

# More Than a Sorting Machine: Ethnic Boundary Making in a Stratified School System<sup>1</sup>

Hanno Kruse and Clemens Kroneberg  
*University of Cologne*

This article examines the structural conditions that shape ethnic boundary making in the school setting. While previous work has focused on the ethnic composition of student bodies, this study places schools in their institutional and local contexts. The authors argue that the formation of identities and networks varies across local areas depending on the extent of ethnic stratification across schools. Empirically, the authors turn to the case of Germany, where the role of schools as producers of categorical inequalities is particularly obvious. The analysis links large-scale survey data on adolescents' identification and networks with administrative geocoded information on local stratification across secondary schools. The authors find that minority students in schools with identical ethnic compositions show different inclinations to identify as a majority group member and to form friendships with majority peers, depending on the local extent of ethnic stratification across schools. To place these findings in a cross-national perspective, the authors identify scope conditions of these mechanisms of boundary making and discuss their presence in other countries and school systems. The results support recent theories of immigrant incorporation and offer a more contextualized understanding of ethnic boundary making in schools.

## INTRODUCTION

In Western Europe, the incorporation of ethnic minorities has become a central concern that is being hotly debated in light of the recent refugee influx,

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Islamist and right-wing violence, and the rise of nationalist and populist movements. As in other ethnically diverse societies, a fundamental challenge is how to build a community where fellow citizens develop shared identities and social relationships that bridge ethnic divides.

In sociology, assimilation theory has had a long history of addressing this question. In the classic account of assimilation, immigrant minorities enter the social networks of the majority group and move up the social ladder, through which they also begin to view themselves as full members of the receiving society (Gordon 1964). Over the years, this strand of sociological theorizing has undergone several refinements and revisions (Portes and Rumbaut 2001; Alba and Nee 2003). The most recent advancements point to different ways of immigrant incorporation and contend that these crucially depend on the social boundaries that minority groups face in their pursuit of increased life chances (Alba and Nee 2003; Nee and Alba 2013). This focus on boundaries shifts attention to the role of the majority population and its institutions in shaping the life chances, social networks, and identities of minority group members (Wimmer 2008; Crul and Schneider 2010).

Our study examines ethnic boundary making in the school setting. Schools are arguably one of the most influential institutions of modern societies. They provide a context where adolescents of diverse backgrounds meet and where processes of group and identity formation unfold. Moreover, because of the declining numbers of the native majority in young age groups, it is in schools where increasing levels of ethnic diversity often become visible for the first time. In sociology, a vast amount of research has turned to schools as microcosms in which the new social fabric of societies is taking shape (see Warikoo and Carter 2009; Alba, Sloan, and Sperling 2011). Most large-scale quantitative studies have asked how the ethnic (or racial) composition of schools affects opportunities for intergroup contact, threat perceptions, and actual contact and its consequences. In particular, high ethnic concentration has been found to restrict friendship opportunities and to affect out-group attitudes and preferences for cross-group friendships (e.g., Moody 2001; Mouw and

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Entwisle 2006; Baerveldt et al. 2007; Smith et al. 2016; Munniksma et al. 2017).

While the relationship between ethnic composition and intergroup contact has been well established, we submit that the influence of schools as institutions and sites of boundary making goes far beyond such compositional effects. We argue that minority students in schools of identical ethnic composition will show different inclinations to identify as a majority group member and to form friendships with majority peers, depending on the extent of ethnic stratification across schools in the local context. In areas where such stratification is strong, those minority students who nevertheless make it to the more prestigious schools will perceive a marked difference from their minority peers and are more likely to adopt strategies of boundary crossing. In turn, majority students in such schools will tend to engage in boundary policing and tie their acceptance of minority students as friends to the latter's identification with the majority group. In comparison, in contexts where ethnic stratification across schools is weak, the boundary between majority and minority groups will be less salient, so that patterns of identification and affiliation become less coupled with minority students' educational placement.

We derive this argument by linking the study of boundary making in school settings with recent theories of immigrant incorporation (Nee and Alba 2013) and a view of schools as producers of categorical inequality (Domina, Penner, and Penner 2017). While the study of social networks among schoolchildren has proliferated in recent years, this research has largely overlooked that schools and school systems are institutions of categorical inequality that create social categories by sorting students among and within schools (e.g., into age grades, ability groups, or tracks). Building on a long line of qualitative work (e.g., Carter 2005, Warikoo and Carter 2009), we argue that ethnic boundary making is often a response to the place that students and schools occupy in the wider context of stratification. In particular, strategies of boundary crossing and policing will become more likely in school contexts where minority students face a bright boundary (Nee and Alba 2013).

To provide a large-scale analysis of how the school system can shape the formation of identities and peer relations, we turn to a case in which the role of schools as producers of categorical inequalities is particularly obvious: Germany's stratified secondary school system. In contrast to the within-school academic tracking in the United States, sorting in the German model takes place *between* vertically differentiated types of secondary schools. These secondary school types form a clear hierarchy, differ in academic rigor across subjects, and confer different social status and opportunities for postsecondary study to students (Crul and Schneider 2010; Alba and Foner 2015; Domina et al. 2017). Such stratification across schools subjects adolescents to different lifeworlds and produces visible categorical inequalities, often along ethnic lines. Germany's system of between-school tracking is therefore a strategic research site

(Merton 1987) to examine how stratification in the school system shapes the formation of identities and peer relations.

Our study answers two major calls in the study of ethnic boundary making: to break down the boundary metaphor by analyzing both identities and social affiliations, as well as their interrelationships (e.g., Brubaker 2014; Jenkins 2014; Wimmer 2014), and to explain why ethnic origin matters in certain contexts but not in others (Alba 2005; Wimmer 2008; Warikoo and Carter 2009). Empirically, our analyses link large-scale survey data on adolescent networks and identities in 144 German schools with administrative data containing geocoded information on all secondary schools in Germany. This unique combination enables us to study the interplay of identities and social affiliations within schools, while positioning each school in its institutional and local context.

Our results suggest that ethnic boundary making strongly depends on the local context in which schools are embedded. In areas with strong ethnic stratification across schools, minority students who make it to the more prestigious schools are much more inclined to identify as German. Moreover, in these schools, such identification becomes much more important for their friendships with majority students. In areas with weak ethnic stratification, boundaries seem to be more blurred or blur-able, as educational placement, identification, and cross-group friendships are more loosely related. Additional analyses reveal important scope conditions of these processes. We find that Muslim students are less inclined to identify as German even in local contexts that are particularly conducive for crossing the native-immigrant boundary. Moreover, the local mechanisms of boundary crossing require students to be aware of local stratification across schools—which depends on social ties to peers from other schools. These scope conditions and comparable data on England, the Netherlands, and Sweden suggest that our results may be relevant well beyond the German case, including in countries with formally open educational systems.

Overall, our study lends support to recent theories of immigrant incorporation and offers a more contextualized understanding of ethnic boundary making in schools. Beyond their envisaged role as meritocratic sorting machines, stratified school systems can profoundly shape social identities and affiliations in adolescence.

## THEORY AND PAST RESEARCH

### Approaches to Ethnic Boundary Making in the School Setting

The concept of boundaries is a central ingredient of contemporary theories of immigrant adaptation. Ethnic boundaries are distinctions between individuals based on the belief of their (real or putative) common descent that shapes individuals' actions and mental orientations toward one another

(Barth 1969; Alba and Nee 2003; Alba 2005; Wimmer 2008). Analyses of boundary making should therefore ideally focus on both: the identities individuals form and the social relations they enter (Tilly 2005; Jenkins 2008).

During adolescence, identities and peer relations are important issues yet subject to considerable change (Steinberg and Morris 2001; Giordano 2003; Crosnoe and Johnson 2011; Meeus 2011). Adolescents develop a sense of who they are and their place in society based on their daily experiences and interactions. Many of these experiences take place in schools. As cultural consensus on the location and meaning of ethnic boundaries may emerge in “environments characterized by face-to-face interactions and dense social networks” (Wimmer 2008, p. 999), schools provide a promising contextual unit of analysis for studying ethnic boundary making (Warikoo and Carter 2009; Tabib-Calif and Lomsky-Feder 2014).

However, while work on immigrant incorporation has produced important insights on the role of schools for minority students’ educational performance and attainment (Portes and MacLeod 1996, 1999; Kasinitz et al. 2008, chap. 5; Alba et al. 2011; Alba and Holdaway 2013), it has rarely considered how schools shape the formation of identities and peer relations (Brubaker et al. 2006, pp. 269–77; Feliciano 2009). This question has mostly been addressed outside the sociological literature on assimilation. Previous research can be roughly divided into two, largely unconnected strands: social network analyses of racial and ethnic homogeneity of friendship networks and qualitative research on how race and ethnicity are negotiated in educational settings.

A strong case can be made for using data on complete social networks to test propositions on social boundary making (Wimmer and Lewis 2010). Such data capture which social ties form among students and which ties could have but did not form, allowing researchers to identify the determinants of tie formation in a school setting (Wimmer and Lewis 2010; Stark 2011; McFarland et al. 2014; Smith et al. 2016). This line of research has generated a number of important insights. A recurring finding is that friendships between students who share the same ethnic origin are more frequent than expected by chance alone. Controlling for other known principles of tie formation (e.g., reciprocity or triadic closure), the remaining tendency to befriend one’s coethnics is usually interpreted as indicating ethnic homophily—a social-psychological preference for coethnic friendships (McPherson, Smith-Lovin, and Cook 2001). In this literature, the ethnic homogeneity of friendship networks has been argued to result from local opportunities and students’ preferences for intra- versus interethnic contact. Accordingly, the impact of the school context has been theorized in two ways. The ethnic composition of schools affects ethnic homogeneity either via varying opportunities for contact (Blau 1977; Feld 1981) or by activating or strengthening preferences for intra-ethnic ties. For example, on the basis of ethnic competition theory (Blalock

1967), it has been argued that ethnic groups of large and similar size are particularly likely to lead to threat perceptions and conflict (Moody 2001; Mouw and Entwisle 2006; Currarini, Jackson, and Pin 2010; Smith et al. 2016).

Despite the significance of this research agenda, its general analytical focus on patterns of tie formation and school composition has been associated with two limitations that our study seeks to overcome. First, with few exceptions (Boda and Néray 2015; Leszczensky et al. 2016; Boda 2018; Leszczensky and Pink 2019), social network analyses of ethnic boundary making have generally failed to consider the role played by students' subjective identities. As both identities and social affiliations are core components of boundaries (Wimmer 2008, p. 975), examining students' identifications and their consequences for tie formation is crucial to capture strategies of ethnic boundary making. Second, by reducing schools to sources of varying ethnoracial composition, most network-analytic research has overlooked that schools and school systems are institutions of categorical inequality (Domina et al. 2017). Educational systems create social categories by sorting students among and within schools (e.g., into age grades, ability groups, or tracks). These categories can lay the ground for durable inequalities and serve as a context for the formation of identities and social relations among students. It is therefore important to recognize that ethnic boundary making is often a response to the place particular students and schools occupy in the wider context of stratification.<sup>2</sup>

Both blind spots have been at the center of a second line of research that has been produced in a quite different intellectual world, based mostly on qualitative or interpretive standards of evidence (Warikoo and Carter 2009). In educational research, a host of studies have documented how minority students negotiate their identities in particular school contexts and how this process is interlinked with their own academic success as well as that of their peers (Carter 2003, 2005; Horvat and Lewis 2003; Tyson, Darity, and Castellino 2005). A main claim stemming from this work is that institutional stratification not only perpetuates school inequality but also "reinforce[s] racial and ethnic boundaries" (Carter 2005, p. 75). In the United States, ability-based tracking is an institutional practice that takes place within schools. Black and Latino students tend to be especially underrepresented in the high-track classes. Minority students from disadvantaged backgrounds who make it into high-track classes have been described as facing the challenge of accommodating their peers who are left behind and being accused of "acting white." Compared to its initial formulation (Fordham and Ogbu 1986), more recent research has

<sup>2</sup> Previous network-analytic studies on ethnic boundary making have been restricted by the limited scope of available network data. For example, the most detailed longitudinal studies of identification and friendship formation are based on only nine lower-track schools in Germany (Leszczensky and Pink 2019) or schools from a single Dutch city (Leszczensky et al. 2016).

both differentiated and contextualized this phenomenon (Carter 2003, 2005; Tyson et al. 2005). In her ethnographic research, Carter (2005) stresses that “acting white” is not implied by being successful in school per se but by abandoning one’s own cultural background in exchange for the dominant white culture, the “culture of power.” She also argues that the institutional practice of tracking amplifies this dilemma by putting successful African-Americans into tracks that are predominantly white and Asian and separating them from their peers in school. This argument resonates well with the study of eight high schools by Tyson et al. (2005), which finds that high-achieving black students are accused of “acting white” only in schools where black students are strongly underrepresented in advanced classes.

Despite the particular history and situation of racial minorities in the United States, especially of African-Americans, these studies can inform research in other contexts.<sup>3</sup> At a more general level, they illustrate the boundary work of disadvantaged minority students who face stratified school settings that are culturally dominated by the majority group (Carter 2005). As a review concludes, a major challenge of this line of work is to investigate the generalizability of theoretical arguments in more large-scale studies (Warikoo and Carter 2009, p. 385).

In brief, ethnic boundary making in the school setting has been studied from two markedly different analytical angles. While taking a quantitative methodological standpoint, our study builds on and connects both lines of research. First, we use the power of social network analysis to adequately control for network structure when examining the interplay of identification and peer affiliations in schools. Second, we adopt a bird’s-eye view of a stratified school system that allows us to show that seemingly generic processes of tie formation depend on institutional and local contexts (Entwisle et al. 2007; Adams, Faust, and Lovasi 2012; McFarland et al. 2014).<sup>4</sup> We thereby incorporate two core elements of the literature on race, ethnicity, and education into the analysis of social networks: identities and institutional stratification.

### Germany’s Secondary School System as a Strategic Research Site

Germany provides a well-suited case to conduct a large-scale analysis of how institutional stratification in the school system can shape the formation

<sup>3</sup> For an elaborated argument on treating “race” as a subtype of a broad understanding of ethnicity for comparative purposes, see Wimmer (2008, pp. 973–75).

<sup>4</sup> To our knowledge, Fryer and Torelli’s (2010) study is the only previous attempt to use data on complete networks across a large number of schools to test cultural theories on ethnic boundary making. Using AddHealth data, they find that high achievement reduces peer popularity among black and Hispanic students, particularly in mixed schools. However, Flashman (2012) showed that this finding is largely due to differential opportunities to befriend high-achieving students of the same racial group.



of identities and peer relations. The country's secondary school system sorts students into a hierarchy of school types that differ in academic rigor across subjects and confer different opportunities for postsecondary study (for details, see the data section). In particular, attendance at the highest type of secondary school (the German *gymnasium*) is a strong distinguishing attribute among students: it is widely treated as a signal of greater intellectual ability and greater socioeconomic prospects, making these high-track schools stand out as the most prestigious ones.

Although the German system is known for its particularly early and rigid assignment of students to a hierarchy of secondary schools, the phenomenon studied has implications well beyond the German case. In some countries, similar between-school tracking takes place at a later point in the school career (e.g., the Netherlands, France, Israel, Japan, Korea, or Mexico). In other countries, like in the United States, differentiation primarily takes the form of course-based tracking within schools. However, pronounced differences in school quality also exist among different public and private schools in the United States (Saporito and Sohoni 2007; Logan, Minca, and Adar 2012). In their seminal study of immigrant incorporation in and around New York City, Kasinitz et al. (2008, p. 133) highlight that the children of immigrants are unevenly distributed across a "complex and differentiated system of primary and secondary schools and colleges" (see also Crul and Holdaway 2009; Alba and Holdaway 2013, p. 268; Domina et al. 2017). At the same time, the more informal and complex hierarchy of secondary schools in the United States makes it more difficult to ascertain the extent of ethnic stratification across (and within) schools. In comparison, the German case provides a convenient starting point for studying how local ethnic stratification across schools shapes ethnic boundary making.

Similar to disadvantaged black and Latino groups in the United States, the most sizable immigrant minorities in Germany are underrepresented in the higher tracks (Kristen and Granato 2007). However, as tracking takes place *between* schools, high-achieving minority students are much more separated from their lower-achieving coethnic peers since they attend different schools. This should make them less likely to face pressures by coethnic students to remain loyal to their ethnic group (Portes and Sensenbrenner 1993). In fact, attending schools that tend to be dominated by the native majority group might lead to increased pressures as well as greater readiness to assimilate culturally and socially (Carter 2005, p. 29).

### Of Bright and Blurred Boundaries

In examining ethnic boundary making in stratified school systems, we build on theoretical notions and arguments that have been developed by Alba and Nee in their new assimilation theory (Alba and Nee 2003; Nee and Alba



2013). Similar to other modern accounts of assimilation, they argue that there are different ways in which immigrant minorities can become part of a national community and that these crucially depend on the social boundaries that minority groups face in their everyday lives.<sup>5</sup> For our purposes in understanding the adaptation of minority youth, the distinction between boundary crossing and boundary blurring is particularly important (Alba 2005, p. 23; see also Bauböck 1994; Zolberg and Woon 1999).<sup>6</sup> Boundary crossing involves an individual moving from one group to another, while the boundary is left unchanged. This individual-level assimilation has been at the heart of classic accounts of assimilation. Boundary blurring, however, means that the underlying distinction between majority and minority becomes less clear so that which individuals belong to which group is either more ambiguous and uncertain or less salient and consequential.

While this typology of boundary-related changes is useful theoretically, processes of immigrant adaptation in the real world can be expected to be more fuzzy and dynamic. Minority group members will adopt crossing and blurring as situational strategies, oscillate back and forth depending on circumstances, and be treated differently by different parts of the audience of such identity performance (cf. Goffman 1969). Adolescents in particular are often in a stage of exploration (Phinney and Ong 2007; Quintana 2007) in which they face great uncertainty about whether possible attempts at boundary crossing will be successful—which would ultimately mean that they become (re)classified as belonging to the majority group (Alba 2005, p. 23; Wimmer 2008; Boda 2018). This uncertainty makes it unlikely that minority youth will completely disidentify with their ethnic background. Moreover, adolescents usually still live with and remain attached to their families, which makes their ethnic origin present and visible on an everyday basis. Not surprisingly then, research has found that most minority youth remain considerably identified with their ethnic origins in Europe (Schneider et al. 2012b; Heath, Jacob, and Richards 2018).

From the perspective of assimilation theory, the most crucial question during adolescence is whether minority youth start to identify with and form social ties to the native majority group. A common identity as members of one

<sup>5</sup> As another prominent approach, segmented assimilation theory also focuses on boundary work among the children of immigrants who negotiate their identities between ethnic communities, marginalized native minorities, and the mainstream (Portes and Zhou 1993; Portes and Rumbaut 2001). However, as the focus on boundary making is more explicit in Alba and Nee's theory, we adopt their framework in this article.

<sup>6</sup> In addition, there is the long-term, often generational process of *boundary shifting* by which former minority groups become part of a redefined mainstream. An example is the incorporation of Catholics and Jews into a Judeo-Christian mainstream in the United States, where these groups were previously perceived as minorities under a white Anglo-Saxon Protestant mainstream.

nation can serve as a basis for trust and solidarity across ethnic origin divides and is therefore a core component of building a community of fellow citizens in ethnically diverse societies (Miller 1995, p. 140; see also Brubaker 1992, p. 188; Jenkins 2008, p. 15). However, building such a common identity is particularly difficult in Europe, where public and political discourse tend to draw a strong line between immigrant and native origin (Schneider et al. 2012a, p. 229; Alba and Foner 2015, pp. 198–203). Our analysis will focus on this crucial component of boundary crossing that might prepare the ground for a full change of group membership as minority youth come of age.<sup>7</sup>

A key proposition of Alba and Nee's theory posits that boundary crossing will be necessary only under certain conditions: when minorities face a bright boundary (Nee and Alba 2013, p. 368). If the distinction between majority and minority is less clear or less salient, minority group members do not have to cross the boundary to become part of a national community and fully participate in the life chances it offers. In contrast, it is much more difficult to ignore a bright boundary. Salient and clear divides commonly imply hierarchies of belonging where majority members belong without question while minorities will remain "outsiders" if they are not willing or able to assimilate (Skey 2010, 2013). A bright boundary will therefore create incentives among minority group members to adopt the strategy of boundary crossing—although such a move will not be feasible for all minorities alike and depends on the social acceptance by the majority group (Nee and Alba 2013, p. 368).

We argue that the local extent of ethnic stratification across schools affects the brightness of boundaries. According to Alba (2005, p. 26), the extent to which a boundary is blurred or blur-able depends on the institutionalization of the native-immigrant distinction and related distinctions, such as those in religion and language. When "this complex of distinctions is manifest in many domains (implying that participants enact it with regularity in their everyday lives) and is associated with salient asymmetries in social status and power,

<sup>7</sup> More generally, our interest is in minority students' cultural and social assimilation into the dominant ethnic group (Carter 2005, pp. 28–29), which corresponds to feeling German in this particular national context (Alba and Foner 2015, pp. 198–203). This is the main reason why we do not adopt Berry's well-known scheme of the four acculturation types of integration, separation, marginalization, and assimilation (Berry 1997; Berry et al. 2006). Dichotomizing and combining responses on survey items that separately ask for the strength of national and ethnic origin identification does not do justice to the complexities and context dependency of adolescents' identities (Schneider et al. 2012a, pp. 209–10; see also more generally, Brubaker 2004, p. 41). For example, even adolescents who appear to hold dual identities might not be able to reconcile national and ethnic identities but resort to code-switching between school and home environments. While surveys are limited in capturing adolescents' identities in a comprehensive and nuanced fashion (Kasinitz et al. 2008, pp. 81–82), quantitative analyses of survey data are most powerful in tracing the impact of network embeddedness and of wider contexts.

then it is unlikely to be blur-able” (Alba 2005, pp. 26–27). In areas where ethnic stratification across schools is strong, it gives rise to such salient asymmetries in social status across the immigrant-native divide and strongly shapes adolescents’ everyday lives. Hence, strong ethnic stratification across schools should confront minority students with particularly bright boundaries in the more prestigious schools, which tend to be dominated by the majority group.

### Mechanisms and Hypotheses

To derive testable implications, we consider the situation in areas with strong ethnic stratification across schools in more detail. In Germany, this means that it is uncommon for minority students to attend the more prestigious (i.e., high-track) schools in such areas. We argue that this will produce hierarchies of belonging that are associated with increased assimilationist pressures and affect how minority students who nevertheless make it to such schools think of themselves.

First, the relatively few minority students who attend the more prestigious high-track schools will perceive a marked difference between themselves and most other minority peers in the local area. Because they have made it into the more prestigious schools, these minority students have a certain incentive to develop an identity that sets them apart from their less successful minority peers. Identifying as German may be one particularly beneficial way of doing so since this identity might be associated with a higher status (Tajfel 1981), especially in contexts in which ethnic stratification is more pronounced (Carter 2005).<sup>8</sup>

Second, high-track schools in such areas are prototypical “mainstream” institutions in the sense of “those social and cultural spaces where the native majority feels ‘at home’ or, in other words, where its presence is taken for granted and seen as unproblematic” (Alba and Foner 2015, p. 5; see also Brubaker et al. 2006, p. 273). To the extent that the cultural norms, codes, and styles of the majority group are dominant in these high-track schools, minority students might feel the need to orient themselves toward these

<sup>8</sup> This argument resonates with Turner’s self-categorization theory (Turner et al. 1987; Turner 1999), which assumes that individuals define themselves by assessing the degree to which they are similar to (or different from) others in their immediate perceptual environment (see also Smith and Moore 2000). However, on the basis of Turner’s theory, one could likewise expect that the relatively few minority students in the high-track schools will primarily perceive a difference with their majority group schoolmates because of their immigrant origin. In contrast, our theoretical argument emphasizes the impact of ethnic stratification in the wider local context. Such a contextual view is beyond self-categorization theory, because the latter defines contexts “primarily in terms of individual perceptions and psychological processes rather than as external features with an independent influence” (Deaux and Martin 2003, p. 103).

implicit and explicit cultural requirements of the school (Carter 2005; Kasinitz 2008, p. 255). Relatedly, majority students might expect minority students to identify as German and embrace dominant cultural styles in such schools (see hypothesis 3 below). Taken together, strong ethnic stratification across schools should lead to a situation in which minority students in high-track schools have an incentive or feel pressured to identify as German:

*HYPOTHESIS 1.—In areas where ethnic stratification across schools is strong, minority students in the high-track schools are more likely to identify as German.*

Hence, we expect an increased inclination to identify with the native majority group in these contexts compared to minority students in the lower-track schools and those in areas where ethnic stratification across schools is weak. As noted, however, identifying and passing as German generally does not come easy for minority group members (Crul and Schneider 2010, pp. 1261–62; Schneider et al. 2012a, p. 230). As previous research has shown, members of ethnic minority groups who grew up in Germany tend to feel at home in the country but have difficulties in feeling German (Ersanilli and Saharso 2011). This is mostly attributed to the prevailing ethnic conception of the German nation (Brubaker 1992; Heath and Tilley 2005; Ersanilli and Saharso 2011) where even native-born children and grandchildren of immigrants feel they are treated as “foreign” (for a similar argument in the U.S. context, see Zhou and Lee 2007). Recognizing the only partial permeability of bright boundaries, Alba and Nee argue that only a selective subgroup will engage in boundary crossing (Nee and Alba 2013, p. 368).

We account for these challenges of boundary crossing and the notion of differential permeability in two ways. First, we will examine whether identification as German is also feasible for Muslim students who face specific stereotypes and othering discourses in contemporary Germany. The overlapping religious boundary might prohibit Muslim minority students from identifying as German—even in local contexts that are particularly conducive for crossing the native-immigrant boundary. Hence, our analysis of adolescents’ boundary work follows up on the argument that cultural consensus about boundaries and belonging is negotiated at both local and national levels (Wimmer 2008, p. 999).<sup>9</sup>

Second, the general difficulties involved in crossing a bright boundary imply that it takes more than just inward-looking acts of identity choice to develop and hold onto an identification with the majority group. Rather, minority students require the support of interpersonal networks in which

<sup>9</sup> We are grateful to a reviewer for suggesting we examine how the significance of local mechanisms of boundary making varies across minority groups. As this inquiry into the scope conditions came after our original theory development, we do not formulate a hypothesis but treat the interaction of local and group-level influences as an empirical question.

such identification can be enacted on an everyday basis (Deaux and Martin 2003; Jenkins 2008; Wimmer 2014, p. 839). Minority students who pursue a strategy of boundary crossing should attempt to translate their national identification into friendships with majority students. And such friendships should in turn support the development or maintenance of an identity as German. On the basis of a relatively small number of schools, previous work has asked to what extent minority students' national identification breeds cross-group friendship and vice versa (Munniksma et al. 2015; Leszczensky et al. 2016). In our large-scale contextual analysis, there is no need to disentangle the reciprocal relationships inherent in these processes. Both are elements of boundary crossing and should produce a tighter coupling of national identification and friendships with majority students in school contexts in which minority students face a bright boundary:

**HYPOTHESIS 2.**—*In areas where ethnic stratification across schools is strong, a stronger national identification of minority students in the high-track schools is associated with a greater tendency to form friendships with majority students.*

Note that we expect this impact of the wider local context on friendship formation to be net of a school's ethnic composition (i.e., above and beyond the varying opportunities to form cross-group friendships).

As boundary making is an inherently two-sided process, we also look at the other side of the native-immigrant boundary. Power differentials between individuals of different ethnic origin create incentives for ethnic closure on the side of the privileged (Cornell and Hartmann 1998). Majority group members will therefore "try to police the ethnic boundary and make assimilation and other strategies of boundary crossing difficult" (Wimmer 2008, p. 1002; see also Shibutani and Kwan 1965, pp. 330–37). Ethnically stratified contexts where only few minority students attend high-track schools are characterized by hierarchies of belonging (Carter 2005; Brubaker et al. 2006, pp. 269–77; Skey 2013): while the native majority feels at home in the high-track schools of such areas (Alba and Foner 2015, p. 5), minority students will feel exceptional compared to their minority peers in the area and are likely to adopt strategies of boundary crossing (see hypotheses 1 and 2). This in turn implies that their majority group peers have the power to police the ethnic boundary by differentially allocating social acceptance. In a prototypical situation of bright boundaries, majority students should tie their acceptance of minority students as friends to the latter's willingness to identify with the majority group:

**HYPOTHESIS 3.**—*In areas where ethnic stratification across schools is strong, majority students in the high-track schools will accept minority students as friends to the extent that the latter identify as German.*

Taken together, we arrive at specific hypotheses about how the local context and school track affect the interplay between identification and friendships in

schools. Where ethnic stratification across schools is strong, attendance of a high-track school will be associated with increased assimilationist pressures.<sup>10</sup>

In areas with low ethnic stratification across schools, boundaries are more likely to be blurred. Here, minority students are also well represented in the more prestigious schools. Even minority students in schools where they are heavily outnumbered by majority students will most likely be aware that many other minority students attend high-track schools in the local area. As ethnic background is of little consequence for educational placement, we expect the salience of group membership and power differentials to be reduced so that minority students can more freely form their identities and choose their friends. Thus, in such areas, high-track attendance should be much less associated with minority students' national identification, and national identification should also be more loosely coupled with cross-group friendships.

To empirically test our hypotheses, we first examine how high-track attendance is associated with identification as German among minority students. We then use social network analysis to study the relationship between such identification and friendships between minority and majority students. In both types of analyses, we adopt a contextual view as we expect these relationships to depend on the type of school and the strength of ethnic stratification across schools in the local area.

#### DATA AND MEASURES

Our approach requires the combination of different types of data. To capture local processes of boundary making, we need data on identification and social networks in the school context. In order to relate these processes to the wider institutional and local context, we need data on a large number of schools across the nation-state. We assembled these data for Germany by linking large-scale survey data on adolescent networks and identities in

<sup>10</sup> It is more difficult to foresee the formation of identities and friendships in the lower-track schools of ethnically stratified areas. Minority students who are overrepresented in these schools and sometimes even form the numerical majority will be well aware of their disadvantaged position, both individually and as a group. In response, they might turn to strategies of boundary making that have been described as "reactive ethnicity" (Portes and Rumbaut 2001, pp. 148, 187) or even "normative inversion" (Wimmer 2008, p. 988). However, such a dynamic is likely to depend heavily on other school-level characteristics, such as the extent to which minority students share the same ethnic background or relative group sizes. In turn, there are also less clear-cut incentives on the side of majority group students. Hence, compared with the situation faced by the few minority students in the high-track schools, processes of boundary making in the lower-track schools are more contextually contingent.

144 German schools with administrative data containing geocoded information on all secondary schools in Germany in the school year 2008–9.

#### Survey Data on Identification and Networks

We use the first wave of the Children of Immigrants Longitudinal Survey in Four European Countries (CILS4EU; Kalter et al. 2016). The data were collected in 2010/11 in Germany, the Netherlands, Sweden, and England, with a target population of ninth grade students, which means that most students were 14 years old at the time of the survey. The sampling strategy aimed at nationally representative samples of schools, where schools with high immigrant shares were oversampled (for details, see CILS4EU 2016). In our main analyses, we rely on data from the German sample, which is based on 5,013 interviews with students with or without an immigrant background, attending 271 school classes in 144 schools, as well as 3,914 interviews with their parents. In order to put the German case into a comparative perspective, we also use data from all four countries, consisting of 18,716 student interviews in 952 classes in 480 schools. Most importantly for our objectives, the CILS4EU data include information on students' self-identification and on complete social networks.

*Self-identification as German.*—Respondents in Germany were asked how strongly they feel German on a four-point scale (strongly, fairly, not so much, not at all). We use this measure to capture students' self-identification as a member of the native majority group. Under our theoretical perspective, feeling German is a crucial aspect of boundary crossing for minority students.

*Friendship networks.*—Our analysis of students' social networks is based on their self-reported best friends in the class. Note that in Germany's secondary schools, students in the same grade belong to one of several school classes that are composed of about 10–35 students. The students in the class are generally taught the same courses and remain together in the same class for the duration of their schooling until at least the ninth grade. Classes thus provide the most important unit of students' everyday school life by providing a context of particularly frequent exposure and ample opportunities for strong tie formation (Smith et al. 2016, p. 1227). On the basis of students' nominations of their five best friends in class, we derive the (directed) friendship network for each school class.

In our multilevel models of minority students' identification, we use a comprehensive set of control variables. First, we account for differences in inter-group contact by including the in-group share, the majority share, and the extent of ethnic diversity (inverse Herfindahl index) in the class. Second, we add a number of individual-level controls, including students' gender, ethnic origin (Turkish, Polish, former Soviet Union, former Yugoslav Republic,



other non-Western, other Western), and generational status. Regarding generational status, we differentiate between foreign-born students (first generation), native-born students whose parents were born abroad (second generation), and native-born children of intermarriages (i.e., one parent being foreign-born with the other parent being native-born and having two native-born parents her- or himself). To control for family socioeconomic status (SES), we include parents' highest International Socio-Economic Index score (HISEI) as a measure of parental occupational status (Ganzeboom, De Graaf, and Treiman 1992). Finally, we account for differences in students' abilities using scores attained in a language and in a cognitive test. Table A1 in appendix A presents the descriptive statistics of these variables.

#### Administrative Geocoded Data on Ethnic Stratification across Schools

Depending on where they live, students are confronted with different levels of ethnic stratification across schools. To derive a local measure of this ethnic stratification, we rely on countrywide, geocoded information on all secondary schools, taken from restricted-access, administrative school data. The data are provided by the statistical offices of all 16 German states. For all secondary schools in Germany, these data contain geographical location, track or type, and number of majority and minority students attending grades 7–9 in the school year 2008/9 (amounting to more than 1.2 million students in approximately 12,000 schools).

*School track.*—In comparative stratification research, Germany is considered the archetype of a stratified educational system (Allmendinger 1989; Schindler 2017). Around age 10, when leaving elementary school, students are channeled into different types of secondary schools. While students may choose any secondary school, irrespective of its location, admission is based on school performance in elementary school. Each type of school prepares its students for different job profiles and occupational trajectories. Traditionally, there are three school tracks: a lower, an intermediate, and an upper secondary school. The lower secondary school (*Hauptschule*) is the least demanding and concludes after the ninth grade. This lowest track provides basic general education and applied labor market skills and prepares students for training programs in blue-collar occupations. The intermediate secondary school (*Realschule*) concludes after the tenth grade, provides a more extensive general education, and prepares students for vocational training in skilled white-collar or service occupations. The upper secondary school (*Gymnasium*) prepares students for academic careers and grants the secondary school degree that allows for entry into higher education.<sup>11</sup>

<sup>11</sup> In addition to these three tracks, most federal states have introduced comprehensive schools, where all three degrees can be obtained within one institution. As these schools

Given Germany's knowledge-based economy and educational expansion, access to upper secondary schools has become increasingly critical. Although the German gymnasium has historically been a highly selective institution of "humanistic education," it has considerably opened up in recent decades, so that 27% of all students attended a gymnasium in the 1990s and early 2000s, compared to just 15% in the 1970s (Schneider and Tieben 2011, p. 151). Attending a gymnasium is a strong distinguishing attribute among adolescents in Germany: it is widely treated as a signal of greater intellectual ability and greater socioeconomic prospects, and it is common for each graduating cohort to take to the streets to publicly and noisily celebrate their achievement. While accounting for the tripartite nature of the educational system, our analysis focuses on this main dividing line: how attending the highest type of secondary school (i.e., high-track attendance) relates to minority students' identification and friendships.

*Local levels of ethnic stratification across schools.*—Variation in this contextual variable derives from several sources. First, education is the responsibility of federal states in Germany (e.g., Bavaria, Berlin, North Rhine-Westphalia, Saxony), so that policies that affect the odds of minority children attending the high-track schools are likely to vary across states (see Dollmann 2016). For example, although ethnic stratification is generally high in Germany, it is on average higher in the western parts of the country (Länderoffene Arbeitsgruppe 2013). A second source of variation is the ethnic composition of local areas, since immigrant-origin groups differ in their rates of high-track attendance (Kristen and Granato 2007). Third, in the case of excessive demand, schools can use different admission policies that might privilege or penalize majority or minority groups, including home-to-school distance and enrollment of older siblings in the school.<sup>12</sup>

Our analysis assumes that students will notice when minority students are underrepresented in the high-track schools (or overrepresented in the lower-track schools) in their local areas. Such awareness depends on contacts with peers from other schools, which usually takes place in students' neighborhoods, due to having attended the same local elementary school, or due to encounters in the streets, local clubs, and associations. Supporting evidence for considerable social contact across schools can be gained on the basis of an egocentric network module in the CILS4EU data: in Germany,

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are considerably less selective than the high-track schools (gymnasium), we group them together with the lower tracks. This is also supported by our data, as average cognitive test scores attained by their students resemble those of students from the intermediate school type.

<sup>12</sup> Additional analyses confirm these expected patterns: ethnic stratification varies strongly across federal states but also among areas within states, and this variation can be partially accounted for by the ethnic composition of these local areas (results available from the authors upon request).

about one-third of students' five best friends attends other schools (approx. 35%) and school types (approx. 33%).

To derive a measure of the local level of ethnic stratification across schools, we first identify all secondary schools within a given radius from a student's school. The resulting number of schools nearby depends on the chosen radius and local population densities. We opt for a radius of 5 kilometers (km; approx. 3.1 miles) to approximate the local surroundings on which students base their perceptions of ethnic stratification.<sup>13</sup> In a second step, we compute the association between majority group membership and track attendance in these areas. We distinguish among the three school tracks described above: lower, intermediate, and upper secondary schools. We use Cramer's *V* to capture the strength of association between majority status and track attendance.<sup>14</sup> This measure varies between 0.04 and 0.44 with a mean value of approximately 0.25.

## ANALYTIC STRATEGY

### Multilevel Models of Minority Students' Identification

Hypothesis 1 focuses on how the local extent of ethnic stratification moderates the association between high-track attendance and identification as German among minority students. In testing this hypothesis, we use multilevel models and restrict our analysis to students born in a foreign country or with at least one parent born abroad (2,340 students in 144 schools).

Theoretically, we assume that ethnic stratification across schools affects the brightness of boundaries but is largely exogenous to dynamics of ethnic boundary making that take place within particular schools. Whatever the sources of ethnic stratification in a local area, when majority students tend to numerically dominate high-track schools, attendance of such schools takes

<sup>13</sup> Given that the average home-to-school distance in the German CILS4EU sample equals approx. 2.5 km, we account for the maximum distance between schools of two neighboring peers (with average ways to school) by choosing a 5 km radius. In areas of greater population density, students will base their perception of local stratification on peers from a greater number of schools. The mean number of schools nearby is approx. 20 and varies between zero (three surveyed schools have no other school nearby within a range of 5 km) and 87. Both smaller and larger specifications (up to 15 km) yield substantively identical results (analyses available upon request).

<sup>14</sup> As a robustness check, we used log odds derived from area-specific ordinal logistic regressions. This alternative measure produced substantively identical results (analyses available upon request). However, in more than half of all areas, the data violate the parallel slopes assumption necessary to apply this ordinal measure (cf. Brant 1990). In comparison, using Cramer's *V* is unlikely to induce severe bias, as only four schools/areas (approx. 2.8%) exhibit noteworthy deviations from the expected pattern (i.e., the low track showing the lowest shares of majority students, the high track the highest shares, and the intermediate track ranging in between).

on a particular social meaning and becomes associated with increased pressures or greater readiness to identify as German. To evaluate this claim, it is important to control for common causes of ethnic stratification, high-track attendance, and boundary making.

First, different ethnic groups are unevenly distributed across areas, vary in their educational achievement, and face boundaries of different brightness because of their cultural characteristics.<sup>15</sup> To address this source of selection bias, we control for minority students' own ethnic origin as well as the ethnic composition of school classes. Second, different institutional features and policies across federal states could affect the extent of ethnic stratification and be indirectly linked with processes of boundary making in schools. As we are mainly interested in the impact of local contexts on minority students' identification, we reestimate all models including state-level fixed effects. These analyses control for state-level sources of unobserved heterogeneity and solely use the remaining variation across local contexts.

Another methodological concern is that minority students who make it into the high-track schools despite living in a highly ethnically stratified area are obviously a select group. These students could have a higher inclination to identify as German, irrespective of how bright a boundary they face. To reduce this problem, we control for an extensive set of individual-level background characteristics. In addition to minority students' gender, ethnic origin, generational status, and family SES, the CILS4EU data allow us to capture students' abilities based on their results in standardized language and cognitive tests. Moreover, we rerun the models using propensity score matching. This robustness analysis compares only students who had a very similar baseline probability of making it into a high-track school, although only some of them ended up attending this track. We thereby account more effectively for systematic differences in baseline characteristics and reduce possible confounding effects.

Another potential source of unobserved heterogeneity are students' families. Minority students who make it to the high-track schools in areas where these institutions are dominated by the majority group might stem from families that are strongly oriented toward assimilation. To some extent this might reflect our context effect of interest: if parents already sense a certain social climate in the local area, their quest for belonging and upward mobility might lead them to instill a greater inclination to identify as German in their children before the latter even enter these secondary schools. However, it is also possible that immigrant families with a stronger orientation toward

<sup>15</sup> In additional analyses, we regressed the extent of ethnic stratification in the local area on a set of student characteristics. Results indicate that ethnic groups indeed show different patterns, but the largest share of these ethnic differences is located on the level of federal states: all group differences turn statistically insignificant once we introduce state-level fixed effects (results available upon request).

assimilation self-select into these areas. To address this concern, we reran all models while replacing students' identification as German with that of their parents as a placebo outcome. To the extent that bright boundaries in the high-track schools of particular local areas affect minority students' identification as German, their parents' identification should not vary in similar ways across contexts.

Although these analytic steps are designed to enhance confidence in a causal interpretation of our results, they do not establish causality. We therefore interpret our results cautiously and use data on social networks to test additional specific implications of our theoretical arguments.

### Exponential Random Graph Models of Friendship Networks

Our second and third hypotheses assume a particular interplay of identification and peer relations in the high-track schools in ethnically stratified school systems. Figure 1 illustrates the kind of data on which this part of our analysis is based. It depicts all friendship nominations (arrows) in a class that consists of four female students (squares) and 12 male students (circles). One of the girls and five of the boys in the class have a migration background, as indicated by gray-shaded nodes. The network exhibits the well-known tendency of sex homophily: all girls in the class cluster in the top right corner of the graph. There is also some clustering with regard to minority status.

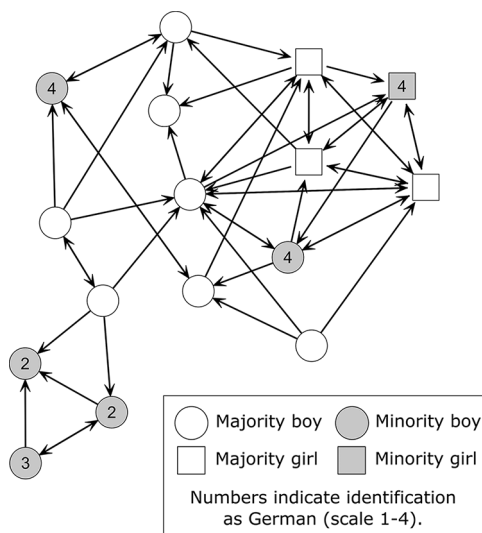


FIG. 1.—Example of a friendship network in a school class in the CILS4EU data

Three of the six minority students form a separate triadic cluster at the bottom of the graph, while the other three have several friendships with majority students and are well integrated into the larger component of the network.

Our analyses focus on the extent to which minority students' identification as German corresponds with their own friendship nominations (see hypothesis 2) as well as the nominations they receive from their majority peers (see hypothesis 3). In figure 1, such an association is clearly visible (without yet controlling for potential confounders): the three minority students who remain largely separate from their majority peers report only moderate levels of identification as German. Conversely, those minority students who maintain more friendships with their majority group peers also identify strongly as German.

According to our theoretical expectations, the association of identification and the tendencies to form cross-group friendships should be particularly strong in the high-track schools of ethnically stratified areas. We therefore follow a two-step procedure (similar to McFarland et al. 2014; Smith et al. 2016). In the first step, we estimate exponential random graph models (ERGM) to identify the determinants of tie formation in each network. ERGMs allow us to estimate our effects of interest while accounting for other drivers of tie formation, such as differences in meeting opportunities, sex and ethnic homophily, or the balancing mechanisms of reciprocity and transitive closure (Wasserman and Pattison 1996; Robins et al. 2007). In line with previous work (e.g., Dijkstra, Berger, and Lindenberg 2011; Kruse et al. 2016), we run school-wise analyses that combine the friendship networks of all classes from the same school.<sup>16</sup> Each ERGM yields an estimate of minority or majority students' tendency to form intergroup friendships in a given school—and to what extent these tendencies depend on minority students' identification as German (see app. B for details on the model setups).<sup>17</sup>

In the second step, we examine variability in the coefficients across areas and tracks, asking whether minority students' identification is more relevant in the high-track schools of ethnically stratified areas. By combining ERGM estimates in a multivariate random effects meta-analysis (An 2015), we are able to test whether strategies of ethnic boundary crossing and policing are more prevalent in some schools and areas than in others.

<sup>16</sup> This is done in order to guarantee sufficient within-network variation and is technically implemented by defining all ties across school classes as nonexistent by design. Compared to real grade-level networks that include between-class friendship nominations, analyses of combined within-class networks yield rather conservative estimates of ethnic homophily (see Leszczensky and Pink 2015).

<sup>17</sup> Because of the high data requirements of network models, we have to restrict our analysis sample to 82 or 84 schools with 148 or 150 school class networks, depending on model setup. We provide details on the analysis sample and the model setups in app. B.

## RESULTS

### The German Case in Context

Before we test our hypotheses on ethnic boundary making in local contexts in Germany, it is useful to put this case into context. To this end, we compare the stratification across schools in Germany to that in the three other countries included in the CILS4EU study: England, the Netherlands, and Sweden. Whereas Germany and the Netherlands have a formally differentiated system of secondary schooling, England and Sweden are predominantly comprehensive systems up to age 16 (Jonsson 2018, p. 55).

As figure 2 shows, however, we find strikingly similar differences in performance levels among schools in the four countries. By comparing the (weighted) standard deviation across countries, we see that between-school differences in students' average cognitive test scores do not significantly differ between the comprehensive and the formally differentiated school systems.<sup>18</sup> Hence, how majority and minority students are locally distributed across schools of different quality and prestige might be relevant also in other countries, including those with formally open educational systems (Alba and Holdaway 2013, p. 268).

Still, Germany is particularly well suited to examine local levels of ethnic stratification across schools because between-school differences are institutionalized and socially recognized in the form of different types of secondary schools. As evident in figure 2, these types correspond to real differences in ability levels: 96% of the high-track schools in the German sample are in the top quintile of the test score distribution (in the Netherlands, this is even true of all high-track schools).

In what follows, we present three sets of analyses. First, we inspect how minority students' identification as German varies across school tracks and areas. Second, we conduct a meta-analysis across a large number of student networks to examine in which contexts such identification tends to be associated with cross-group friendships. Finally, we identify scope conditions for the working of these local mechanisms of ethnic boundary making that are relevant for the transferability to other countries.

### Track Attendance and Minority Students' Identification across Areas

In Germany, minority students on average identify "not so much" or "fairly" as German (i.e., 2.5 on a scale from 1 to 4). This identification is stronger for the educationally more successful minority students: those who attend high-track

<sup>18</sup> Pairwise comparisons likewise do not yield patterns that align with the dichotomy of formally stratified and open school systems. While between-school differences in Germany are significantly larger than those in England and in the Netherlands, all other pairwise comparisons yield statistically insignificant differences.



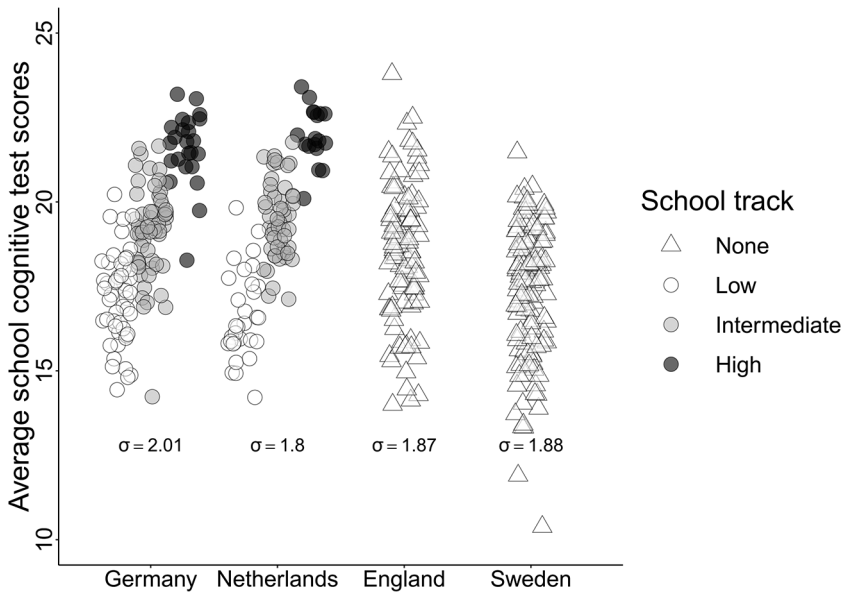


FIG. 2.—Between-school differences in students' average cognitive test scores in four European countries.

schools show a mean value of 2.8, whereas those in the lower-track schools show a mean identification of 2.47 ( $P < .0001$ ). On the basis of our theoretical reasoning, we expect this average to hide important contextual variation, as the implications of high-track attendance should shift across areas, depending on the level of ethnic stratification across schools.

Figure 3 depicts how the association between track attendance and identification as German varies across areas. The striking pattern in the figure indicates that the stronger identification as German among high-track minority students emerges only in areas with greater levels of ethnic stratification across schools. Where ethnic stratification across schools is weak, minority students report only a moderate identification as German, irrespective of the track they attend. The stronger ethnic stratification across schools, the stronger the track difference in identification becomes (as indicated by the diverging scatterplot smoothing curves in fig. 3). In strongly stratified areas, those minority students who make it into the high-track schools identify strongly as German. This finding is in line with hypothesis 1. To provide a more rigorous test, we turn to multivariate models that control for important sets of potential confounders.

Table 1 presents estimates of the effect of high-track attendance on identification as German in areas with weak or strong ethnic stratification across schools (i.e., values ranging up to vs. values above the population mean of

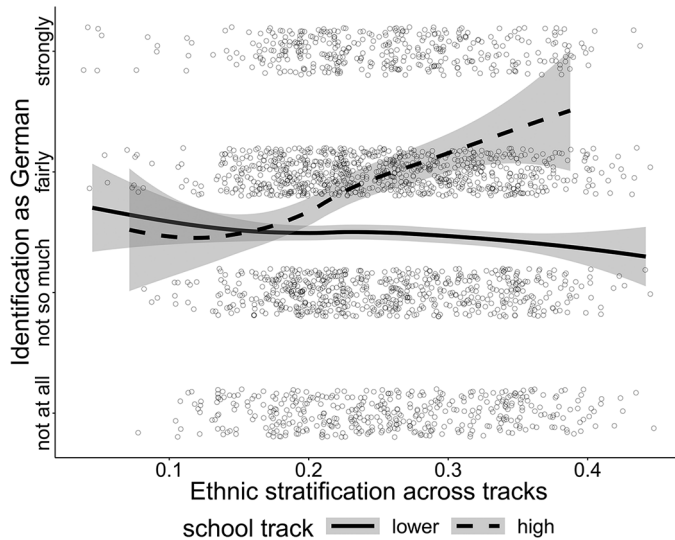


FIG. 3.—Minority students' identification as German across school tracks for different local levels of ethnic stratification. Lines depict bivariate, locally weighted scatterplot smoothing regressions (i.e., Lowess curves).

approx. 0.25).<sup>19</sup> The upper part of table 1 presents estimates from a series of multilevel models, with students nested in school classes, that account for three potential sources of confounding. We first control for the ethnic composition in the class to account for varying opportunities for intergroup contact (in terms of the share of one's ethnic in-group, the majority share, and the extent of ethnic diversity). We then add individual-level background characteristics that include minority students' ethnic origin, generational status, gender, family SES, and language and cognitive test scores (see app. table A2 for full model results). Finally, we introduce state-specific fixed effects to remove unobserved heterogeneity across federal states.

Once we factor in these potential confounders, differences in identification across school tracks decrease substantially. Where ethnic stratification across schools is weak, the difference between tracks approaches zero and ceases to be statistically significant. In areas with strong ethnic stratification across schools, the difference decreases also but remains statistically significant and substantial in size: minority students who attend a high-track school are estimated to report an identification as German that is 0.3–0.4 points stronger

<sup>19</sup> We opted for a binary measure for better accessibility and to be consistent throughout all subsequent steps of the analysis. Splitting the sample on the basis of alternative cutoff points around the population mean provides very similar results. The same holds for alternative model specifications that apply a continuous measure of ethnic stratification across tracks (analyses available upon request).

TABLE 1  
EFFECT OF HIGH-TRACK ATTENDANCE ON IDENTIFICATION  
AS GERMAN AMONG MINORITY STUDENTS

	AREA WITH WEAK ETHNIC STRATIFICATION		AREA WITH STRONG ETHNIC STRATIFICATION	
	Coef.	SE	Coef.	SE
Multilevel models:				
Gross association . . . . .	.205**	.092	.703***	.123
Net of school class composition . . . . .	.130	.087	.451***	.126
Net of school class composition + individual level controls . . . . .	-.008	.085	.332***	.121
Net of school class composition + individual level controls + state fixed effects . . . . .	.031	.089	.362***	.121
Propensity score matching:				
Net of school class composition (ATE) . . . . .	-.029	.083	.343**	.167
Multilevel models of parents' identification:				
Net of school class composition + individual level controls + state fixed effects . . . . .	.035	.108	-.129	.142

NOTE.—Complete model results in tables A2 and A3 in app. A. Differences between areas are statistically significant (at least  $P < .05$ ) except for the placebo regression of parents' identification ( $P = .338$ ). Significance tests for the propensity models use a  $Z$ -test, as outlined in Clogg, Petkova, and Haritou (1995; see also Paternoster et al. 1998).

\*  $P < .10$ .

\*\*  $P < .05$ .

\*\*\*  $P < .01$  (two-tailed tests).

(on a scale of 1 to 4) than the identification in lower-track schools. This remaining difference is substantial and even surpasses that of generational status: in line with previous research on Germany (Diehl and Schnell 2006; Heath et al. 2018), the second generation is estimated to identify more strongly as German than the first generation by approximately 0.25 points (see app. table A2).

The middle part of table 1 presents estimates based on propensity score matching. These models not only account for differences between treatment group (i.e., high-track students) and control group (i.e., lower-track students) but also restrict causal inference to a region of common support (see Morgan and Winship 2007). The results further corroborate our finding: the gross average treatment effect (ATE) of high-track attendance is close to zero in areas with weak ethnic stratification across schools, while it is more than 0.3 in areas with strong ethnic stratification across schools.<sup>20</sup>

<sup>20</sup> The logistic matching models regress respondents' selection into the treatment (i.e., high-track attendance) on a set of individual determinants of school choice (i.e., ethnic origin, generational status, sex, SES, language and cognitive test scores). This is done separately for areas with weak and strong ethnic stratification. These models are presented in table A3 in app. A. They are based on nearest neighbor caliper matching with replacement, using three nearest neighbors per treatment case and a caliper value of 0.1. Alternative numbers of neighbors and caliper values and other matching algorithms provide very similar results (analyses available upon request).

Finally, we address another potential source of unobserved heterogeneity. Minority students who make it to the high-track schools in areas where these institutions are dominated by the majority group might stem from families that are strongly oriented toward assimilation. This could bias our results if immigrant families with a stronger orientation toward assimilation self-select into these areas. To address this concern, we reran all models while replacing students' identification as German with that of their parents as a placebo outcome. Much like their children, the parents of minority students identify "not so much" or "fairly" as German on average (i.e., 2.45 on a scale from 1 to 4), with parents of lower-track schoolchildren identifying less strongly than those of high-track schoolchildren (i.e., 2.42 vs. 2.61,  $P = .0056$ ). As shown in table 1, however, this difference does not vary between areas with strong or weak ethnic stratification across schools. Hence, as expected, our effects of interest do not hold for the placebo outcome of parents' identification as German.

#### Meta-analysis of Exponential Random Graph Models of Friendship Networks

The results reported above indicate that where ethnic stratification across schools is strong, minority students who make it into the high-track schools are more likely to identify strongly as German. To the extent that processes of ethnic boundary making are at work in these contexts, such identification should also be relevant for the formation or maintenance of friendship ties. We present results for two specifications of ERGMs (see app. B). To capture boundary crossing, model 1 asks whether the presence of ties from minority students to majority members depends on the former's identification as German. Model 2 examines whether the presence of ties from majority members to minority students depends on the latter's identification as German—which would be indicative of boundary policing. Before we address the question of whether such processes become particularly relevant in the high-track schools of ethnically stratified contexts, we describe results for the pooled sample of all schools.

Table 2 reports the results of a meta-analysis across all school-specific ERGMs. Both models fit the data well.<sup>21</sup> In line with well-known tendencies

<sup>21</sup> To examine goodness of fit (GOF) for each model specification, we simulated 500 networks per school on the basis of the school-specific estimates. Using statnet's built-in GOF command for ERGMs (Goodreau et al. 2008), we compared simulated with observed network statistics concerning edgewise-shared partners, outdegrees, and geodesic distances. Following Robins, Pattison, and Wang (2009), we interpret GOF *t*-ratios below 2 (in absolute value) to indicate that the observed feature is not unusual in the estimated graph distribution. A total of 89% of all GOF ratios derived on the basis of model 1 and model 2 meet this criterion, the mean GOF ratio across all schools being as low as 0.75 (model 2: 0.74). Hence, with this criterion and array of network statistics, both model specifications show a remarkably good fit.

TABLE 2  
RESULTS OF ERGM META-ANALYSIS OF FRIENDSHIP NETWORKS (All Schools Pooled)

	Coef.	SE
Model 1:		
Edges . . . . .	−3.516***	.137
Mutual . . . . .	2.408***	.038
GWESP. . . . .	.993***	.015
Same sex . . . . .	.637***	.018
Same ethnic origin . . . . .	.170***	.022
Minority ego . . . . .	.054	.108
Majority alt. . . . .	−.294**	.118
Feel German ego. . . . .	−.024	.037
Minority ego × majority alt. . . . .	−.393***	.129
Feel German ego × minority ego . . . . .	−.028	.044
Feel German ego × majority alt . . . . .	.094**	.044
Feel German ego × minority ego × majority alt . . . . .	.132**	.054
<i>N</i> (classes) . . . . .	148	
<i>N</i> (schools) . . . . .	82	
Model 2:		
Edges . . . . .	−3.468***	.117
Mutual . . . . .	2.390***	.038
GWESP. . . . .	.992***	.015
Same sex . . . . .	.636***	.018
Same ethnic origin . . . . .	.171***	.022
Majority ego . . . . .	−.227*	.119
Minority alt. . . . .	.143	.089
Feel German alt . . . . .	−.108***	.031
Majority ego × minority alt . . . . .	−.136	.127
Feel German alt × majority ego. . . . .	.176***	.043
Feel German alt × minority alt . . . . .	.037	.036
Majority ego × feel German alt × minority alt . . . . .	.026	.052
<i>N</i> (classes) . . . . .	150	
<i>N</i> (schools) . . . . .	84	

NOTE.—ERGM results combined via multivariate random effects meta-analysis (cf. An 2015).

\*  $P < .10$ .

\*\*  $P < .05$ .

\*\*\*  $P < .01$  (two-tailed tests).

of tie formation, models 1 and 2 show that friendship nominations tend to be reciprocated (Mutual), tend to cluster in triadic structures (geometrically weighted edgewise shared partners [GWESP]), and are more likely among peers of the same sex and same ethnic origin. In addition, each model includes a three-way interaction that captures to what extent the tendencies to form or maintain cross-group friendships vary with minority students' identification as German.

Conditional on the rest of the network, we ask how the probability of a friendship tie depends on whether the tie links a minority and a majority student and how this effect in turn depends on minority students' identification as German. As derived in appendix B, the linear combination of interest

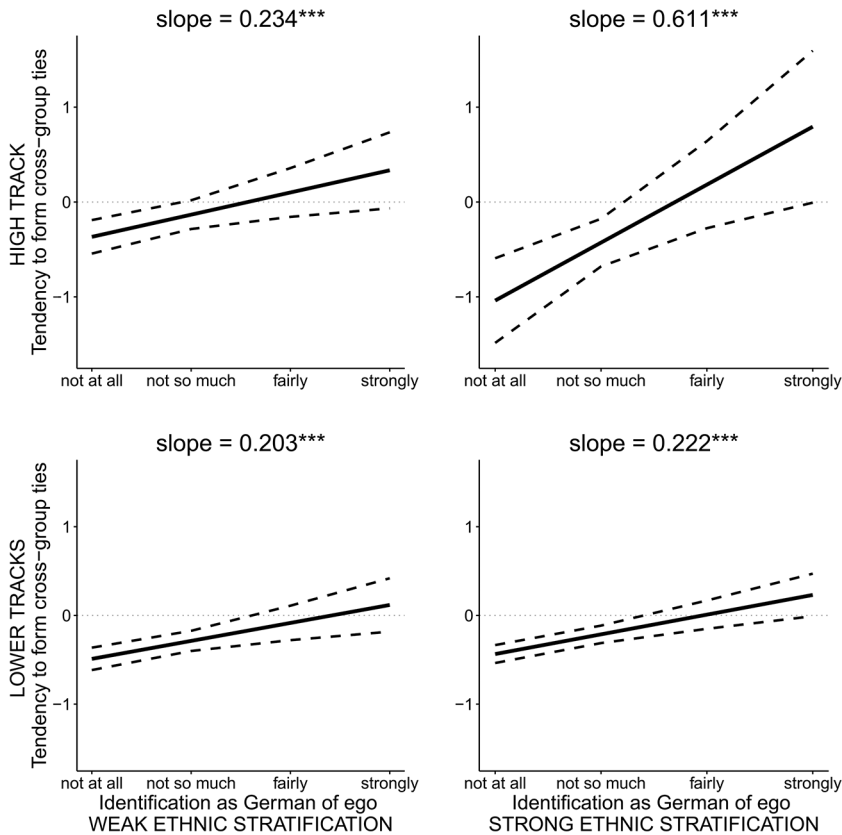


FIG. 4.—Minority students' tendency to form cross-group ties conditional on their identification as German. Estimates from ERGM meta-analyses by school type and area; complete results in table A4 in appendix A. \* $P < .10$ , \*\* $P < .05$ , \*\*\* $P < .01$  (two-tailed tests).

for model 1 indicates whether minority students with strong identification as German are more likely to befriend majority students. Evaluated across all school-specific ERGMs, this tendency seems to exist: the linear combination of the two relevant estimates is positive, and its combined standard error is small ( $\hat{\theta}_{\text{Feel German Ego} \times \text{Majority Alt}} + \hat{\theta}_{\text{Feel German Ego} \times \text{Minority Ego} \times \text{Majority Alt}} = .094 + .132 = .226$ ;  $\text{SE} = .032$ ,  $P < .0001$ ). In model 2, the linear combination of interest indicates whether majority students accept minority students as friends to the extent that the latter identify as German. In table 2, we observe only weak evidence of this tendency ( $\hat{\theta}_{\text{Feel German Alt} \times \text{Minority Alt}} + \hat{\theta}_{\text{Majority Ego} \times \text{Feel German Alt} \times \text{Minority Alt}} = .037 + .026 = .063$ ;  $\text{SE} = .035$ ,  $P = .072$ ). Again, our theoretical reasoning leads us to expect that these averages hide important contextual variation.

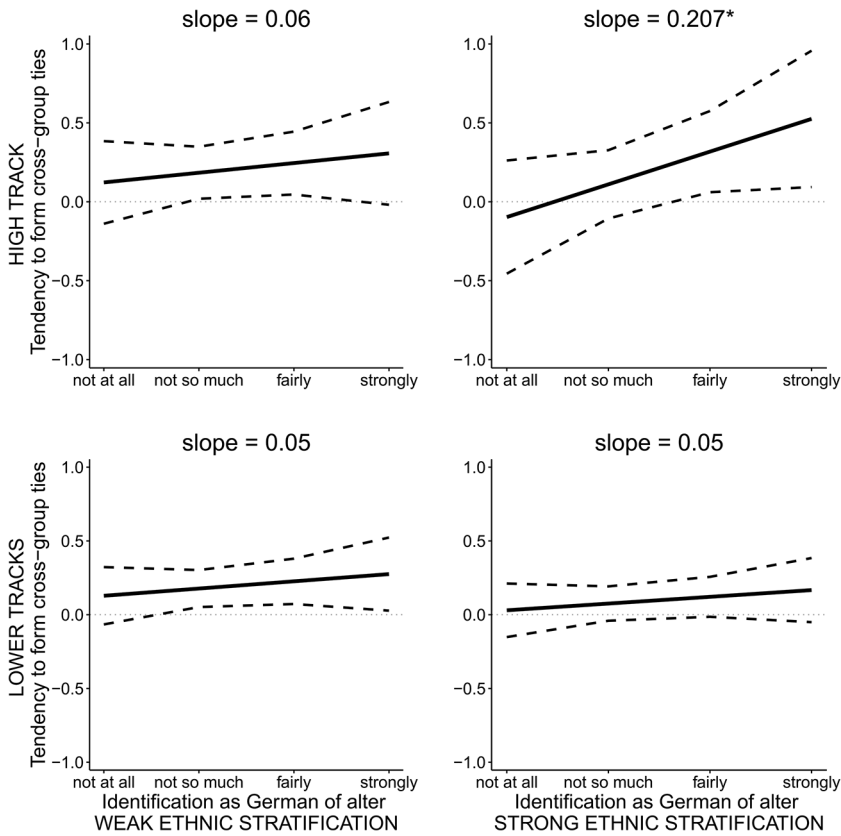


FIG. 5.—Majority students' tendency to form cross-group ties conditional on their minority peers' identification as German. Estimates from ERGM meta-analyses by school type and area; complete results in table A4 in appendix A. \* $P < .10$ , \*\* $P < .05$ , \*\*\* $P < .01$  (two-tailed tests).

To test our second and third hypotheses, we split the pooled sample by school type (high- vs. lower-track schools) and area (strong vs. weak ethnic stratification across schools) and conduct the meta-analysis across school networks in each of the four contexts. Doing so allows us to examine whether the significance of minority students' identification as German for cross-group friendships varies across contexts. For better accessibility, we present the main results graphically (for full model results, see app. table A4). On the basis of model 1, figure 4 shows that minority students who strongly identify as German are more likely to maintain friendships with majority students in all contexts. However, the association between minority students' identification and their cross-group friendships is clearly strongest in the high-track schools located in areas with strong ethnic stratification across



schools. In these settings, the estimated slope is almost three times as steep as in the other three combinations of school type and area. This finding confirms hypothesis 2 and suggests that high-track schools in ethnically stratified areas are particularly conducive to boundary crossing.

Turning to hypothesis 3, we trace contextual variation in the degree to which majority students tie their acceptance of minority students as friends to the latter's identification as German (model 2). Figure 5 shows a striking difference across contexts: minority students' identification as German and the tendency of majority students to nominate them as friends are significantly associated only in the high-track schools of ethnically stratified areas. In all other contexts, this association is statistically insignificant and close to zero. Again, this finding supports our theoretical expectations and suggests that majority students tend to engage in boundary policing in the high-track schools of ethnically stratified areas.

#### Scope Conditions for Local Mechanisms of Boundary Crossing

To approach the question of how our results might transfer to other countries, we identify scope conditions of the local mechanisms of boundary making. To this end, we return to our first hypothesis that minority students who attend high-track schools in ethnically stratified areas are more likely to identify as German and ask under which conditions this phenomenon might be absent.<sup>22</sup>

First, as pointed out repeatedly in previous scholarship, the permeability of boundaries varies across racial and ethnic groups. In Western Europe, Islam has become a highly contentious issue, and Muslim minorities face specific stereotypes and othering discourses (Helbling 2012). For them, identifying and passing as German might be particularly difficult (Fleischmann and Phalet 2018).<sup>23</sup> To test for such differential permeability, we evaluate hypothesis 1 separately for two subgroups: minority students with Christian or no religious denomination and minority students with a Muslim denomination. On average, the Muslim subgroup is less inclined to identify as German than students with Christian or no religious denomination (2.3 vs. 2.7,

<sup>22</sup> It was not possible to test the relevance of these scope conditions for the other two hypotheses. As the network models already estimate three-way interactions and are based on relatively small networks, there was not enough statistical power to additionally differentiate by religious denomination. Moreover, there was too little between-school variation in social contacts to peers from other schools to subdivide the network analysis in the different areas and tracks.

<sup>23</sup> As the feasibility of boundary crossing depends largely on social categorization by the majority group (Jenkins 2008, p. 23), the inclination to strongly identify as German among adolescents should be largely independent of their level of religiosity (Maxwell and Bleich 2014). Recognizing this power of social categorization processes does not imply an assumption that Muslims constitute "a homogeneous and solidary group" (Brubaker 2013, p. 6).

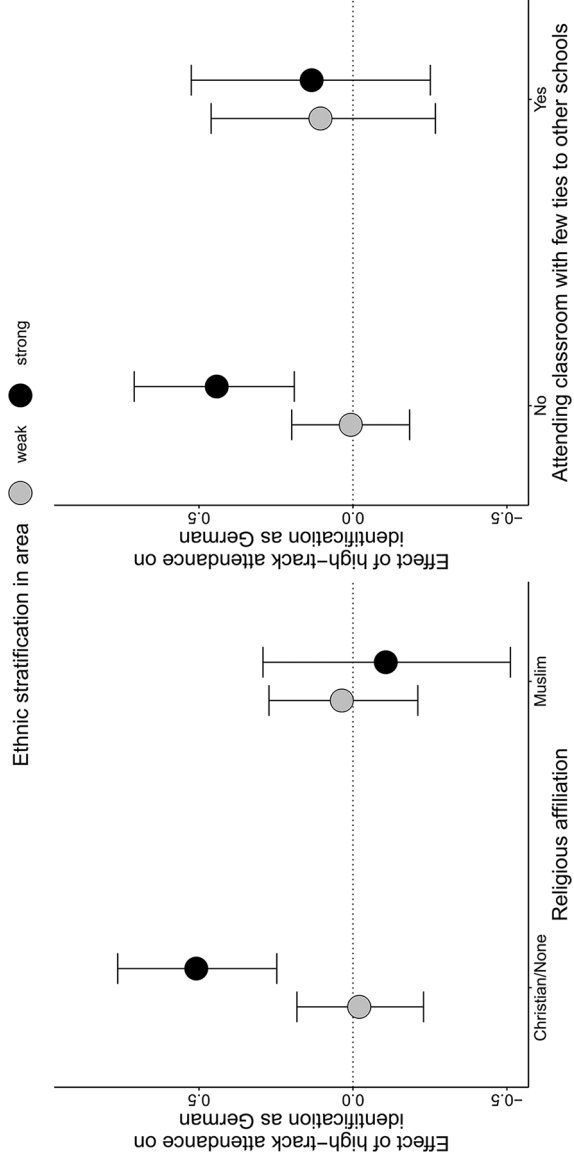


FIG. 6.— Effect heterogeneity among minority students across different religious affiliations (*left*) and school classes with different frequencies of ties to other schools (*right*). Results are based on the most restrictive model setup including individual- and class-level controls and state fixed effects.

$P < .0001$ ). Recall that we found high-track attendance to be strongly associated with an identification as German only in areas with strong ethnic stratification across schools. As is evident from the left-hand part of figure 6, this is not the case for minority students of Muslim denomination. Even when their extraordinary educational placement makes them stand out from their local coethnic peers, these students seem to have difficulties in crossing the boundary and passing as German. The result identifies an important scope condition for the mechanisms under study and suggests that the larger political context conditions local processes of ethnic boundary making.

A second scope condition follows from our assumption that minority students sense the extent to which they are underrepresented in high-track schools in their local areas and overrepresented in the lower-track schools. We argued that such awareness depends on contacts with peers from other schools, which usually takes place in students' neighborhoods, due to having attended the same local elementary school or due to encounters in the streets, local clubs, and associations. This assumption can be indirectly evaluated on the basis of the CILS4EU data since they also include an ego-centric network module that asks respondents about their five best friends. As noted above, in Germany, about one-third of students' five best friends attend other schools (approx. 35%) and school types (approx. 33%). This is evidence for considerable peer contact across schools. At the same time, there are school classes where minority students have only few friendship ties to other schools. On the basis of our theoretical account, boundaries should be less bright and boundary crossing less frequent in such classes.

The right-hand part of figure 6 shows that the strong coupling of high-track attendance and identification in ethnically stratified areas exists only in classes where minority students have substantial ties to peers from other schools. The relationship is absent in classes where minority students have only few friends at other schools (i.e., classes below the first tercile, with less than approx. 25% of all reported friends attending other schools). Considerable social contact with peers from other schools thus seems to be a scope condition for the local mechanisms of boundary crossing. These findings not only lend further credibility to our theoretical account but also prepare the ground for discussing its relevance beyond the German case.

## DISCUSSION AND CONCLUSION

It is widely recognized that the success of integration in ethnically diverse societies depends to a great extent on the performance of educational systems (Alba et al. 2011). However, beyond their envisaged roles as meritocratic sorting machines and transmitters of academic knowledge and skills,

schools profoundly shape social identities and affiliations in adolescence. While a wealth of qualitative studies have documented how minority students negotiate their identities in particular school contexts (e.g., Smith and Moore 2000; Carter 2003, 2005; Horvat and Lewis 2003; Tyson et al. 2005), there have been few attempts to investigate the contextual dependence of peer relations and identities in more wide-scale studies (Warikoo and Carter 2009, p. 385). We approached this task by focusing on the case of Germany's secondary school system that allowed us to combine survey data on identification and networks with large-scale geocoded data on local stratification across schools.

Our results show that ethnic boundary making in school settings varies with the local extent of ethnic stratification across schools. In areas with strong ethnic stratification, educational placement is strongly associated with identification and friendship formation: in the high-track schools, minority students show a much greater willingness to identify as German, and these feelings are more relevant for their friendships with majority students. In turn, majority students also tie their acceptance of minority students to the latter's identification with the majority group. This coupling of educational advancement and boundary crossing is reminiscent of Gordon's (1964) canonical concept of assimilation. Rather than describing a universal principle of immigrant incorporation, this regime seems to rest on a system of ethnic stratification in which most minority students are relegated to the lower tiers of the school system.

Quite different from such Gordonian worlds are areas where ethnic stratification across schools is weak. Here, minority students are also well represented in the more prestigious schools. Interestingly, though, this success is not accompanied by a stronger identification as German. Moreover, where minority status is of little consequence for educational placement, identification as German is also less relevant for cross-group friendships. This situation resembles Alba and Nee's (2003) view of assimilation as "a decline in the social salience and consequences of categorical membership" (Alba 2008, p. 39; see also Alba and Nee 2003, p. 11). In the long run, the reduced salience of ethnic origin and the more evenly distributed socioeconomic prospects could pave the way for an expansion of the mainstream to include minority groups, at least across generations.

## Contributions

Our study makes five contributions. First, these findings provide more robust evidence for the claim that the belonging of minority youth depends on institutional arrangements and local integration contexts (Crul and Schneider 2010; Crul and Mollenkopf 2012). This supports the view that understanding

the diversity of immigrant adaptation requires going beyond individual-level characteristics and focusing on different contexts of reception (Portes, Aparicio, and Haller 2018).

A second contribution emerges from our inquiry into the scope conditions of these local mechanisms of boundary making. For Muslim minority students, we found no heightened inclination to identify as German—even in local contexts that are particularly conducive to crossing the native-immigrant boundary. On the basis of previous research, we interpret this finding as indicative of the specific stereotypes and othering discourses confronting Muslims in Western Europe. Hence, our study highlights the multilevel character of ethnic boundary making (Jenkins 2008; Wimmer 2008): adolescents' boundary work is not only shaped locally but also constrained by wider discourse in society.

Third, our study provides one of the first stringent tests of the notion that bright boundaries make strategies of boundary crossing and policing more likely (Nee and Alba 2013). We used the extent of ethnic stratification across schools as a source of local variation in the brightness of boundaries that is largely exogenous to dynamics of ethnic boundary making within particular schools. We find evidence for boundary crossing and policing in the high-track schools of local areas where these institutions are numerically dominated by the majority group. Still, identification as German seems less feasible for Muslim minority students, and the stronger association between identification and friendships in these contexts likewise implies that some minority students do not identify as German and tend to remain among themselves. These findings support Alba and Nee's claim that "a bright boundary favors individualistic, abrupt assimilation undertaken *by a selective subgroup*" (Nee and Alba 2013, p. 368; emphasis added). Taken together, our confirmation of specific implications lends considerable credibility to the theoretical arguments on how bright boundaries shape ethnic boundary making.

Fourth, our findings carry important implications for the network-analytic study of ethnic boundary making in school settings. Social scientists have amassed considerable evidence that the ethnic composition of a school's student body affects intergroup contact and friendships. However, previous work has largely neglected the role of the institutional and local contexts in which schools are embedded. By relating the significance of minority students' identification for cross-group ties to the extent of ethnic stratification across schools, we contribute to a contextual understanding of social networks (see Entwisle et al. 2007; Adams et al. 2012; McFarland et al. 2014).

Finally, our analysis points to a fertile middle ground between large-scale studies on ethnic stratification in education and detailed studies of identities and networks in particular schools. Previous quantitative studies on host country identification have treated education largely as a control variable or examined its influence on the individual level. While some studies have

confirmed the claim of assimilation theory that educational success should go hand in hand with increased identification (Verkuyten and Yildiz 2007; Martinovic and Verkuyten 2012), others have pointed to an “integration paradox,” where the more highly educated sometimes perceive more discrimination and respond with lower host country identification (de Vroome, Martinovic, and Verkuyten 2014). Again, our analyses caution against expecting the relationship between educational attainment and identification to be context invariant. Our findings suggest that—for many minority students—the social meaning of educational attainment and its impact on identification will depend on the place that particular students occupy relative to their coethnic peers in the wider system of stratification.

### Limitations and Future Directions

Although we derived specific implications and engaged in extensive robustness testing, our analysis does not uniquely identify the causal processes that underlie our results. Ideally, future studies would measure students’ existing identification before they enter secondary school. Lacking such a pre-treatment measure, we took care to account for major sources of selection bias that make particular minority students attend high-track schools in ethnically stratified areas. The CILS4EU data allowed us to control for an extensive set of individual background characteristics, including cognitive and language test scores, as well as indicators of the composition of school classes and state-level fixed effects. In addition, we addressed the concern that immigrant parents with a stronger orientation toward assimilation might self-select into these areas and have their children attend high-track schools. With the information from the parental survey, we replaced students’ identification as German with that of their parents as a placebo outcome. As expected, it is only among minority students themselves that high-track attendance becomes strongly associated with identification as German in ethnically stratified areas.

We hope that future research will follow our strategy of combining survey data on identification and social networks in schools with large-scale data on the wider institutional and local contexts. In particular, it would be exciting to learn how ethnic stratification in the educational system contributes to local processes of ethnic boundary making in other countries. Although a country comparison is outside the scope of this article, our analyses already yield three findings that can inform studies in other countries. First, with comparable data, we could show that between-school differences in average cognitive test scores are as pronounced in the formally open educational systems of England and Sweden as in Germany and the Netherlands. This supports Alba and Holdaway’s (2013, p. 268) claim that “tracking still takes place even within very open educational systems.” Hence, our findings could also motivate similar analyses in the United States, where the decentralized system of locally

funded schools likewise leads to great disparities between schools (Alba and Foner 2015, pp. 171–76).

Second, the mechanisms identified require that minority students are aware of the composition of other, geographically proximate schools. We argued that such awareness depends on contacts with peers from other schools. In support of this assertion, we found high-track attendance and identification to go hand in hand in areas with strong ethnic stratification only in classes where minority students have substantial ties to peers from other schools. Again, with the comparative CILS4EU data, one can show that this scope condition is only slightly less prevalent in the formally open educational systems of England and Sweden, where 50% of all minority students attend such classes, compared to about two-thirds in Germany and the Netherlands. Still, future studies in other countries should devote attention to the extent to which the student bodies from different schools in a local area are segregated or linked.

Third, we found that Muslim students are less inclined to identify as German even in local contexts that are particularly conducive for crossing the native-immigrant boundary. Previous research suggests that Muslims face a very similar situation across continental Europe (Savelkoul et al. 2012; Fleischmann and Phalet 2018) as they struggle to “develop a sense of belonging and being comfortable about being not only ‘Muslims in Europe’ but ‘European Muslims’” (Zolberg and Woon 1999, p. 18). Outside of Western Europe, our analytic strategy could help identify which groups face similarly impermeable boundaries. As noted by Alba (2005, p. 42), “Boundary concepts, such as bright vs. blurred boundaries, provide a productive basis for comparisons. These concepts subsume features like race that have proved their explanatory power in the U.S. and enable them to be matched with their equivalents (or near equivalents) elsewhere.” For example, our study could motivate a more rigorous approach to Zolberg and Woon’s (1999) famous title-giving question that asks in what sense Islam in Europe is like Spanish in the United States. Such work can build on previous attempts to study how minority students negotiate their identities in elite institutions in which they are underrepresented, such as Hispanics in Ivy League universities (Ethier and Deaux 1990, 1994; Deaux and Ethier 1998). We encourage scholars to extend this line of work and study processes of local boundary making in diverse samples of schools that allow for a bird’s-eye view of stratified educational landscapes.

Examining mechanisms of boundary crossing in other countries requires thinking carefully about the nature and markers of mainstream identities—as the underlying social-category schemes are specific to different societies (Alba and Foner 2015, p. 199). In contrast to the “thick” definitions of national belonging in continental Europe, it is considerably easier for immigrant minorities in the United States to “feel American.” At the same time, this is often associated with a heightened sense of nonwhiteness or a pan-minority



identity as adolescents find their place in America's racialized social system (Zhou and Lee 2004, p. 14). In particular, minority students in schools that are dominated by the white native majority often do not belong in the same taken-for-granted manner and may feel compelled to assimilate culturally and socially to the dominant ethnic group (Carter 2005). Hence, capturing such phenomena requires different measures than probing the extent to which minority youth "feel American."

Finally, future research should explore the long-term consequences of being exposed to particular school settings. Boundary crossing is a process that will often take several phases in one's life to be completed (Feliciano 2009; Syed and Azmitia 2009). On the basis of self-reported identities in early adulthood, one could assess whether the contextual effects on identification and friendships vanish once adolescents leave these school settings, or whether they prepare the ground for a full change of group membership once minority youth leave the parental home and continue on their route of educational and occupational advancement in mainstream society.

## APPENDIX A

TABLE A1  
SUMMARY STATISTICS ACROSS ALL VARIABLES USED IN THE MULTILEVEL MODELS

	Mean	SD	Min	Max	Missing (%)
Feel German . . . . .	2.52	.98	1.00	4.00	3.12
Area with strong ethnic stratification (yes = 1) . . .	.52		.00	1.00	1.97
High-track (yes = 1) . . . . .	.15		.00	1.00	.00
Ethnic origin:					
Turkish . . . . .	.36		.00	1.00	.00
Former Soviet Union . . . . .	.13		.00	1.00	.00
Polish . . . . .	.07		.00	1.00	.00
Ex-Yugoslav . . . . .	.09		.00	1.00	.00
Other Western . . . . .	.16		.00	1.00	.00
Other non-Western . . . . .	.20		.00	1.00	.00
Immigrant generation:					
First . . . . .	.23		.00	1.00	.00
Second . . . . .	.63		.00	1.00	.00
Child of intermarriage . . . . .	.14		.00	1.00	.00
In-group share in class . . . . .	.19	.18	.03	.70	.00
Majority share in class . . . . .	.40	.22	.00	.96	.00
Ethnic diversity in class . . . . .	.72	.12	.18	.92	.00
Sex (male = 1) . . . . .	.51		.00	1.00	.00
HISEI . . . . .	37.92	18.75	11.01	88.70	8.08
Cognitive test score . . . . .	18.19	4.20	1.00	27.00	.30
Language test score . . . . .	9.54	4.24	.00	24.00	.17

TABLE A1 (Continued)

	Mean	SD	Min	Max	Missing (%)
Federal state:					
1.....	.07		.00	1.00	.00
2.....	.38		.00	1.00	.00
3.....	.08		.00	1.00	.00
4.....	.02		.00	1.00	.00
5.....	.02		.00	1.00	.00
6.....	.10		.00	1.00	.00
7.....	.19		.00	1.00	.00
8.....	.12		.00	1.00	.00
9–15.....	.02		.00	1.00	.00

NOTE.— $N$  (students) = 2,340;  $N$  (classes) = 267;  $N$  (schools) = 144.

TABLE A2  
MULTILEVEL MODELS OF IDENTIFICATION AS GERMAN AMONG MINORITY STUDENTS

	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5 (Identification of Parent)	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Fixed parts:										
Constant . . . . .	-.011	.044	-.015	.042	-.390***	.077	-.445***	.124	-.739***	.147
Strong ethnic stratification . . . . .	-.046	.059	-.033	.056	-.013	.053	-.019	.062	.057	.075
High-track . . . . .	.205**	.092	.130	.087	-.008	.085	.031	.089	.035	.108
Strong ethnic stratification × high-track . . . . .	.498***	.153	.321**	.150	.340**	.139	.330**	.142	-.164	.171
In-group share in class . . . . .			-.599***	.157	-.015	.211	.019	.212	.180	.254
Majority share in class . . . . .			.316**	.151	.138	.150	.122	.149	.300*	.175
Ethnic diversity in class . . . . .			-.691***	.258	-.384	.249	-.383	.249	-.071	.298
Ethnic origin (ref.: Turkish):										
Former Soviet Union . . . . .					.365***	.083	.366***	.083	.608***	.100
Polish . . . . .					.530***	.093	.536***	.094	.801***	.112
Ex-Yugoslav . . . . .					-.083	.089	-.068	.089	.620***	.109
Other Western . . . . .					.084	.077	.095	.077	.433***	.092
Other non-Western . . . . .					.198**	.078	.207***	.078	.619***	.095
Immigrant generation (ref.: first):										
Second . . . . .					.249***	.054	.250***	.054	.211***	.066
Child of intermarriage . . . . .					.765***	.078	.767***	.078	.758***	.094
HISEI . . . . .					.003***	.001	.003***	.001	.004**	.002
Sex (ref.: female) . . . . .					-.025	.041	-.028	.041	.149***	.057
Cognitive test score . . . . .					-.008	.005	-.009*	.005	-.001	.007
Language test score . . . . .					.014**	.006	.013**	.006	.008	.008

TABLE A2 (Continued)

	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5 (Identification of Parent)	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Federal state (ref.: state 1):										
State 2							.077	.101	.038	.120
State 3							-.024	.132	-.005	.161
State 4							-.095	.192	.111	.244
State 5							.168	.175	.148	.282
State 6							-.095	.141	-.036	.165
State 7							.031	.104	.075	.123
State 8							.098	.112	-.020	.135
Other state							.206	.174	.112	.208
Random parts:										
Within-group variance	.891		.884		.813		.814		.897	
Between-group variance	.056		.039		.028		.023		.023	
ICC	.059		.042		.034		.028		.025	
N (classes)	253		253		253		253		246	
N (students)	2,044		2,044		2,044		2,044		1,572	
AIC	5,676.6		5,639.6		5,482.1		5,490.6		4,442.1	

NOTE.—Model 5 controls for parents' instead of students' sex. AIC = Akaike information criterion; ICC = intraclass correlation.

\*  $P < .10$ , two-tailed tests.

\*\*  $P < .05$ .

\*\*\*  $P < .01$ .

TABLE A3  
PROPENSITY SCORE MATCHING MODELS FOR HIGH-TRACK ATTENDANCE

	AREA WITH WEAK ETHNIC STRATIFICATION		AREA WITH STRONG ETHNIC STRATIFICATION	
	Coef.	SE	Coef.	SE
Constant . . . . .	−6.482***	.604	−12.689***	1.317
Ethnic origin (ref.: Turkish):				
Former Soviet Union . . . . .	−.479	.316	.544	.452
Polish . . . . .	−.749**	.363	.178	.519
Ex-Yugoslav . . . . .	−.768*	.422	.086	.549
Other Western . . . . .	−1.135***	.340	−.197	.423
Other non-Western . . . . .	−.040	.258	−.142	.440
Immigrant generation (ref.: first):				
Second . . . . .	−.063	.255	1.241***	.447
Child of intermarriage . . . . .	−.274	.346	.760	.480
Sex (ref.: female) . . . . .	−.421**	.183	−1.151***	.288
Cognitive test score . . . . .	.110***	.027	.221***	.051
Language test score . . . . .	.258***	.027	.305***	.041
HISEI . . . . .	.023***	.005	.039***	.007
AIC . . . . .	811.950		404.093	
N (students) . . . . .	970		1,074	

NOTE.—AIC = Akaike information criterion.

\*  $P < .10$ , two-tailed tests.

\*\*  $P < .05$ .

\*\*\*  $P < .01$ .



Model 2:										
Edges.....	-3.493***	.202	-3.472***	.249	-3.372***	.196	-4.035***	.461		
Mutual.....	2.364***	.067	2.366***	.092	2.332***	.058	2.782***	.124		
GWESP.....	.968***	.026	1.083***	.038	.976***	.023	.979***	.047		
Same sex.....	.655***	.032	.621***	.043	.635***	.027	.641***	.057		
Same ethnic origin.....	.163***	.039	.221***	.053	.183***	.036	.063	.071		
Majority ego.....	-.274	.208	-.318	.266	-.235	.200	.273	.400		
Minority alt.....	.178	.155	.004	.187	.106	.147	1.263***	.446		
Feel German alt.....	-.107**	.054	-.122*	.069	-.117**	.052	.014	.119		
Majority ego × minority alt.....	-.099	.226	.057	.283	-.121	.209	-1.567***	.532		
Feel German alt × majority ego.....	.204***	.076	.178*	.100	.177**	.073	.015	.140		
Feel German alt × minority alt.....	.047	.063	.091	.082	.032	.058	-.419**	.190		
Majority ego × feel German alt × minority alt.....	.002	.093	-.030	.121	.013	.084	.626***	.229		
N (classes).....	52		21		65		12			
N (schools).....	30		11		37		6			

NOTE.—ERGM results combined via multivariate random effects meta-analysis (cf. An 2015).

\*  $P < .10$ , two-tailed tests.

\*\*  $P < .05$ .

\*\*\*  $P < .01$ .

## APPENDIX B

### ERGM Specifications and Quantities of Interests

The general form of an ERGM stipulates that one particular realization  $x$  of a random network  $X$  can be observed with probability

$$\Pr(X = x) = \frac{1}{\kappa} \exp\left(\sum_A \theta_A s_A(x)\right), \quad (\text{B1})$$

where the summation is over a number of network configurations  $A$  (e.g., mutual dyads, ties sent by minority students). The variable  $s_A(x)$  denotes the respective count statistic of  $A$  in  $x$  (e.g., the number of mutual dyads in  $x$ , the number of ties sent by minority members in  $x$ ),  $\kappa$  is a normalizing constant, and  $\theta_A$  is a configuration-specific weighting parameter to be estimated (cf. Robins et al. 2007; Lusher, Koskinen, and Robins 2013). Estimates of  $\theta_A$  indicate which local network configurations are more prevalent ( $\hat{\theta}_A > 0$ ) or less prevalent ( $\hat{\theta}_A < 0$ ) in  $x$  than expected at random and net of all other configurations included.

To arrive at the conditional log odds of a specific dyadic structure, we relate the probabilities of two hypothetical states of a given network  $x$  that differ only in one additional occurrence of the dyadic structure of interest (e.g., one network state including an additional tie between a minority student identifying strongly as German and a majority peer, all else held equal). Assuming that a tie between two actors  $i$  and  $j$  (i.e.,  $X_{ij} = 1$ ) creates one such dyadic structure, we can transform equation (B1) into the conditional form (cf. Strauss and Ikeda 1990)

$$\text{logit}(X_{ij}|x_{ij}^c) = \sum_A \theta_A \Delta(s_A(x))_{ij}, \quad (\text{B2})$$

where  $x_{ij}^c$  denotes the state of all dyads in  $x$  other than  $(i, j)$  and where  $\Delta(s_A(x))_{ij}$  denotes the change that a tie between  $(i, j)$  evokes in each count statistic  $s_A(x)$  included in the model.

We use two different model setups to test our second and third hypotheses, respectively. Referring to each change statistic  $\Delta(s_A(x))_{ij}$  simply as  $(A)$ , model 1 is based on the following specification:

$$\begin{aligned} \text{logit}(X_{ij}|x_{ij}^c)_{m1} = & \theta_{m1.1}(\text{Edges}) + \theta_{m1.2}(\text{Mutual}) + \theta_{m1.3}(\text{GWESP}) \\ & + \theta_{m1.4}(\text{Same Sex}) + \theta_{m1.5}(\text{Same Ethnic Origin}) \\ & + \theta_{m1.6}(\text{Minority Ego}) + \theta_{m1.7}(\text{Majority Alt}) \\ & + \theta_{m1.8}(\text{Feel German Ego}) \\ & + \theta_{m1.9}(\text{Minority Ego} \times \text{Majority Alt}) \\ & + \theta_{m1.10}(\text{Feel German Ego} \times \text{Minority Ego}) \\ & + \theta_{m1.11}(\text{Feel German Ego} \times \text{Majority Alt}) \\ & + \theta_{m1.12}(\text{Feel German Ego} \times \text{Minority Ego} \times \text{Majority Alt}). \end{aligned} \quad (\text{B3})$$



This specification accounts for students' general tendency to form ties (Edges), to reciprocate friendship nominations (Mutual), to form friendship triads (GWESP), and to befriend peers of the same sex (Same Sex) and ethnic origin (Same Ethnic Origin).<sup>24</sup> The three-way interaction and its constitutive terms form the basis to test our second hypothesis: model 1 estimates whether directed ties sent from minority to majority students are more prevalent in cross-group dyads where minority students identify more strongly as German. Mathematically, this is equivalent to taking the derivative of equation (B3) with respect to Majority Alt and with respect to Feel German Ego:

$$\frac{\delta^2 [\text{logit}(X_{ij}|x_{ij}^c)_{m1}]}{\delta(\text{Majority Alt}) \delta(\text{Feel German Ego})} = \theta_{m1.11} + \theta_{m1.12}(\text{Minority Ego}). \quad (\text{B4})$$

The right-hand part of the equation serves as our quantity of interest when testing our second hypothesis: Positive values indicate that minority students who identify strongly as German have a greater tendency to nominate majority peers than minority students who identify weakly. Negative values suggest the opposite.

In model 2, we use the following specification:

$$\begin{aligned} \text{logit}(X_{ij}|x_{ij}^c)_{m2} = & \theta_{m2.1}(\text{Edges}) + \theta_{m2.2}(\text{Mutual}) + \theta_{m2.3}(\text{GWESP}) \\ & + \theta_{m2.4}(\text{Same Sex}) + \theta_{m2.5}(\text{Same Ethnic Origin}) \\ & + \theta_{m2.6}(\text{Majority Ego}) + \theta_{m2.7}(\text{Minority Alt}) \\ & + \theta_{m2.8}(\text{Feel German Alt}) \\ & + \theta_{m2.9}(\text{Majority Ego} \times \text{Minority Alt}) \\ & + \theta_{m2.10}(\text{Majority Ego} \times \text{Feel German Alt}) \\ & + \theta_{m2.11}(\text{Feel German Alt} \times \text{Minority Alt}) \\ & + \theta_{m2.12}(\text{Majority Ego} \times \text{Feel German Alt} \times \text{Minority Alt}). \end{aligned} \quad (\text{B5})$$

Model 2 examines whether directed ties sent from majority to minority students are more prevalent among cross-group dyads where minority students identify more strongly as German. We therefore take the derivative

<sup>24</sup> Alternative model specifications that additionally account for spatial proximity between classmates, popularity of athletic peers, and further forms of homophily (i.e., with regard to social background and grade point average) provide substantively identical results but come with a decrease in sample size (results not shown here, available upon request).

of equation (B5) with respect to Minority Alt and with respect to Feel German Alt, yielding

$$\frac{\delta^2 [\text{logit}(X_{ij}|x_{ij}^c)_{m2}]}{\delta(\text{Minority Alt}) \delta(\text{Feel German Alt})} = \theta_{m2.11} + \theta_{m2.12}(\text{Majority Ego}). \quad (\text{B6})$$

According to our second and third hypotheses, the association of identification and the tendencies to form cross-group friendships—as expressed in equations (B4) and (B6)—should be particularly strong in the high-track schools of areas where ethnic stratification is strong. To test these theoretical expectations, we combine the ERGM estimates in a multivariate random effects meta-analysis (An 2015) that accounts not only for the uncertainty in each parameter separately but for the complete covariance structure of the estimates obtained in each single network.<sup>25</sup>

#### ERGM Sample Restrictions

To guarantee sufficient coverage of the actual network structure, we restrict the sample to those 127 (out of 144) schools where at least 70% of all students participated in the network survey. Moreover, we had to exclude schools in which there are too few minority or majority students to allow for a meaningful cross-group analysis ( $n = 38$  or  $n = 41$  depending on model setup), where convergence could not be obtained ( $n = 4$  or  $n = 0$ ), and where information on local levels of stratification was unavailable ( $n = 3$  or  $n = 2$ ). This yields an analysis sample of 82 or 84 schools with 148 or 150 school class networks, depending on model setup.

Table B1 compares the schools in our analysis sample with the excluded ones. Importantly, we observe no statistically significant differences in the extent of ethnic stratification in their local areas. However, there are differences in composition since we had to exclude schools with very few minority or majority students. Most notably, excluded high-track schools show greater majority shares (accompanied by slightly larger average HISEI scores) than high-track schools included in the ERGM analysis. This will most likely bias the estimates of our effects of interest downward since the excluded high-track schools with very few minority students can be assumed to exhibit even larger pressures or incentives for boundary crossing and opportunities for boundary policing. Finally, average abilities differ only among the lower-track schools, with excluded schools showing slightly lower average cognitive test scores.

<sup>25</sup> We carried out the analyses in R (version 3.4.1), using the packages lme4 (version 1.1.13; Bates et al. 2015), MatchIt (version 3.0.1; Ho et al. 2011), ergm (version 3.7.1; Hunter et al. 2008; Handcock et al. 2017), and mvmeta (version 0.4.7; Gasparrini, Armstrong, and Kenward 2012).

TABLE B1  
COMPARISON OF SCHOOLS INCLUDED IN AND EXCLUDED FROM ERGM ANALYSIS

	Included in ERGM Analysis	Not Included in ERGM Analysis	Difference	<i>P</i> -Value
Model 1:				
<i>N</i> (schools):				
Total . . . . .	82	45		
High track . . . . .	18	9		
Lower tracks . . . . .	64	39		
Ethnic stratification in area:				
Total . . . . .	.252	.233	.020	.283
High track . . . . .	.238	.222	.015	.822
Lower tracks . . . . .	.256	.234	.022	.255
Majority share:				
Total . . . . .	.522	.540	-.018	.732
High track . . . . .	.605	.832	-.227	.001
Lower tracks . . . . .	.500	.495	.005	.931
HISEI:				
Total . . . . .	43.479	41.853	1.626	.462
High track . . . . .	56.493	63.259	-6.766	.057
Lower tracks . . . . .	40.075	38.560	1.515	.402
Cognitive test score:				
Total . . . . .	18.993	17.751	1.242	.017
High track . . . . .	21.504	21.815	-.311	.530
Lower tracks . . . . .	18.337	17.126	1.211	.016
Model 2:				
<i>N</i> (schools):				
Total . . . . .	84	43		
High track . . . . .	16	8		
Lower tracks . . . . .	68	35		
Ethnic stratification in area:				
Total . . . . .	.249	.240	.009	.633
High track . . . . .	.238	.222	.015	.822
Lower tracks . . . . .	.252	.243	.009	.655
Majority share:				
Total . . . . .	.528	.528	.000	.998
High track . . . . .	.605	.832	-.227	.001
Lower tracks . . . . .	.509	.479	.030	.617
HISEI:				
Total . . . . .	44.001	40.758	3.243	.135
High track . . . . .	56.493	63.259	-6.766	.057
Lower tracks . . . . .	40.831	37.109	3.722	.023
Cognitive test score:				
Total . . . . .	18.978	17.724	1.254	.018
High track . . . . .	21.504	21.815	-.311	.530
Lower tracks . . . . .	18.337	17.060	1.277	.013

REFERENCES

- Adams, Jimi, Katherine Faust, and Gina S. Lovasi. 2012. "Capturing Context: Integrating Spatial and Social Network Analyses." *Social Networks* 34 (1): 1–5.
- Alba, Richard. 2005. "Bright vs. Blurred Boundaries: Second-Generation Assimilation and Exclusion in France, Germany, and the United States." *Ethnic and Racial Studies* 28 (1): 20–49.
- . 2008. "Why We Still Need a Theory of Mainstream Assimilation." Pp. 37–56 in *Migration und Integration*, edited by Frank Kalter. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Alba, Richard, and Nancy Foner. 2015. *Strangers No More: Immigration and the Challenges of Integration in North America and Western Europe*. Princeton, N.J.: Princeton University Press.
- Alba, Richard, and Jennifer Holdaway, eds. 2013. *The Children of Immigrants at School: A Comparative Look at Integration in the United States and Western Europe*. New York: New York University Press.
- Alba, Richard, and Victor Nee. 2003. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Cambridge, Mass.: Harvard University Press.
- Alba, Richard, Jennifer Sloan, and Jessica Sperling. 2011. "The Integration Imperative: The Children of Low-Status Immigrants in the Schools of Wealthy Societies." *Annual Review of Sociology* 37 (1): 395–415.
- Allmendinger, Jutta. 1989. "Educational Systems and Labor Market Outcomes." *European Sociological Review* 5 (3): 231–50.
- An, Weihua. 2015. "Multilevel Meta Network Analysis with Application to Studying Network Dynamics of Network Interventions." *Social Networks* 43:48–56.
- Baerveldt, Chris, Bonne Zijlstra, Muriel de Wolf, Ronan Van Rossem, and Marijtje A. J. Van Duijn. 2007. "Ethnic Boundaries in High School Students' Networks in Flanders and the Netherlands." *International Sociology* 22 (6): 701–20.
- Barth, Fredrik. 1969. Introduction. Pp. 9–38 in *Ethnic Groups and Boundaries: The Social Organization of Culture Difference*, edited by Fredrik Barth. Oslo: Universitetsforlaget.
- Bates, Douglas, Martin Mächler, Ben Bolker, and Steve Walker. 2015. "Fitting Linear Mixed-Effects Models Using lme4." *Journal of Statistical Software* 67 (1): 1–48.
- Bauböck, Rainer. 1994. *The Integration of Immigrants*. Vienna: Institute for Advanced Studies.
- Berry, John W. 1997. "Immigration, Acculturation, and Adaptation." *Applied Psychology* 46 (1): 5–34.
- Berry, John W., Jean S. Phinney, David L. Sam, and Paul Vedder. 2006. "Immigrant Youth: Acculturation, Identity, and Adaptation." *Applied Psychology* 55 (3): 303–32.
- Blalock, Hubert M. 1967. *Toward a Theory of Minority-Group Relations*. Berkeley: Wiley.
- Blau, Peter M. 1977. *Inequality and Heterogeneity: A Primitive Theory of Social Structure*. New York: Free Press.
- Boda, Zsófia. 2018. "Social Influence on Observed Race." *Sociological Science* 5:29–57.
- Boda, Zsófia, and Bálint Néray. 2015. "Inter-ethnic Friendship and Negative Ties in Secondary School." *Social Networks* 43:57–72.
- Brant, Rollin. 1990. "Assessing Proportionality in the Proportional Odds Model for Ordinal Logistic Regression." *Biometrics* 46 (4): 1171–78.
- Brubaker, Rogers. 1992. *Citizenship and Nationhood in France and Germany*. Cambridge, Mass.: Harvard University Press.
- . 2004. *Ethnicity without Groups*. Cambridge, Mass.: Harvard University Press.
- . 2013. "Categories of Analysis and Categories of Practice: A Note on the Study of Muslims in European Countries of Immigration." *Ethnic and Racial Studies* 36 (1): 1–8.
- . 2014. "Beyond Ethnicity." *Ethnic and Racial Studies* 37 (5): 804–8.

- Brubaker, Rogers, Margit Feischmidt, Jon Fox, and Liana Grancea. 2006. *Nationalist Politics and Everyday Ethnicity in a Transylvanian Town*. Princeton, N.J.: Princeton University Press.
- Carter, Prudence L. 2003. "'Black' Cultural Capital, Status Positioning, and Schooling Conflicts for Low Income African American Youth." *Social Problems* 50 (1): 136–55.
- . 2005. *Keepin' It Real: School Success beyond Black and White*. New York: Oxford University Press.
- CILS4EU. 2016. "Children of Immigrants Longitudinal Survey in Four European Countries." Technical Report. Wave 1—2010/2011, v1.2.0. Mannheim: Mannheim University.
- Clogg, Clifford C., Eva Petkova, and Adamantios Haritou. 1995. "Statistical Methods for Comparing Regression Coefficients between Models." *American Journal of Sociology* 100 (5): 1261–93.
- Cornell, Stephen, and Douglas Hartmann. 1998. *Ethnicity and Race: Making Identities in a Changing World*. Thousand Oaks, Calif.: Pine Forge.
- Crosnoe, Robert, and Monica Kirkpatrick Johnson. 2011. "Research on Adolescence in the Twenty-First Century." *Annual Review of Sociology* 37 (1): 439–60.
- Crul, Maurice, and Jennifer Holdaway. 2009. "Children of Immigrants in Schools in New York and Amsterdam: The Factors Shaping Attainment." *Teachers College Record* 111 (6): 1476–1507.
- Crul, Maurice, and John Mollenkopf. 2012. "Challenges and Opportunities." Pp. 235–59 in *The Changing Face of World Cities: Young Adult Children of Immigrants in Europe and the United States*, edited by Maurice Crul and John Mollenkopf. New York: Russell Sage.
- Crul, Maurice, and Jens Schneider. 2010. "Comparative Integration Context Theory: Participation and Belonging in New Diverse European Cities." *Ethnic and Racial Studies* 33 (7): 1249–68.
- Currarini, Sergio, Matthew O. Jackson, and Paolo Pin. 2010. "Identifying the Roles of Race-Based Choice and Chance in High School Friendship Network Formation." *Proceedings of the National Academy of Sciences* 107 (11): 4857–61.
- Deaux, Kay, and Kathleen A. Ethier. 1998. "Negotiating Social Identity." Pp. 301–23 in *Prejudice: The Target's Perspective*, edited by Janet K. Swim and Charles Stangor. San Diego, Calif.: Academic Press.
- Deaux, Kay, and Daniela Martin. 2003. "Interpersonal Networks and Social Categories: Specifying Levels of Context in Identity Processes." *Social Psychology Quarterly* 66 (2): 101–17.
- de Vroome, Thomas, Borja Martinovic, and Maykel Verkuyten. 2014. "The Integration Paradox: Level of Education and Immigrants' Attitudes towards Natives and the Host Society." *Cultural Diversity and Ethnic Minority Psychology* 20 (2): 166–75.
- Diehl, Claudia, and Rainer Schnell. 2006. "'Reactive Ethnicity' or 'Assimilation'? Statements, Arguments, and First Empirical Evidence for Labor Migrants in Germany." *International Migration Review* 40 (4): 786–816.
- Dijkstra, Jan K., Christian Berger, and Siegwart Lindenberg. 2011. "Do Physical and Relational Aggression Explain Adolescents' Friendship Selection? The Competing Roles of Network Characteristics, Gender, and Social Status." *Aggressive Behavior* 37 (5): 417–29.
- Dollmann, Jörg. 2016. "Less Choice, Less Inequality? A Natural Experiment on Social and Ethnic Differences in Educational Decision-Making." *European Sociological Review* 32 (2): 203–15.
- Domina, Thurston, Andrew Penner, and Emily Penner. 2017. "Categorical Inequality: Schools as Sorting Machines." *Annual Review of Sociology* 43 (1): 311–30.
- Entwisle, Barbara, Katherine Faust, Ronald R. Rindfuss, and Toshiko Kaneda. 2007. "Networks and Contexts: Variation in the Structure of Social Ties." *American Journal of Sociology* 112 (5): 1495–1533.

- Ersanilli, Evelyn, and Sawitri Saharso. 2011. "The Settlement Country and Ethnic Identification of Children of Turkish Immigrants in Germany, France, and the Netherlands: What Role Do National Integration Policies Play?" *International Migration Review* 45 (4): 907–37.
- Ethier, Kathleen A., and Kay Deaux. 1990. "Hispanics in Ivy: Assessing Identity and Perceived Threat." *Sex Roles* 22 (7–8): 427–40.
- . 1994. "Negotiating Social Identity When Contexts Change: Maintaining Identification and Responding to Threat." *Journal of Personality and Social Psychology* 67 (2): 243–51.
- Feld, Scott L. 1981. "The Focused Organization of Social Ties." *American Journal of Sociology* 86 (5): 1015–35.
- Feliciano, Cynthia. 2009. "Education and Ethnic Identity Formation among Children of Latin American and Caribbean Immigrants." *Sociological Perspectives* 52 (2): 135–58.
- Flashman, Jennifer. 2012. "Different Preferences or Different Opportunities? Explaining Race Differentials in the Academic Achievement of Friends." *Social Science Research* 41 (4): 888–903.
- Fleischmann, Fenella, and Karen Phalet. 2018. "Religion and National Identification in Europe: Comparing Muslim Youth in Belgium, England, Germany, the Netherlands, and Sweden." *Journal of Cross-Cultural Psychology* 49 (1): 44–61.
- Fordham, Signithia, and John U. Ogbu. 1986. "Black Students' School Success: Coping with the 'Burden of 'Acting White.''" *Urban Review* 18 (3): 176–206.
- Fryer, Roland G., and Paul Torelli. 2010. "An Empirical Analysis of 'Acting White.'" *Journal of Public Economics* 94 (5): 380–96.
- Ganzeboom, Harry B. G., Paul M. De Graaf, and Donald J. Treiman. 1992. "A Standard International Socio-Economic Index of Occupational Status." *Social Science Research* 21 (1): 1–56.
- Gasparrini, Antonio, B. Armstrong, and M. G. Kenward. 2012. "Multivariate Meta-analysis for Non-linear and Other Multi-Parameter Associations." *Statistics in Medicine* 31 (29): 3821–29.
- Giordano, Peggy C. 2003. "Relationships in Adolescence." *Annual Review of Sociology* 29 (1): 257–81.
- Goffman, Erving. 1969. *The Presentation of Self in Everyday Life*. London: Allen Lane.
- Goodreau, Steven M., Mark S. Handcock, David R. Hunter, Carter T. Butts, and Martina Morris. 2008. "A Statnet Tutorial." *Journal of Statistical Software* 24 (9): 1–27.
- Gordon, Milton M. 1964. *Assimilation in American Life: The Role of Race, Religion, and National Origins*. New York: Oxford University Press.
- Handcock, Mark S., David R. Hunter, Carter T. Butts, Steven M. Goodreau, Pavel N. Krivitsky, and Martina Morris. 2017. "Ergm: Fit, Simulate and Diagnose Exponential-Family Models for Networks." Statnet Project.
- Heath, Anthony F., Konstanze Jacob, and Lindsay Richards. 2018. "Young People in Transition: The National Identity of Minority Youth." Pp. 274–302 in *Growing Up in Diverse Europe: Integration and the Lives of Minority and Majority Youth in England, Germany, the Netherlands, and Sweden*, edited by Frank Kalter, Jan O. Jonsson, Anthony F. Heath, and Frank van Tubergen. Oxford: Proceedings of the British Academy.
- Heath, Anthony F., and James R. Tilley. 2005. "British National Identity and Attitudes towards Immigration." *International Journal on Multicultural Societies* 7 (2): 119–32.
- Helbling, Marc, ed. 2012. *Islamophobia in the West: Measuring and Explaining Individual Attitudes*. London: Routledge.
- Ho, Daniel E., Kosuke Imai, Gary King, and Elizabeth A. Stuart. 2011. "MatchIt: Non-parametric Preprocessing for Parametric Causal Inference." *Journal of Statistical Software* 42 (8): 1–28.
- Horvat, Erin McNamara, and Kristine S. Lewis. 2003. "Reassessing the 'Burden of 'Acting White'': The Importance of Peer Groups in Managing Academic Success." *Sociology of Education* 76 (4): 265–80.

- Hunter, David R., Mark S. Handcock, Carter T. Butts, Steven M. Goodreau, and Martina Morris. 2008. "Ergm: A Package to Fit, Simulate and Diagnose Exponential-Family Models for Networks." *Journal of Statistical Software* 24 (3): 1–29.
- Jenkins, Richard. 2008. *Rethinking Ethnicity: Arguments and Explorations*. London: Sage.
- . 2014. "Time to Move beyond Boundary Making?" *Ethnic and Racial Studies* 37 (5): 809–13.
- Jonsson, Jan O. 2018. "Immigration and Integration: Key Characteristics of Host Countries and Their Immigrants." Pp. 40–61 in *Growing Up in Diverse Europe: Integration and the Lives of Minority and Majority Youth in England, Germany, the Netherlands, and Sweden*, edited by Frank Kalter, Jan O. Jonsson, Anthony F. Heath, and Frank van Tubergen. Oxford: Proceedings of the British Academy.
- Kalter, Frank, Anthony F. Heath, Miles Hewstone, Jan O. Jonsson, Matthijs Kalmijn, Irena Kogan, and Frank van Tubergen. 2016. "Children of Immigrants Longitudinal Survey in Four European Countries (CILS4EU)—Full version." Edited by GESIS Data Archive, Cologne.
- Kasinitz, Philip. 2008. "Becoming American, Becoming Minority, Getting Ahead: The Role of Racial and Ethnic Status in the Upward Mobility of the Children of Immigrants." *Annals of the American Academy of Political and Social Science* 620 (1): 253–69.
- Kasinitz, Philip, John H. Mollenkopf, Mary C. Waters, and Jennifer Holdaway. 2008. *Inheriting the City: The Children of Immigrants Come of Age*. New York: Russell Sage.
- Kristen, Cornelia, and Nadia Granato. 2007. "The Educational Attainment of the Second Generation in Germany: Social Origins and Ethnic Inequality." *Ethnicities* 7 (3): 343–66.
- Kruse, Hanno, Sanne Smith, Frank van Tubergen, and Ineke Maas. 2016. "From Neighbors to School Friends? How Adolescents' Place of Residence Relates to Same-Ethnic School Friendships." *Social Networks* 44:130–42.
- Länderoffene Arbeitsgruppe. 2013. *Zweiter Bericht zum Integrationsmonitoring der Länder 2011 Teil 1 Ergebnisse*. Berlin: Konferenz der für Integration zuständigen Ministerinnen und Minister/Senatorinnen und Senatoren (IntMK) der Länder.
- Leszczensky, Lars, and Sebastian Pink. 2015. "Ethnic Segregation of Friendship Networks in School: Testing a Rational-Choice Argument of Differences in Ethnic Homophily between Classroom- and Grade-Level Networks." *Social Networks* 42:18–26.
- . 2019. "What Drives Ethnic Homophily? A Relational Approach on How Ethnic Identification Moderates Preferences for Same-Ethnic Friends." *American Sociological Review* 84 (3): 394–419.
- Leszczensky, Lars, Tobias H. Stark, Andreas Flache, and Anke Munniksma. 2016. "Disentangling the Relation between Young Immigrants' Host Country Identification and Their Friendships with Natives." *Social Networks* 44:179–89.
- Logan, John R., Elisabeta Minca, and Sinem Adar. 2012. "The Geography of Inequality: Why Separate Means Unequal in American Public Schools." *Sociology of Education* 85 (3): 287–301.
- Lusher, Dean, Johan Koskinen, and Garry Robins. 2013. *Exponential Random Graph Models for Social Networks: Theory, Methods, and Applications*. New York: Cambridge University Press.
- Martinovic, Borja, and Maykel Verkuyten. 2012. "Host National and Religious Identification among Turkish Muslims in Western Europe: The Role of Ingroup Norms, Perceived Discrimination and Value Incompatibility." *European Journal of Social Psychology* 42 (7): 893–903.
- Maxwell, Rahsaan, and Erik Bleich. 2014. "What Makes Muslims Feel French?" *Social Forces* 93 (1): 155–79.
- McFarland, Daniel A., James Moody, David Diehl, Jeffrey A. Smith, and Reuben J. Thomas. 2014. "Network Ecology and Adolescent Social Structure." *American Sociological Review* 79 (6): 1088–1121.



- McPherson, Miller, Lynn Smith-Lovin, and James M. Cook. 2001. "Birds of a Feather: Homophily in Social Networks." *Annual Review of Sociology* 27 (1): 415–44.
- Meeus, Wim. 2011. "The Study of Adolescent Identity Formation 2000–2010: A Review of Longitudinal Research." *Journal of Research on Adolescence* 21 (1): 75–94.
- Merton, Robert K. 1987. "Three Fragments from a Sociologist's Notebooks: Establishing the Phenomenon, Specified Ignorance, and Strategic Research Materials." *Annual Review of Sociology* 13 (1): 1–29.
- Miller, David. 1995. *On Nationality*. Oxford: Clarendon, Press.
- Moody, James. 2001. "Race, School Integration, and Friendship Segregation in America." *American Journal of Sociology* 107 (3): 679–716.
- Morgan, Stephen L., and Christopher Winship. 2007. *Counterfactuals and Causal Analysis: Methods and Principles for Social Research*. Cambridge, Mass.: Harvard University Press.
- Mouw, Ted, and Barbara Entwisle. 2006. "Residential Segregation and Interracial Friendship in Schools." *American Journal of Sociology* 112 (2): 394–441.
- Munnikma, Anke, Peer Scheepers, Tobias H. Stark, and Jochem Tolsma. 2017. "The Impact of Adolescents' Classroom and Neighborhood Ethnic Diversity on Same- and Cross-Ethnic Friendships within Classrooms." *Journal of Research on Adolescence* 27 (1): 20–33.
- Munnikma, Anke, Maykel Verkuyten, Andreas Flache, Tobias A. Stark, and René Veenstra. 2015. "Friendships and Outgroup Attitudes among Ethnic Minority Youth: The Mediating Role of Ethnic and Host Society Identification." *International Journal of Intercultural Relations* 44:88–99.
- Nee, Victor, and Richard Alba. 2013. "Assimilation as Rational Action in Contexts Defined by Institutions and Boundaries." Pp. 355–77 in *The Handbook of Rational Choice Social Research*, edited by Rafael Wittek, Tom A. B. Snijders, and Victor Nee. Stanford, Calif.: Stanford University Press.
- Paternoster, Raymond, Robert Brame, Paul Mazerole, and Alex R. Piquero. 1998. "Using the Correct Statistical Test for the Equality of Regression Coefficients." *Criminology* 36 (4): 859–66.
- Phinney, Jean S., and Anthony D. Ong. 2007. "Conceptualization and Measurement of Ethnic Identity: Current Status and Future Directions." *Journal of Counseling Psychology* 54 (3): 271–81.
- Portes, Alejandro, Rosa Aparicio, and William Haller. 2018. "General Trends and Exceptions in the Incorporation of Immigrant Youths to Host Societies." *Ethnic and Racial Studies* 41 (3): 517–21.
- Portes, Alejandro, and Dag MacLeod. 1996. "Educational Progress of Children of Immigrants: The Role of Class, Ethnicity, and School Context." *Sociology of Education* 69:255–75.
- . 1999. "Educating the Second Generation: Determinants of Academic Achievement among Children of Immigrants in the United States." *Journal of Ethnic and Migration Studies* 25 (3): 373–96.
- Portes, Alejandro, and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley and Los Angeles: University of California Press.
- Portes, Alejandro, and Julia Sensenbrenner. 1993. "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action." *American Journal of Sociology* 98 (6): 1320–50.
- Portes, Alejandro, and Min Zhou. 1993. "The New Second Generation: Segmented Assimilation and Its Variants." *Annals of the American Academy of Political and Social Science* 530 (1): 74–96.
- Quintana, Stephen M. 2007. "Racial and Ethnic Identity: Developmental Perspectives and Research." *Journal of Counseling Psychology* 54 (3): 259–70.
- Robins, Garry, Pip Pattison, and Peng Wang. 2009. "Closure, Connectivity and Degree Distributions: Exponential Random Graph (P\*) Models for Directed Social Networks." *Social Networks* 31 (2): 105–17.



- Robins, Garry, Tom A. B. Snijders, Peng Wang, Mark Handcock, and Philippa Pattison. 2007. "Recent Developments in Exponential Random Graph (P\*) Models for Social Networks." *Social Networks* 29 (2): 192–215.
- Saporito, Salvatore, and Deenesh Sohoni. 2007. "Mapping Educational Inequality: Concentrations of Poverty among Poor and Minority Students in Public Schools." *Social Forces* 85 (3): 1227–53.
- Savelkoul, Michael, Peer Scheepers, William van der Veld, and Louk Hagendoorn. 2012. "Comparing Levels of Anti-Muslim Attitudes across Western Countries." *Quality and Quantity* 46 (5): 1617–24.
- Schindler, Steffen. 2017. "School Tracking, Educational Mobility and Inequality in German Secondary Education: Developments across Cohorts." *European Societies* 19 (1): 28–48.
- Schneider, Jens, Leo Chávez, Louis DeSipio, and Mary Waters. 2012a. "Belonging." Pp. 206–32 in *The Changing Face of World Cities: Young Adult Children of Immigrants in Europe and the United States*, edited by Maurice Crul and John Mollenkopf. New York: Russell Sage.
- Schneider, Jens, Tineke Fokkema, Raquel Matias, Snežana Stojić, Dušan Ugrina, and Constanza Vera-Larucea. 2012b. "Identities: Urban Belonging and Intercultural Relations." Pp. 285–340 in *The European Second Generation Compared*, edited by Maurice Crul, Jens Schneider, and Frans Lelie. Amsterdam: Amsterdam University Press.
- Schneider, Silke L., and Nicole Tieben. 2011. "A Healthy Sorting Machine? Social Inequality" Pp. 285–340 in *The Transition to Upper Secondary Education in Germany*. *Oxford Review of Education* 37 (2): 139–66.
- Shibutani, Tamotsu, and Kian M. Kwan. 1965. *Ethnic Stratification: A Comparative Approach*. New York: Macmillan.
- Skey, Michael. 2010. "A Sense of Where You Belong in the World': National Belonging, Ontological Security and the Status of the Ethnic Majority in England." *Nations and Nationalism* 16 (4): 715–33.
- . 2013. "Why Do Nations Matter?" *British Journal of Sociology* 64 (1): 81–98.
- Smith, Sandra S., and Mignon R. Moore. 2000. "Intraracial Diversity and Relations among African-Americans: Closeness among Black Students at a Predominantly White University." *American Journal of Sociology* 106 (1): 1–39.
- Smith, Sanne, Daniel A. McFarland, Frank van Tubergen, and Ineke Maas. 2016. "Ethnic Composition and Friendship Segregation: Differential Effects for Adolescent Natives and Immigrants." *American Journal of Sociology* 121 (4): 1223–72.
- Stark, Tobias. 2011. *Integration in Schools: A Process Perspective on Students' Interethnic Attitudes and Interpersonal Relationships*. Groningen: Interuniversity Center for Social Science Theory and Methodology.
- Steinberg, Laurence, and Amanda Sheffield Morris. 2001. "Adolescent Development." *Annual Review of Psychology* 52:83–110.
- Strauss, David, and Michael Ikeda. 1990. "Pseudolikelihood Estimation for Social Networks." *Journal of the American Statistical Association* 85 (409): 204–12.
- Syed, Moin, and Margarita Azmitia. 2009. "Longitudinal Trajectories of Ethnic Identity during the College Years." *Journal of Research on Adolescence* 19 (4): 601–24.
- Tabib-Calif, Yosepha, and Edna Lomsky-Feder. 2014. "Symbolic Boundary Work in Schools: Demarcating and Denying Ethnic Boundaries." *Anthropology and Education Quarterly* 45:22–38.
- Tajfel, Henri. 1981. *Human Groups and Social Categories: Studies in Social Psychology*. Cambridge: Cambridge University Press.
- Tilly, Charles. 2005. *Identities, Boundaries, and Social Ties*. Boulder: Paradigm.
- Turner, John C. 1999. "Some Current Issues in Research on Social Identity and Self-Categorization Theories." Pp. 6–34 in *Social Identity: Context, Commitment, Content*, edited by Naomi Ellemers, Russell Spears, and Bertjan Doosje. Oxford: Blackwell.

- Turner, John C., Michael A. Hogg, Penelope J. Oakes, Stephen D. Reicher, and Margaret S. Wetherell. 1987. *Rediscovering the Social Group: A Self-Categorization Theory*. Oxford: Basil Blackwell.
- Tyson, Carolyn, William Darity, and Domini R. Castellino. 2005. "It's Not 'a Black Thing': Understanding the Burden of Acting White and Other Dilemmas of High Achievement." *American Sociological Review* 70 (4): 582–605.
- Verkuyten, Maykel, and Ali A. Yildiz. 2007. "National (Dis)identification and Ethnic and Religious Identity: A Study among Turkish-Dutch Muslims." *Personality and Social Psychology Bulletin* 33 (10): 1448–62.
- Warikoo, Natasha, and Prudence Carter. 2009. "Cultural Explanations for Racial and Ethnic Stratification in Academic Achievement: A Call for a New and Improved Theory." *Review of Educational Research* 79 (1): 366–94.
- Wasserman, Stanley, and Philippa Pattison. 1996. "Logit Models and Logistic Regressions for Social Networks: I. An Introduction to Markov Graphs and P." *Psychometrika* 61 (3): 401–25.
- Wimmer, Andreas. 2008. "The Making and Unmaking of Ethnic Boundary: A Multilevel Process Theory." *American Journal of Sociology* 113 (4): 970–1022.
- . 2014. "Ethnic Boundary Making as Strategic Action: Reply to My Critics." *Ethnic and Racial Studies* 37 (5): 834–42.
- Wimmer, Andreas, and Kevin Lewis. 2010. "Beyond and below Racial Homophily: ERG Models of a Friendship Network Documented on Facebook." *American Journal of Sociology* 116 (2): 583–642.
- Zhou, Min, and Jennifer Lee. 2004. "Introduction: The Making of Culture, Identity, and Ethnicity among Asian American Youth." Pp. 1–30 in *Asian American Youth: Culture, Identity, and Ethnicity*, edited by Jennifer Lee and Min Zhou. New York: Routledge.
- . 2007. "Becoming Ethnic or Becoming American? Reflecting on the Divergent Pathways to Social Mobility and Assimilation among the New Second Generation." *Du Bois Review: Social Science Research on Race* 4 (1): 189–205.
- Zolberg, Aristide R., and Long L. Woon. 1999. "Why Islam Is Like Spanish: Cultural Incorporation in Europe and the United States." *Politics and Society* 27 (1): 5–38.