240 postal codes, we selected 48 at random. This resulted in the desired overrepresentation of larger municipalities. The Flemish educational system consists of six grades of secondary education, corresponding to grades 7-12 of the US or UK school system. The aim was to survey students in the third and fifth grade of the Flemish secondary school system, which correspond to grade 9 and 11 in the US or UK school system. Consequently, we selected all regular secondary schools in the chosen postal codes that provided a third and fifth grade, yielding a response rate

of 31%. This low response rate is due to schools in Flanders being swamped with research requests. Schools frequently choose the research they take part in on a first-come, first-served basis. Analyses in which we compared our sample to the Flemish school population, based on information attained through the Flemish Educational Department, showed that the participating schools did not differ from those that opted out in terms of school sector, size or curriculum. Hence we found no evidence that systematic biases occurred, and the 85 schools in the sample were treated as representative of the Flemish situation (Van Houtte et al. 2005).

In the participating schools, we asked all third and fifth grade students present at the time of the visit to fill out the questionnaire. Students filled out the questionnaire in class, supervised by members of the research team and a teacher. A few students were not present, due to sickness, truancy, or field trips. A total of 11,872 students provided valid surveys, which amounts to a response rate of 87%. However, two schools in the sample did not provide information on their school size. As multilevel analysis does not allow missing data at the second level, and further analyses suggested that the inclusion of these two schools in analyses without the school size measure did not affect the results, we decided to remove these two schools from the analyses. Subsequently, the analyses are based on 11,759 students across 83 schools.

Variables

Outcomes

Friendships were assessed by a nomination procedure. Students were handed a list of all the students in their school that attended their grade. Next to the names, we listed identification numbers. Respondents were asked to provide the respondent identification number of their best friends. This has been proven to be a successful method for gathering information on peer ties and interactions (see Coie, Dodge and Kupersmidt 1990).

Using network analysis, we computed each student's indegree on this question, meaning that we counted the number of students that had indicated the respondent in question as a friend. This can be considered a dimension of a student's network centrality. There exist three types of network centrality, namely, degree, closeness, and betweenness (see Brass & Burkhardt, 1993). By using the indegree, we capture the first type—also labeled indegree centrality—which is a measure of ''the number of direct ties to other actors'' (Brass & Burkhardt, 1993). As such, it is a very simple but common way of measuring an actor's centrality in a network (Rowley, 1997). To reduce bias because of self-reports, we do not use the outdegree for this – that is, the number of friends the actor in question appoints him/herself. On average, the number of friendship nominations in the dataset was 6.03 (SD=3.27; see Table 1).

Based on the indegree, we constructed a measure capturing the share of cross-group friendships. First, based on students' ethnic background (see below), we determined which of the established friendships could be labeled as a cross-group friendship, which is defined here as any friendship between an ethnic majority and an ethnic minority student. In a next step, we computed the proportion of cross-group friendships by dividing the absolute number of cross-group friendships by the number of overall friendships. The mean of the entire sample was 0.10 (SD=0.23; see Table 1). There was a significant (F=2841.47; p<.001) difference between native students (Mean=0.05; SD=0.13), Western-European immigrants (Mean=0.08; SD=0.17) and other immigrants (Mean=0.45; SD=0.38).

Student-Level Independent Variables

The main independent variable at the individual level was ethnic congruence. We concur with Georgiades and colleagues' (2013) statement that a school-level measure that combines all ethnic groups in a school is inadequate to grasp the person-context fit that is implied in the ethnic congruence concept. Therefore, we operationalized this concept as an individual-level variable, measuring for each student the percentage of co-ethnic students in the school. The principal criterion for determining students' ethnic group was the birthplace of their maternal grandmothers. This is the common way of measuring ethnic background in Flanders, as most members of ethnic minorities are second- or third-generation citizens who have the Belgian nationality. The following eight ethnic groups were distinguished: (1) native Belgians, (2) Western-European immigrants, (3) Southern-European immigrants, (4) Turks, (5) Moroccans, (6) other North-Africans, (7) Eastern-European immigrants, (8) others. Due to the heterogeneous constitution of the 'others' group, however, we opted to leave this group, which comprised 3.9 % of the entire sample, out of the analyses. The ethnic congruence measure based on this ethnic categorization of the sample ranged from 0.20% (1 student) to 100% (20 students) in the entire sample. The mean ethnic congruence was 76.36 (SD=28.20; see Table 1).

As explained above, we made a distinction between natives, Western-European, and other immigrant students for our analyses. To ascertain migration background, we used the ethnicity measure described above. This also means that students we refer to as 'immigrants' can be second- or third-generation migrants – i.e. they did not necessarily migrate themselves, but they had an immigrant background. Even if belonging to the second or third generation, they are still perceived as immigrants by society, as we also noted above (Essed & Treinekens 2008). In our sample, 81.7% belonged to the native Belgian group, 4.3% were Western-European immigrants, and 11.2% were considered as non-Western European immigrants. As anticipated (see above), the levels of ethnic congruence were vastly larger for natives – ranging from 5.5 to 100 (Mean: 86.32; SD=12.31) – as compared to the Western-European immigrants

– ranging from 0.5 to 32.7 (Mean: 8.26; SD=7.52) – and other immigrants – ranging from 0 – 63.2 (Mean: 15.07; SD=16.11).

The sample used for the analyses was quite equally divided by gender (51.4% girls). Students' socio-economic status (SES) was measured by the class scheme of Erikson, Goldthorpe, and Portocarero (1979; 1=unskilled manual labor; 8=professionals and large proprietors). For this, we considered the occupation of the father or the mother, or, if they were unemployed, we took the last occupation into account. We used the highest ranked occupation to determine the SES of the family. The mean SES was 5.22 (SD=2.09; see Table 1). In the sample, 48.8% of the students attended the third grade. Most respondents attended the academic track (46.7%), with 28.2% attending the technical 21.2% the vocational, and 2.9% the arts track. As for grade retention 19.8% of the respondents had been retained at least once in secondary education.

School-Level Independent Variables

At the school level we controlled for ethnic diversity. The measure for the ethnic diversity was expressed as the total number of different ethnic groups at school, corrected by their size. The used index is based upon the Herfindahl index (see also Demanet et al. 2012; Putnam 2007). This index is calculated as $(p_{\text{ethnic group 1}})^2 + (p_{\text{ethnic group 2}})^2 + \ldots + (p_{\text{ethnic group n}})^2$. The eight ethnic groups in the data were included (see above). Following previous studies (Van Houtte and Stevens 2009), the next step was to multiply the index by -1, since the Herfindahl index in fact is an index of homogeneity, whereas we were interested in heterogeneity. The eventual index has a range of -1 to 0; -1 implies no diversity at all, that is, only one ethnic group is enrolled in the school. A value approaching zero means total diversity: all pupils in school have a different ethnic origin. The values in our dataset ranged from -1 to -0.24. On average, the 83 schools in our sample had a value of -0.68 (SD=0.22; see Table 1).

School size was measured by asking the school administrators to provide us with the total number of students at school. The mean school size in the sample was 461.55 (SD=285.27). As is common (Demanet and Van Houtte 2011), the SES composition of the school was measured by calculating the mean parental occupational status (see above) per school. The mean of the 83 schools was 4.86 (SD=1.20; see Table 1). In the Flemish region, schools fall into two different sectors: the public sector (labeled as 'official education'), which is provided by the Flemish, provincial, and city governments, and the private sector (labeled as 'free education'), which consists mainly (and almost exclusively) of Catholic schools. For historical reasons, the private sector has always been the most developed, in terms of both the number of schools and the number of students enrolled; 67 % of all regular secondary schools are in the private sector. However, we should note that, in the Flemish school system, no difference is made between private and public schools with respect to state funding. In the data, 49.40% of the schools are public. This slight overrepresentation of the public schools in our sample, compared to the Flemish context, is due to the oversampling of larger municipalities, where the majority of public schools in Flanders are situated.

[TABLE 1 ABOUT HERE]

Results

The unconditional 'null' models demonstrated that both the share of cross-group friendships and the total number of friendships varied significantly across schools. The analyses showed that, for the total sample, 30.2% (σ^2=0.210; τ_0=0.091; p<0.001) of the variance in cross-group friendships, and 8.97% (σ^2=9.721; τ_0=0.958; p<0.001) of the variance in overall friendships was between schools. This meant that, while the vast majority of the variance in these measures may be explained at the individual level, the investigation of school-level determinants was warranted.

[TABLE 2 ABOUT HERE]

Ethnic Congruence and Interethnic Friendships

The analyses on cross-group friendships are shown in Table 3. For natives (γ=-0.0005; p<0.001), Western-European immigrants (γ=-0.007; p<0.05, and other immigrants (γ=-0.013; p<0.001, while controlling for ethnic school diversity, there was a significant negative association between ethnic congruence and the share of cross-group friendships. This means that students with more co-ethnics at school have a lower share of cross-group friendships. T-tests, furthermore, demonstrated that the effect of ethnic congruence for native students was significantly smaller than respectively for Western-European (t=2.165; p<.05) and other immigrants (t=4.164; p<.001), while the difference between the two latter groups was not significant (t=1.41; p>.05). So, net of the ethnic school diversity effect, students with higher congruence were likely to have a lower share of cross-group friendships (hypothesis 1), and this association is stronger for immigrant students (hypothesis 3).

The second model demonstrated no curvilinear effects of ethnic congruence for native students (γ=0.0003; p>.05) and Western-European immigrants (γ=0.0002; p>.05). For other immigrants, however, the squared ethnic congruence measure was significantly associated to the share of cross-group friendships (γ=0.001; p<.001), over and above the effect of ethnic congruence itself (γ=-0.030; p<.001). This means that the association between ethnic congruence and the share of cross-group friendships was a curvilinear one. Moreover, the coefficient for the squared ethnic congruence was significantly different from that coefficient for natives (t=9.512; p<.001) and Western-European immigrants (t=3.885; p<.001). Figure 1 depicts this curvilinear association between ethnic congruence and share of cross-group friendships for non-Western European immigrants. The association between ethnic congruence and share of cross-group friendships was negative at the lowest values of ethnic congruence,

but this association diminished and eventually even became positive. This means that, at the higher values of ethnic congruence, more congruence again led to a higher share of cross-group friendships, which was unexpected given our hypotheses.

[FIGURE 1 ABOUT HERE]

Ethnic Congruence and Overall Friendships

In Table 4, the results of the multilevel analyses on the number of friendships are presented. First, it appeared from the results of the first model that ethnic congruence was unrelated to the number of overall friendships for natives (γ=0.00034; p>.05) and for Western-European immigrants (γ=0.003; p>.05). For non-Western European immigrants, however, there was a significant effect (γ=0.023; p<.001) of ethnic congruence. This effect was significantly different from the effect for the native students (t=3.20; p<.001), but not from the coefficient for the Western-European immigrants (t=1.036; p>.05), although this latter might be due to the small number of Western-European immigrants in the sample. We concluded that higher congruence associates to more peer group integration (hypothesis 2), be it only for non-Western European immigrant students (hypothesis 3).

The second model demonstrated no curvilinear association, neither for native students (γ=0.000091; p>.05), nor for non-Western-European immigrants (γ=-0.0003; p>.05). Surprisingly, however, we detected a curvilinear association between ethnic congruence and overall number of friendships for the Western-European immigrants, since the squared ethnic congruence effect (γ=0.004; p<.05) was significant, over and above the effect of ethnic congruence (γ=-0.004; p<.05). The effect of the squared ethnic congruence, moreover, different significantly from the coefficient for natives (t=3.85; p<.001) and non-Western European immigrants (t=3.99; p<.001). Figure 2 is a graphical depiction of this curvilinear association for Western-European students. It seemed that, at the lower levels of ethnic congruence, rising

ethnic congruence associated with a declining number of overall friendships. However, once a critical threshold is passed, at its higher levels rising ethnic congruence resulted in more friendships overall for Western-European students.

[FIGURE 2 ABOUT HERE]

Discussion

Due to growing immigration schools in many Western countries became increasingly diverse. Research into the outcomes of this increased diversity in the school environment has taken two directions. First, studies have investigated effects of school-level measures of ethnic diversity (Goldsmith 2004; Moody 2001; Smith et al. 2016). Other studies have adopted a bottom-up framework investigating the effects of ethnic congruence of the student – a feature at the individual level (Benner and Graham 2007; Joyner and Kao 2000), but largely ignore the school's ethnic composition. Consequently, there is little information on how ethnic congruence relates to both interethnic and overall peer group integration of students, taking into account the school's diversity.

First, as anticipated, we find that, with rising numbers of ethnic congruence, native and Western-European immigrant students are less likely to have cross-group friendships. This supports the structural argument of the well-known macrostructural theory of Blau (1974), who holds that people want to associate with similar others, which gets easier with rising numbers of co-ethnics. For non-Western European immigrants, we find a curvilinear relation between ethnic congruence and share of cross-group friendships. At the lower levels of congruence, an increase in congruence associates with a decrease in cross-group friendships, while, at the highest levels of congruence, rising congruence increases cross-group friendships. This is largely in line with the results of Joyner and Kao (2000), although they did find this pattern for all ethnic groups and they did not find that, at the higher levels of congruence, the trend goes

upward again. The curvilinear association we discovered has theoretical implications. First, the pattern at the lower levels of ethnic congruence again supports macrostructural theory. However, there are diminishing returns in this structural relationship: once these students have secured a certain amount of friendships to similar others, they start to associate with dissimilar peers. As such, these findings endorse the notion that bridging social capital arises out of a transition from or a transformation of bonding social capital (Leonard 2004; Putnam 2007). In other words, our results support the idea that students only develop interethnic friendships once they have secured a certain amount of same-ethnic friendships (Van Praag et al. 2014). Moreover, for this group of students, our findings further show that higher congruence eventually results in more overall peer group integration, and therefore they underscore the person-environment fit framework (Moos 1987; see also Georgiades et al. 2013). These findings lend further support to our interpretation that the higher bonding capital of students that are ethnically congruent with their school environment adds to the development of bridging capital as well, resulting in larger friendship networks.

It is remarkable that these patterns are observed specifically for non-Western European immigrants, who, in Flanders, have a markedly higher chance of being discriminated against and of having to deal with negative ethnic stereotypes than their ethnic majority and Western-European immigrant counterparts (Brans et al. 2004; Demanet et al. 2016). Higher levels of perceived discrimination might increase intergroup anxiety and make people wary of interacting with outgroup members (Bagci et al. 2014; Stephan et al. 1999). For such immigrants, the presence of co-ethnic peers may facilitate the adjustment to the general school environment and the overall peer group, as it allows ethnic minority students to meet more students facing similar problems. Specifically, in line with the person-environment fit theory, we propose that immigrant students in environments with which they are congruent are more at ease, which curbs intergroup anxiety (Stephan et al. 1999) and therefore leads them to regard

cross-ethnic friendships as being less 'risky' (Bagci et al. 2014; Levin et al. 2003), resulting in larger friendship networks overall.

The native Belgian group was remarkably similar to the Western-European immigrants in many respects. An important difference, however, was the curvilinear association between congruence and number of friendships we observed for these migrant students – an association also not observed in the other immigrant group. To explain this, first we need to recall that, for Western-European immigrants, we regarded friendships with ethnic majority students as ingroup friendships (see also Demanet et al. 2012). Based on their numerical minority status in society, we would expect, based on the structural arguments of macrostructural theory (Blau 1974), these Western-European immigrants have an equal number of outgroup friendships as other immigrant groups. Our results, however, show their mean number of cross-group friendships to be roughly the same as the ethnic majority students, and much less than the other immigrant groups (see 'Measures' section above). A tentative explanation for these curvilinear results would seem to be that Western-European immigrants are very much oriented towards the host society and often perceived as such as well. This group shares a similar European heritage, has similar religious traditions and are also physically often not easy to distinguish from the native population (Berg et al. 2011; Verkuyten and Yildiz 2007). Steering clear from associating with other immigrant groups, an increase in low levels of congruence leads – as for every group – to a realization of proportionally more same-ethnic friendships. Nevertheless, they seem to be more and more inward looking as the total number of their friendships declines. Once a critical threshold of same-ethnic students is reached, this preference for ingroup associations eventually leads to larger networks, composed proportionally especially of same-ethnics (that is, ethnic majority and Western-European immigrant) peers. More attitudinal research among Western-European immigrants is needed to test this tentative explanation fully.

Although not the focus of the current study, our results endorsed previous studies that higher ethnic diversity at school level leads to more cross-group friendships. However, we note that, for non-Western European immigrants, higher diversity associated with less cross-group friendships. While this was not anticipated, these findings might still fit within macrostructural theory. In Flanders, as in many European societies, ethnically diverse schools are generally ethnic concentration schools (see also Van Houtte and Stevens 2009; Koopmans and Schaeffer 2015) – that is, schools with a low ethnic majority presence (Leman 2002). It is supportive of the macrostructural theory, then, to find that migrant students in diverse schools have a lower share of friendships with majority students, as in ethnically more diverse schools they have fewer opportunities to meet the latter (see also Van Houtte and Stevens 2009). Importantly, this finding supports the notion that, for ethnic minority students at least, diversity and congruence are not merely opposites, but are separate constructs with mechanisms of their own. Therefore we propose that future studies treat the two concepts as independent, rather than opposing, factors.

Limitations and Future Research Directions

As any scholarly work, this study has several limitations. First, we should note that this data was gathered in the school year 2004-2005, that is almost 15 years ago. It is, therefore, possible that the schools under study have changed in the meantime. However, since this is a correlational rather than a descriptive study, it is more important to ask whether the associations between diversity, congruence, and friendships could have changed. Given that the theoretical orientations underlying this study are a-contextual – that is, they do not depend upon particularities of the specific context – and are thus meant for generalization across spatial and temporal contexts, we do not expect associations between our main variables to have changed. We do suggest that studies test these findings with more recent data.

Second, in the current study, we chose to focus on friendships between autochtonous students – that is, natives and Western-European immigrants – and allochtonous students – that is, non-Western European immigrants – as an indicator for interethnic integration. While we admit that this is a rather crude measurement of interethnic friendships, it is still a valid one in the Flemish context. As explained above, in the heads of policy makers, school administrators, and parents, a dichotomous distinction is commonly made between autochtonous and allochtonous students. 'Integration' in the heads of policy makers, then, means the establishment of contact between the autochtonous students (that is, natives and Western-European migrants) and allochtonous groups (see also Van Avermaet et al. 2010; Vervoort et al. 2011). While this dichotomous distinction is a meaningful one in the Flemish context, a next research step could be to delve deeper in the ethnic nature of friendships as an outcome of congruence.

Moreover, it would be interesting to explore whether ethnic congruence is equally influential for all migrant groups. It could be that, due to specific migration history, settlement pattern or religion (Van Praag et al. 2015), some ethnic groups are more ethnically victimized or discriminated against in the host society. Such negative experiences increase the need to search support from co-ethnic peers, and this need may therefore be stronger for some ethnic groups than for others (Verkuyten and Yildiz 2007). However, because we worked with a sample drawn from the general population, and not a sample disproportionally targeting ethnic minority groups, the relative numbers of the various ethnic groups in the sample were too small to do separate analyses. Therefore, future studies might study whether congruence affects some minority groups more than others. This is also a caveat on the results of the analyses on Western-European immigrants. These complex multilevel models were run on 514 students, which might be too small a sample to find all meaningful relationships. Given the particular

results we found on the overall number of friendships for this group, it would be good if future studies focus particularly on this group.

Policy Implications

As in most Western countries, Flemish policy makers have tried to make schools more ethnically diverse (Van Avermaet et al. 2010). The underlying rationale of the dispersal policy is that students of immigrant descent would integrate (i.e. learn the Flemish/Belgian culture and language) more easily when not constituting the numerical majority at school. This line of thought is supported by the current study, given that the results show that higher congruence diminishes cross-group friendships – be it only at lower values of congruence for most immigrant groups. However, the results also show that higher ethnic congruence may facilitate the development of a larger friendship network at school for non-Western European immigrant students – which are bonds that may be expected to facilitate so-called integration into the dominant society. Consequently, while a far-fetched dispersal of non-Western European students might be a good policy approach, policy makers should bear in mind that they should not overly problematize the presence of co-ethnics for these students.

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Table 1. Descriptive statistics for variables: Frequencies (%), Means, Standard Deviations (SD), and N.

Variables		%	M	SD	Alpha	*N*
Dependent variables						
Cross-group friendships			0.10	0.23		10,790
Number of friends			6.03	3.27		11,761
School level						
Ethnic diversity			-0.68	0.22		83
School size			461.55	285.27		83
SES composition			4.86	1.2		83
School sector						83
	Public	49.40%				
Student level						
Ethnic congruence			76.36	28.2		11,205
Gender						
	Girls	51.40%				11,732
SES			5.22	2.09		11,050
Ethnicity						
	Ethnic minority	11.20%				11,759
Grade						11,761
	Fifth grade	48.80%				
Track						11,761
	General	46.70%				
	Arts	2.90%				
	Technical	28.20%				
	Vocational	21.20%				
Grade retention						11,439
	Retained	19.80%				

Table 2. HLM unconditional model characteristics. School-level variation in cross-group friendships and overall number of friends.

	Cross-group friendships	*Number of friends*
Intercept	0.121***	5.704***
Parameter variance		
Within school	0.210	9.721
Between schools	0.091	0.958
HLM reliability estimate	0.937	0.891
Proportion of variance between schools	0.302***	0.090***

Note. HLM = hierarchical linear modeling. *** $p \leq .001$.

Table 3: Association between ethnic congruence and share of cross-group friendships. Results of stepwise multilevel analysis for natives, Western-European immigrants, and Non-Western European Immigrants.

		Natives		**Western-European immigrants**		**Non-Western European Immigrants**	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	γ	0.150***	0.152***	0.097*	0.067	0.733***	0.774***
	SE	0.028	0.028	0.046	0.054	0.069	0.072
School level							
School size	γ	-0.00003	-3E-06	0.000002	0.00002	-0.0001	-0.0001
	SE	0.00001	0.00001	0.00004	0.00004	0.00007	0.00007
SES composition	γ	-0.005	-0.007	-0.027	-0.024	0.047	0.058*
	SE	0.006	0.006	0.020	0.020	0.030	0.029
School sector	γ	-0.011	-0.01	-0.023	-0.018	-0.001	0.009
	SE	0.009	0.008	0.031	0.031	0.036	0.030
Ethnic diversity	γ	0.259***	0.412***	0.492***	0.503***	-0.545***	-0.417**
	SE	0.047	0.117	0.148	0.15	0.139	0.141
Individual level							
Gender	γ	0.019*	0.017*	0.023	0.023	-0.010	-0.012
	SE	0.007	0.007	0.015	0.015	0.027	0.024
SES	γ	0.002	0.001	0.005	0.005	0.014***	0.012**
	SE	0.001	0.001	0.004	0.004	0.004	0.004
Grade	γ	-0.020***	-0.019**	-0.008	-0.008	0.023	0.023
	SE	0.006	0.006	0.007	0.007	0.016	0.016
Vocational track	γ	0.007	0.007	-0.007	-0.006	-0.117**	-0.104**
	SE	0.014	0.014	0.027	0.027	0.040	0.040
Retention	γ	0.008	0.008	-0.052***	-0.051***	-0.026	-0.027
	SE	0.005	0.005	0.015	0.015	0.017	0.016
Ethnic congruence	γ	-0.0005***	-0.003	-0.007*	-0.013	-0.013***	-0.030***
	SE	0.0001	0.002	0.003	0.007	0.003	0.006
Squared ethnic congruence	γ		0.00003		0.0002		0.001***
	SE		0.00002		0.00018		0.0001
Variance components							
Intercept	U_0	0.045***	0.037***	0.010***	0.010***	0.087	0.147***
Gender	U_1	0.003***	0.003**			0.012***	0.009***
SES	U_2	0.00003***	0.00003***				
Grade	U_3	0.002***	0.002***			0.008***	0.008***
Vocational track	U_4	0.006***	0.006***			0.037***	0.035***
Ethnic congruence	U_5	0.00001**	0.00001**			0.00015***	0.00013***
Retention	U_6	0.00099***	0.00092***				

Note: The unstandardized (γ) gamma coefficients are presented, with the standard errors (SE) and variance components U (when significant)
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 4: Association between ethnic congruence and number of friendships. Results of stepwise multilevel analysis for natives, Western-European immigrants, and Non-Western European Immigrants.

		Natives		**Western-European immigrants**		**Non-Western European Immigrants**	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	γ	6.862***	6.844***	6.735***	6.153***	8.004***	8.188***
	SE	0.331	0.335	0.716	0.766	0.809	0.887
School level							
School size	γ	0.001	0.001	0.001	0.001	0.001	0.001
	SE	0.0003	0.0003	0.0005	0.0005	0.0005	0.0005
SES composition	γ	-0.021	-0.013	0.120	0.190	-0.002	-0.006
	SE	0.123	0.125	0.262	0.255	0.167	0.165
School sector	γ	0.018	0.022	-0.054	0.023	-0.322	-0.326
	SE	0.17	0.17	0.272	0.265	0.282	0.281
Ethnic diversity	γ	-0.72	-0.355	-0.101	0.362	-1.467	-1.628
	SE	0.64	0.887	1.339	1.304	1.052	1.000
Individual level							
Gender	γ	-0.027	-0.027	0.100	0.122	-0.631	-0.626
	SE	0.076	0.076	0.334	0.33	0.247	0.246
SES	γ	0.110***	0.110***	0.112	0.097	0.108***	0.110***
	SE	0.021	0.021	0.081	0.082	0.045	0.044
Grade	γ	-0.231***	-0.231***	-0.186	-0.194	-0.242	-0.252
	SE	0.066	0.066	0.148	0.147	0.145	0.145
Vocational track	γ	-0.411**	-0.408*	-0.849*	-0.804*	-0.456	-0.456
	SE	0.153	0.155	0.382	0.383	0.239	0.242
Retention	γ	-0.571***	-0.571***	-0.874*	-0.840*	0.019	0.025
	SE	0.111	0.111	0.384	0.392	0.193	0.196
Ethnic congruence	γ	0.00034	0.006	0.003	-0.127*	0.023***	0.037
	SE	0.001	0.010	0.018	0.055	0.007	0.023
Squared ethnic congruence	γ		0.000091		0.004*		-0.0003
	SE		0.000168		0.001		0.0004
Variance components							
Intercept	U_0	5.183**	5.177**	1.119**	0.754**	14.236***	14.232***
Gender	U_1			1.454**	1.182**	0.816*	0.826*
SES	U_2	0.010*	0.010*				
Grade	U_3	0.210***	0.210***	0.174*	0.163*	0.541***	0.538***
Vocational track	U_4	0.617***	0.618***	0.414*	0.402*		
Ethnic congruence	U_5					0.0002*	0.0002*

Note: The unstandardized (γ) gamma coefficients are presented, with the standard errors (SE) and variance components U (when significant)
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Figure 1: Relationship between ethnic congruence and cross-group friendships for non-Western European immigrants, with 95% confidence interval (grey area). Results of multilevel analyses (HLM7)

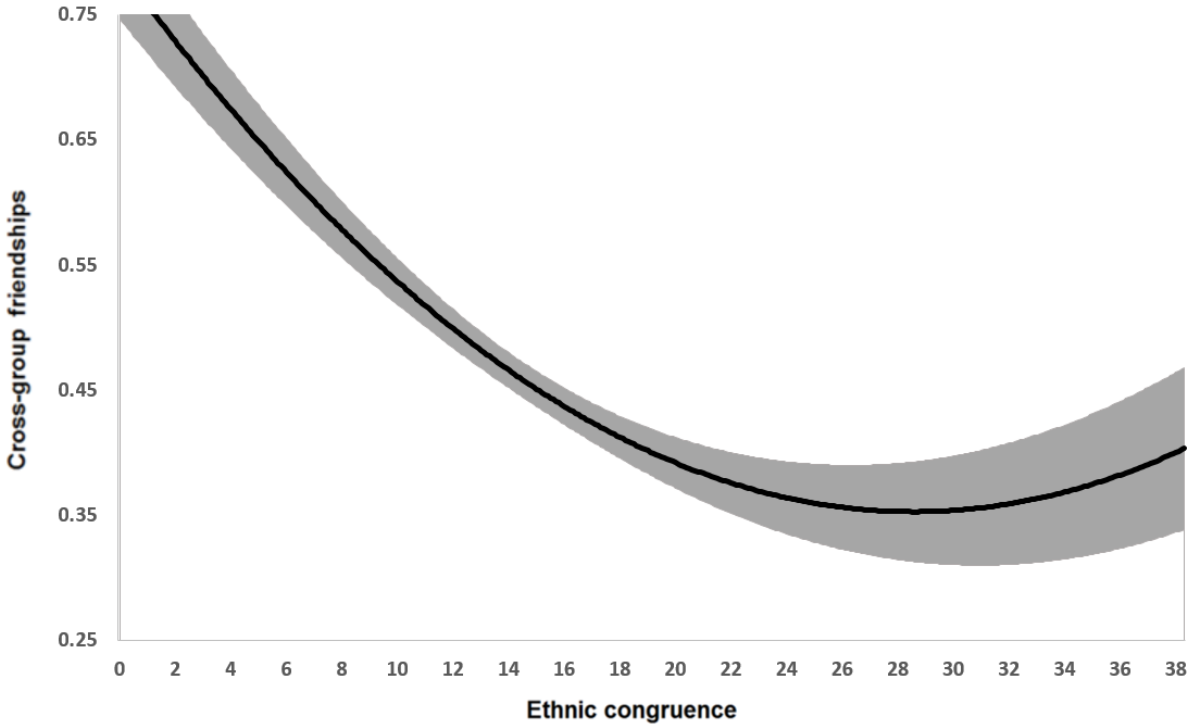

Figure 2: Relationship between ethnic congruence and number of friendships for Western-European immigrants, with 95% confidence interval (grey area). Results of multilevel analyses (HLM7)